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WSPA

Wisconsin School Psychologists Association, Inc.

2014 WSPA Spring Convention

March 26-28, 2014

Ho-Chunk Gaming | Wisconsin Dells

Pre-Convention | March 26, 2014

- PREPaRE Workshop 2 (2nd Ed)
  Crisis Intervention and Recovery: The Roles of School-Based Mental Health Professionals
  -- *Scott Woitaszewski, Kathryn Bush*
- Assessment and Interventions for Students with Significant Reading Disabilities
  -- *Nancy Mather*

Convention | March 27-28, 2014

Keynote Speakers

- Sally A. Bass, Ed.D., President, National Association of School Psychologists. Creating Access: Collaborate. Advocate. Lead.
- Edward Shapiro, professor, Director of the Center for Promoting Research to Practice
  Shapiro focuses on Assessment and intervention for academic skills problems; Outcomes of Response-to-Intervention Models for service delivery; Pediatric School Psychology

You can access presentation handouts from the WSPA Convention website. If you desire printed handouts you must order them at the time of registration for a $15 fee. Printed handouts will only be printed for convention sessions selected.

The Wisconsin School Psychologists Association is approved by the National Association of School Psychologists to offer continuing education for psychologists. The University of Wisconsin-La Crosse is approved by the American Psychological Association to offer continuing education for psychologists. The Wisconsin School Psychologists Association and the University of La Crosse maintain responsibility for these programs and their content.

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2014 Spring Employment Fair

The Employment Fair is for employers and prospective employees, please sign up NOW!

Sign-up NOW!

The following schools will be present at the job fair:

District/CESA	Website	Contact	Email
Algoma School District	www.alghs.k12.wi.us	Tracey Gunderson	tgunderson@alghs.k12.wi.us
Baraboo School District	http://baraboo.k12.wi.us	Ellen Weiland	eweiland@barabooschools.net
Cedarburg School District	http://cedarburg.k12.wi.us	Joe Koch	jkoch@cedarburg.k12.wi.us
CESA #12	www.cesa12.org	Jerianne Kvapil	jerianne@cesa12.org
CESA #3	http://cesa3.k12.wi.us	Joe Price	jprice@cesa3.k12.wi.us
CESA #5	www.cesa5.org	Fred Wollenburg	wollenburgf@cesa5.org
CESA #10	www.cesa10.k12.wi.us	Sarah James	sjames@cesa10.k12.wi.us
Durand School District	www.durand.k12.wi.us	Randy Roinila	rroinila@durand.k12.wi.us
Gale-Ettrick-Trempeauleau School District	www.getsd.org	Jill Mason	jillmason@getschools.k12.wi.us
Germantown School District	www.germantownschools.org	Jan Chapman	jchapman@germantown.k12.wi.us
Green Bay Area Public School District	www.gbaps.org	Amy Wachewicz	ajwachewicz@gbaps.org
Hayward Community School District	www.hayward.k12.wi.us	Aimee Zabrowski	azabrowski@hayward.k12.wi.us
Hustisford School District	www.hustisford.k12.wi.us	Steve Pasono	pasonos@hustisford.k12.wi.us
Janesville School District	www.janesville.k12.wi.us	Brandee Wilker	mlang@janesville.k12.wi.us
Kenosha Unified School District	www.kusd.edu	Pamela Black	pblack@kusd.edu
Lake Geneva Schools	http://badger.k12.wi.us	Steve Zorich	anne.ruedebusch@badger.k12.wi.us
Manitowoc Public School District	www.manitowocpublicschools.com	Andrea Holschbach	holschbacha@mpsd.k12.wi.us
Marinette School District	www.marinette.k12.wi.us	Cynthia Russell	crsmith@marinette.k12.wi.us

		Smith	
Milwaukee Public Schools	http://mpsportal.milwaukee.k12.wi.us	Jean Gatz	sprengjm@milwaukee.k12.wi.us
Mishicot School District	www.mishicot.k12.wi.us	Stacie Cihlar	scihlar@mishicot.k12.wi.us
Oconto Falls School District	www.ocontofalls.k12.wi.us	Judy Johannes	judjohan@ocontofalls.k12.wi.us
Osceola School District	www.osceola.k12.wi.us	Dawn Western	dawnw@cesa11.k12.wi.us
Racine Unified School District	http://racine.k12.wi.us	Dan Thielen	human.resources@rusd.org
Rice Lake Area School District	www.ricelake.k12.wi.us	Susan Strouf	stroufs@ricelake.k12.wi.us
Sheboygan Area School District	www.sheboygan.k12.wi.us	Tom Nebel	tnebel@sheboygan.k12.wi.us
Spooner Area School District	www.spooner.k12.wi.us	Julie Stephens	stephensj@spooner.k12.wi.us
Two Rivers Public Schools	www.trschools.k12.wi.us	Richard Nitsch	richard.nitsch@trschools.k12.wi.us
Viroqua Area Schools	www.viroqua.k12.wi.us	Cathryn Poshepny	cposhepny@viroqua.k12.wi.us
Waterford Union High School	www.waterforduhs.k12.wi.us/pages/Waterford_HI	Maryann Schultz	mschultz@waterforduhs.k12.wi.us
Waukesha School District	http://waukesha.k12.wi.us	Julie Kelliher	jkellihe@waukesha.k12.wi.us

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Handouts

Assessment and Interventions for Students with Specific Reading Disabilities (46 page PDF)
Nancy Mather, Ph.D.

Creating Access: Collaborate, Advocate, Lead (8 page PDF)
Cultural, Context and Competence (9 page PDF)
Sally A. Baas, Ed.D., NASP President

Digitally Assisted Psychological Assessment: The Future Is Now (13 page PDF)
John Hanson, Ph.D.

Problem Solving with the New SLD Law: Panel Discussion on Evaluation
Materials Posted at: www.wspaonline.net/resources/3-14SLDPanel.cfm
John Humphries, M.S.E., NCSP

You're Hired: Tips to a Successful First Year as a School Psychologist (6 page PDF)
Christine Neddenriep, Ph.D.

Survey to be taken pre-convention for this session: www.surveymonkey.com/s/D9LRG6B
What is Your Ethical Dilemma?
James Walsh, Ph.D.

Practical Strategies for School Psychologists Presenting System-Level Data (5 page PDF)
- Data Book Power Point (pptx)
- Sample AIMSweb data file (xlsx)
- Simple features handout (2 page PDF)

Dan Hyson, Ph.D.

Student Poster Session (8 page PDF)

Update on DSM 5 Changes (31 page PDF)
Peggy Scallon, MD; Kathleen Koth, DO; Ryan Byrne, MD

School Psychology and the Management of Concussion (23 page PDF)
Daniel Krenzer, Ph.D.

Progress Monitoring Processes and RTI (25 page PDF)
- Jellyfish are Creatures (2 page PDF)
- Nuclear Physics Passage (1 page PDF)

What to Do About Tier 3? The Importance of a Hybrid Model of RTI (11 page PDF)
Ed Shapiro, Ph.D.

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2014 Spring Convention Speakers

Pre-Convention Presenters

Dr. Scott Woitaszewski is the director of the School Psychology Program at the University of Wisconsin - River Falls. He has experience as a practicing school psychologist in Minnesota and has supervised school psychology interns throughout Wisconsin and Minnesota for the past 10 years. Dr. Woitaszewski's scholarly interests include the study of crisis prevention and intervention, emotional and behavioral interventions in schools, educator collaboration, and resilience in children and families. He has several presentations and publications on the topic of school crisis work to his credit, and he is a member of the PREPaRE workgroup (a group of professionals dedicated to the development of the PREPaRE curriculum and related research). Dr. Woitaszewski has conducted PREPaRE workshops locally, regionally, and nationally since 2011. scott.woitaszewski@uwrf.edu.

Dr. Nancy Mather is a Professor at the University of Arizona in Tucson in the Department of Disability and Psychoeducational Studies. She has served as a learning disabilities teacher, a diagnostician, a university professor, and an educational consultant. She has published numerous articles and books and conducts workshops on assessment and instruction both nationally and internationally. Dr. Mather is a co-author of the Woodcock-Johnson III and has co-authored two books on interpretation and application of the WJ III. Her most recent book is Essentials of Dyslexia: Assessment and Intervention (Mather & Wendling, 2012).

Convention Keynotes

Dr. Sally A. Baas, 2013-2014 President of the National Association of School Psychologists directs the Southeast Asian Teacher, Hmong Culture and Language, English as a Second Language and Special Education Programs at Concordia University, St. Paul, MN. She is a licensed school psychologist and university professor who has spent many of her professional years working cross culturally in P-12 grade settings.

Her areas of expertise include: cross cultural models, assessment, child and adolescent development, social emotional learning, children's mental health, crisis response, leadership, advocacy and training.

Dr. Baas' recent research “What does it mean to be Hmong in the Twin Cities of Minnesota?” is published by Lambert Academic Publishing.

Edward S. Shapiro, Ph.D., currently is Professor of School Psychology and Director, Center for Promoting Research to Practice in the College of Education at Lehigh University, Bethlehem, Pennsylvania. He is the 2006 winner of the Senior Scientist Award given by the Division of School Psychology of the American Psychological Association in recognition of senior member of the field who has provided a sustained program of outstanding theoretical and research. He is author, co-author, or co-editor of 16 books including his most recently published text with Joseph Kovaleski and Amanda VanDerHeyden, The RTI Approach to Evaluating Learning Disabilities, and the fourth edition of Academic Skills Problems: Direct Assessment and Intervention and the Academic Skills Problems Workbook, all by Guilford Press. Dr. Shapiro is best known for his work in curriculum-based assessment and methods for assessing and intervening in academic skills problems with elementary age students. Among his many projects, Dr. Shapiro recently completed a federal project focused on the development of a multi-tiered, Response-to-Intervention model in two districts in Pennsylvania and a U.S. Department of Education training grant to train school psychologists as facilitators of RTI processes. Over the past decade, Dr. Shapiro has been working as a consultant with the Pennsylvania Department of Education to facilitate the implementation of the Response to Intervention methodology for the state.

Concurrent Sessions

Kathryn L. Bush, Ph.D. is the Consultant for School Psychology Services at the Wisconsin Department of Public Instruction (DPI). Her position is housed on the Student Services, Prevention and Wellness team. Prior to her work at DPI Kathryn worked for over 25 years with the Madison Metropolitan School District as a school psychologist. She also maintained a private practice as a clinical psychologist and served as a university lecturer.

Ryan Byrne, M.D., is an Assistant Professor in the Department of Psychiatry and Behavioral Medicine at the Medical College of Wisconsin. He sees patients both in an outpatient setting as well as on the consult-liaison service at Children's Hospital of Wisconsin.

Dr. Byrne earned his Bachelor of Science degree in medical microbiology, immunology and political science from the University of Wisconsin in 2003. He earned his M.D. from the University of Wisconsin School of Medicine and Public Health in Madison in 2007, and then completed a residency in psychiatry at the Medical University of South Carolina in 2010. Finally Dr. Byrne completed a fellowship in child and adolescent psychiatry at the Medical University of South Carolina in Charleston.

Dr. Byrne has played a key role in the implementation of the Charles E. Kubly Child Psychiatry Access Project which is designed to educate and assist community pediatricians with meeting the needs of children with psychiatric problems. Besides Dr Byrne's interest in community liaison psychiatry services, his clinical interest includes medical-psychiatric interface.

John A. Hanson, Ph.D., LP, is an Assessment Consultant for Pearson Assessment and Information in the Midwest and a member of the national Q Interactive Team. Dr. Hanson has been trained as a special education teacher and a psychologist. He has functioned as a School Psychologist in Wisconsin, Minnesota and Ohio. Most recently he has been a Senior Licensed Psychologist and Director of Training in a large metropolitan medical center. In that setting his practice focused on therapeutic interventions with children, adolescents and their families and adults seeking mental health treatment. Psychological assessments were regularly used for differential diagnosis and treatment planning. He is an adjunct faculty member teaching courses in Psychological Assessment, Abnormal Psychology, Personality and Adolescence. Dr. Hanson maintains a small private practice doing psychological assessments and family therapy with complex multi-problem families.

John Humphries, NCSP, is School Psychologist and Director of Pupil Services in the Dodgeville School District. John was the consultant for school psychology with the WI Department of Public Instruction for seven years and was co-author of PI 11.36(6), our state's widely acclaimed rule using RTI data to identify specific learning disabilities. John was also DPI's lead consultant on efforts to reduce the incidence of youth suicide, where he trained school personnel to implement evidence-based programming leading to a fifty percent reduction in the rate in five years. John holds an MSE with specialist equivalence from UW-Whitewater and is a Nationally Certified School Psychologist.

Dan Hyson, Ph.D., NCSP, is currently serving as the Data Management Coordinator for the Hiawatha Valley Education District (HVED), a cooperative encompassing 14 school districts, 3 charter schools and 2 alternative schools in southeastern Minnesota. His primary roles in that position are: (1) to organize and analyze student outcome, screening and progress monitoring data from the HVED member districts, and (2) to consult with district teachers, administrators and school psychologists regarding how to access and interpret the results of these analyses and use the results to inform district instructional decisions within multi-tiered systems of support including RtI and PBIS. A 2001 graduate of the joint doctoral program in child and school psychology at the University of Minnesota, Dr. Hyson worked for six years as a more traditional school psychologist at the elementary and high school levels in the Rosemount-Apple Valley-Eagan school district prior to coming to HVED in July 2007. He is also Past President of the Minnesota School Psychologists Association and the current Minnesota NASP Delegate.

Kathleen A. Koth, D.O is an Assistant Professor of Psychiatry and the Director of the Child and Adolescent Psychiatry Fellowship Program at The Medical College of Wisconsin. Dr. Koth provides clinical services at Children's Hospital of Wisconsin in the Department of Psychiatry and Behavioral Medicine, specializing in autism spectrum disorders and developmental disabilities. Dr. Koth completed undergraduate studies at Loyola College in Maryland and medical training at Philadelphia College of Osteopathic Medicine. She completed residency at the combined University of Maryland and Sheppard Enoch Pratt Hospital program in general psychiatry. She continued her fellowship training in child and adolescent psychiatry there, serving as chief fellow in her final year. Dr. Koth is board certified in both general psychiatry and child and adolescent psychiatry. She is a member of the American Academy of Child and Adolescent Psychiatry.

Daniel Krenzer, Ph.D., NCSP, is an Assistant Professor with the School Psychology Program at University of Wisconsin-Stout. Prior to working at Stout, he was a practicing school psychologist in Colorado. During this time he primarily worked with students with emotional disabilities but also developed an interest in concussion especially with student who are non-athletes. Prior to Colorado, Dr. Krenzer worked in Illinois and Mississippi but very much likes the Winters of Wisconsin. He has presented on many contemporary topics across multiple states in the country. Dr. Krenzer's area of research interests are in behavior analysis, measurement of cognitive abilities, and concussion management. He is excited to be working in western Wisconsin. krenzerd@uwstout.edu.

Christine Neddenriep, Ph.D., NCSP, is an Associate Professor and Coordinator of the School Psychology Program at UW-

Whitewater. She also serves as the Professional Preparation and Training Representative to the WSPA board. She joined the faculty at UW-Whitewater in 2005 after practicing three years as a school psychologist in the Omaha Public Schools, where she specialized in the needs of children with behavioral disorders and autism. She earned her doctoral degree in School Psychology from the University of Tennessee-Knoxville. Her areas of research interests include the implementation and evaluation of academic and behavioral interventions in educational settings. Ms. Neddenriep teaches course work in the assessment of behavior and personality, academic interventions, school-based consultation, and research methods in school psychology.

Todd A. Savage, Ph.D., NCSP, a Minnesota native, is an associate professor in the school psychology program at the University of Wisconsin-River Falls. He earned his doctorate from the University of Kentucky in 2002. Prior to his position at UWRF, Dr. Savage was an assistant professor and the director of training in the school psychology program at New Mexico State University. He also has held several leadership positions in the National Association of School Psychologists, including Program Manager for Professional Development, a position he currently holds; the PREPaRE Workgroup falls under this area. Dr. Savage's scholarly research interests include culturally-responsive education and psychology practices; lesbian, gay, bisexual, and transgender issues in education; and crisis prevention and intervention. He can be contacted at todd.savage@uwrf.edu.

Peggy Scallon, M.D. is Clinical Associate Professor in the Department of Child and Adolescent Psychiatry at the UW School of Medicine and Public Health (UWSMPH) in Madison, WI. She is the Director of Residency Training in child and adolescent psychiatry where she is active in teaching and training with residents in psychiatry and medical students. She also sees her own patients in this setting. Dr. Scallon directs the UW School Psychiatry Consultation Service with the Madison Metropolitan School District.

Dr. Scallon earned a BS in Zoology from the UW Madison, and she earned an MD from the UWSMPH. She completed general residency training in psychiatry at the University of Colorado Health Sciences Center, and she completed fellowship training in child and adolescent psychiatry from the UWSMPH. She maintained a private practice until she joined the faculty at the UW Department of Psychiatry in 2002. Dr. Scallon enjoys seeing a broad range of clinical issues in her clinical practice, and her particular clinical interests are in the areas of psychotherapy, parent coaching and attachment disorders.

Patrice Vossekuil, M.A., is the Director of Coordinated Educational Research Group, LLC, the Wisconsin Affiliate of the International Institute for Restorative Practices (IIRP), Bethlehem, Pennsylvania. As a licensed IIRP trainer in restorative practices, Ms. Vossekuil has trained hundreds of Wisconsin educators in the use of restorative circles and conferences to address bullying and other risk behaviors, conflict resolution, and victim-offender reconciliation. She also provides facilitation of school, community and family group decision-making conferences. Ms. Vossekuil is a graduate of Northwestern University and received her Master's degree in Educational Leadership and Policy from Marquette University. Her background is in professional development of educators in alternative/at risk education, positive youth behavior development, and humane education.

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2014 Spring Convention Hotel and Lodging Information

Ho-Chunk Gaming
S3214 County Highway BD, Baraboo, WI 53913
Toll-free 1.800.746.2486

NOTE: *Please mention "WSPA" to receive the special rate when making reservation.*

Room rates:

- **$70,** single

Hotel information:

- Room cancellations must be made 48 hours prior to the 4 pm check-in the day of arrival or charges will apply.
- All reservations must be guaranteed by one night's deposit on a major credit card.
- Check-in time is 4 pm; Check-out time is 11 am
- All rooms incur a $5 tribal tax per room, per day

Room Block Release Date: Tuesday, March 11, 2014. Reservations received after this date will be subject to space availability and at prevailing room rates.

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2014 Spring Convention Registration Information

Convention Register Online! or Printable Registration Form (3 page PDF)

(**Registration deadline:** Friday, March 14)

Graduate Credit
One graduate is available for those that attend the full convention. Tuition is $125. Registration and payment can be made at the pre-convention or by contacting Briana Meuer: bmeuer@uwlax.edu; 608.785.6513.

Printable Registration for Credit Option (3 page PDF)
Printable Course Syllabus (3 page PDF)

Exhibitor Register Online! or Printable Exhibitors Registration Form (1 page PDF)

FEES:

$360, THREE DAY Option, Pre-Conference, Thursday and Friday, *Fee includes continental breakfasts on Wednesday/Thursday, full breakfast on Friday, refreshment breaks and lunches*

$274, TWO DAY Option Any two days, *Fee includes continental breakfasts on Wednesday/Thursday, full breakfast on Friday, refreshment breaks and lunches*

$190, ONE DAY Option Any day, *Fee includes continental breakfasts on Wednesday/Thursday, full breakfast on Friday, refreshment breaks and lunches*

FEE ADJUSTMENT(S)

- **$60 discount, WSPA Member,** *If you are not a member, would you like your registration fee applied to the current 2013-2014 Membership year. You will owe nothing more to be a member of WSPA until September 13, 2014.*
- **$50 discount, Retired Psychologist**
- **$25 discount, if registering ON or BEFORE Feb. 28, 2014**

$85, Students, *Fee includes continental breakfasts on Wednesday/Thursday, full breakfast on Friday, refreshment breaks and lunches*

$35, Students, Pre-Conference, *Fee includes continental breakfast, refreshment breaks and lunch*

$15, Handouts HANDOUTS WILL ONLY BE PRINTED FOR SESSIONS SELECTED. *Hard copy printouts of handouts will be available for the cost of $15 and MUST be ordered during the registration process.*

Cancellation Policy

Full refund less $25 processing fee before **Feb. 28, 2014.** No refunds on or after Feb. 28, 2014. Refund requests must be submitted in writing to: UW-La Crosse Continuing Education & Extension, 1725 State Street, 205 Morris Hall, La Crosse, WI 54601. No refunds will be made in the case of non-attendance. Substitutions will be accepted.

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2014 Spring Convention Sponsorship/Exhibitor Information

Exhibitor day, Thursday & Friday, March 27 & 28 (Thursday, 8 am-5 pm and Friday, 8 am-12 pm)
Set up is Wednesday, March 26, 6-8 pm.

Sponsor Space Cost:

Convention sponsorships offer marketing opportunities that provide increased visibility to attendees. For special recognition (your banner at a head table, verbal recognition from an officer at breakfast or lunch, your signs at strategic locations, your company name/material in the convention brochure and other possible special considerations throughout the convention) consider the following levels of sponsorship or customize a sponsorship to match your goals and budget:

- **Friends of Psychologists in the Schools Sponsor | $250** (No limit to number of these sponsorships). *Included:*
  - Brief description of your organization in the conference packet
  - Thank you table tent on registration table and verbal recognition of sponsorship at lunch
  - Mentioned as a conference sponsor in the “day of” handout
  - One complete registration for all sessions, break activities, meals
  - Up to two (2) six foot tables for exhibit space
- **Bronze Sponsorship | $350** (3 sponsorships, limited due to number of breaks) *Included:*
  - All recognition of Friends of Psychologists in the Schools Sponsor
  - PLUS: Opportunity to sponsor one AM or PM break with organization name on signage at break tables
- **Silver Sponsorship | $550** (3 sponsorships, limited due to number of meals) *Included:*
  - All recognition of Friends of Psychologists in the Schools Sponsor
  - PLUS: Opportunity to sponsor one meal and speak briefly (5 minutes) about your organization with your banner or signage (supplied by your organization) displayed
  - Your brochure included in conference packets
  - Up to three six foot tables for exhibit space
- **Gold Sponsorship | $750** (2 sponsorships, limited due to number of keynotes per conference) *Included:*
  - All recognition of Silver Sponsor
  - PLUS: Named as Opening OR Closing Keynote sponsor
  - Banner or signage (supplied by your organization) Keynote’s main stage
  - Mention as Keynote sponsor in the “day of” handout

Exhibitors: Organizations not interested in the above sponsorships will be charged $100/table. This exhibitor fee includes one 6-foot table and one chair. **Fee includes one convention registration, admittance into any convention sessions and meals/breaks.**

Exhibitor Register Online! or Printable Exhibitors Registration Form (1 page PDF)

Limited items will be accepted on a first come first serve basis.

Contact: Mike Lackas, jackbryce49@gmail.com, for specific details.

Return Printable Form to:

UW-La Crosse, Continuing Education
Attention: WSPA Exhibitor Registration
1725 State St., 205 Morris Hall

La Crosse, WI 54601

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1725 State St. La Crosse, WI 54601
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2014 Spring Convention Graduate Credit Option

One graduate credit is available!

The student must attend the pre-convention and the convention to receive credit. **Cost is $125**; registration and payment can be made at the pre-convention or by contacting Briana Meuer at bmeuer@uwlax.edu or 608.785.6513.

The tuition plateau does not apply to students enrolling in undergraduate or graduate credit courses through the Office of Continuing Education and Extension.

Printable Registration for Credit Option (3 page PDF)
Printable Course Syllabus (3 page PDF)

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Jellyfish are creatures found in most bodies of salt water, from the tropical 13
waters of the Caribbean Sea, to the cold, dark waters of the Arctic Ocean. 27

Jellyfish are unusual creatures. When seen in the water, it's hard to believe 40
they are a species from this planet. They look like aliens hanging suspended in 54
water with their luminous layers of tissue and flesh. They have long, curly 67
tentacles and plastic like bubble tops that sway in the sea. 78

Although it's difficult to believe, jellyfish have no heart, blood, brain, or gills. You 92
can see through their mostly hollow stomach cavities where their food is digested 105
and dissolved. Jellyfish have no proper eyes or ears. In fact, it's possible to 119
believe that jellyfish are just brainless blobs without the slightest spark of 131
intelligence. Amazingly enough, despite their lack of sight and hearing, jellyfish 142
can distinguish touch, temperature, light, and darkness. They also know the 153
direction and pull of water currents. 159

Jellyfish come in an assortment of colors and shades. The jellyfish living in 172
cooler waters are generally pale or milky white in color. Many of the jellyfish that 187
live in warmer, tropical waters are often strikingly colored in shades of magenta, 200
scarlet, yellow, and orange. 204

A jellyfish can be as tiny as a thimble, and some can grow to be as colossal as 222
a satellite dish. Most jellyfish can maneuver feebly in the water; however, their 235
poor swimming skills place them at the mercy and whimsy of ocean currents. 248

Some jellyfish ride the ocean currents alone, while other species travel in 260
special groups called colonies. The man-of-war is an example of a highly adapted 275
jellyfish that travels with a colony. The man-of-war serves a special function in its 291
colony. It catches prey with a very long tentacle that can trail as far as one hundred 308
feet through the sea. The man-of-war's prey includes shrimp, squid, and fish. It 323
also produces potent venom that is harmful to humans who may swim nearby, 336
unaware of the man-of-war's clever and stunning snares. 346

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Advances in Repeated Assessment within RTI - Changes Needed in Screening and Progress Monitoring

Edward S. Shapiro, Ph.D.
Director, Center for Promoting Research to Practice
Lehigh University

Presented at Wisconsin School Psychologists Association, March 28, 2014

Why is Lehigh known?

LEHIGH
BEAT
DUKE
75-70

Agenda

- Being a school psychologist in RTI models
- Important psychometric basics for repeated measurement
- RTI and Curriculum-Based Measurement (CBM)
- RTI and Computer Adaptive Testing (CAT)
- Screening Advancements
  - Kindergarten & First Grade Screening
  - DIBELS Next Controversy
  - Alternatives to CBM
  - Screening (and Progress Monitoring) above 5th grade level
- Progress Monitoring Advancements
  - Number of data points for accurate trend in CBM reading
  - Season Changes and Rate of Improvement
  - Sensitivity of measures to change – CBM Reading, CBM Maze, & CBM Math

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School Psychologist and RTI

- Key skills and background
  - Assessment metrics
  - Assessment psychometrics
  - Principles of learning
  - Principles of sound analysis
- Questioning
  - Always ask why!
- Research basis for practice
  - Never be satisfied
  - Stay on top of newest findings

School Psychologist and RTI

- Members of the team
- Leadership
- Collaboration
- Data driven and data focused
- Advocates for children

National Perspective

- 1,390 respondents (K-12 administrators) to survey (margin of error 3-4% AT 95% confidence interval)

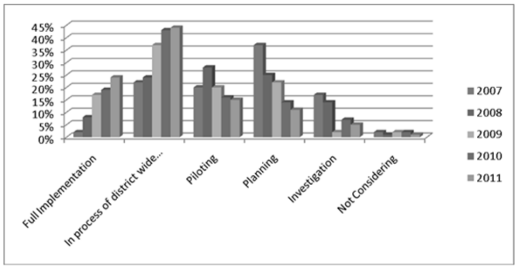
- 94% of districts are in some stage of implementing RTI – up from 60% in 2008 and 44% in 2007

- Only 24% of districts reached full implementation

- Primary implementation is elementary level with reading leading the way

- www.spectrumk12.com

National Perspective on RTI



- www.spectrumk12.com

Reading Assessment & Instruction MUST Explicitly Address:

- Key elements of scientifically-based core programs includes explicit and systematic instruction in the following:
  - Phonological Awareness
  - Phonics
  - Fluency
  - Vocabulary
  - Comprehension

    (National Reading Panel, 2000)

Reading and Common Core Standards

- Key Ideas and Detail
- Author's Craft and Structure
- Integration of Knowledge and Ideas
- Range of Reading and Text Complexity

Math Assessment & Instruction MUST Explicitly Address:

- Concept Standards;
  - Numbers and Operations
  - Measurement
  - Geometry
  - Algebraic Concepts
  - Data Analysis and probability

As well as:

- Process Standards:
  - Problem Solving
  - Reasoning and Proof
  - Communication
  - Connections
  - Representations
    - (NCTM: National Council of Teachers of Mathematics)

Common Core Standard in Math

- Operations and Algebraic Thinking
- Numbers and Operations in Base Ten
- Numbers and Operations – Fractions
- Measurement and Data
- Geometry
- Mathematical Practices

As Well as:

- The Five Strands of Mathematical Proficiency
  - Conceptual Understanding
  - Procedural Fluency
  - Strategic Competence
  - Adaptive Reasoning
  - Procedural Disposition
    - (NCTM: National Council of Teachers of Mathematics)

Balanced Assessment

- Wisconsin Balanced Assessment Recommendations within RTI

Formative Assessment

☑ A ***planned process***

☑ Used to adjust ongoing teaching and learning to improve students' achievement of intended instructional outcomes

☑ Classroom-based

☑ Formal and Informal Measures

☑ Diagnostic - Ascertains, prior to and during instruction, each student's strengths, weaknesses, knowledge, and skills to inform instruction.

Benchmark Assessment

☑ Provides feedback to both the teacher and the student about how the student is progressing towards demonstrating proficiency on grade level standards.

Summative Assessment

☑ Seeks to make an overall judgment of progress made at the end of a defined period of instruction.

☑ Often used for grading, accountability, and/or research/evaluation

Two Key Assessment Processes in RTI

- Universal Screening
- Progress Monitoring

Key Psychometric Processes

- Concurrent Validity
  - Relationships of measure to other measures known to assess the concept
  - Correlation to state test taken at same time
- Predictive Validity
  - Relationships of measures to future measures known to assess the concept
  - Correlation to state test from fall screening
  - Correlation of Rate of Improvement to state test

Key Psychometric Concepts

- Diagnostic Validity
  - Sensitivity & Specificity
  - Base rate problem
  - Happy surprises versus Unhappy surprises
- Vertical Scaling of Scales
  - Cross grade outcomes
  - Off grade level assessment

Concurrent and Predictive Validity

- Most screening measures correlate about .60 - .70 with state tests
- Most screening measures predict to state tests with from fall and winter measures about .60 - .70 with state tests
- BUT rate of improvement interestingly does not always predict outcomes on state test

Diagnostic Accuracy

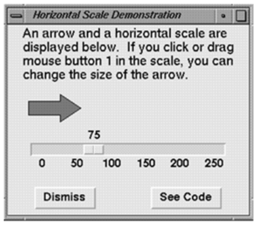
WHAT THE SCREENER PREDICTS	WHAT REALLY HAPPENED	
Screener Says Student is NOT OK	Student is Actually OK = FALSE POSITIVE	Student is NOT OK = TRUE POSITIVE
Screener Says Student is OK	Student is Actually OK TRUE NEGATVE	Student is NOT OK = FALSE NEGATIVE

Base rate problem -
False positives equal to base rate?

Vertical Scaling

- Assessments need to inform change over time
- Change across a year within a grade
- Change across years and across grades
- Placing the student on the scale regardless of age/grade

Vertical Scaling



An arrow and a horizontal scale are displayed below. If you click or drag mouse button 1 in the scale, you can change the size of the arrow.

- All individuals on same scale
- Allows comparisons across age/grade/time
- Allows identified range for expected performance
- Allows identification of those "out of range" for age grade

Vertical Scaling and Test Development

- Vertical scaling is a general class of methodologies for taking the results of tests for a series of grade levels and placing them on a common scale.
- Weight
- GRE
- SAT
- State Assessments
- Most norm-referenced, standardized tests

Potential Choices of Measures

- National RTI Center Tools Chart
- Two types of measures
  - Curriculum-Based Measurement
    - Benchmark, Summative
  - Computer Adaptive Tests
    - Benchmark, Formative, Summative

CBM and Assessment

- CBM designed as INDEX of overall outcomes of academic skills in domain
- CBM is a General Outcomes Measure
- Tells you HOW student is doing OVERALL, not specifically what skills they have and don't have (not formative or diagnostic)

McDonald's- How Do We Know They Are Doing Well as a Company

- General Outcomes Measure of company's success
- What is the one item that tells the CEO and stock holders how they are doing?

Tools
Help
Search
Favorites
alds.com/usa/eat/features/dollar.html
Go
Links
Google
Bag a McMeal
Nutrition Info
Food Quality
Food News
Snack Wrap
Premium Salads
Premium Chicken Line
Premium Coffee & McGriddles
Premium Coffee
Dollar Menu
McNuggets
From Farm to Table
Tools for Health Professionals
Bob Greene, Personal Trainer
Dean Ornish, MD Tips
Dollar Menu
DOUBLE CHEESEBURGER
It's beefy. It's cheesy. Need I say more?
I LIKE MY OPTIONS
McDonald's USA Dollar Menu
Price and participation may vary.

McDonald's USA Dollar Menu

Turn Your Dollar into Something Tasty with McDonald's Dollar Menu. Great choices. Great prices. Every

Tools
Help
Search
Favorites
alds.com/usa/eat/features.html
Go
Links
Google
Printer-Friendly
Español
Bag a McMeal
Nutrition Info
Food Quality
Food News
Snack Wrap
Premium Salads
Premium Chicken Line
Premium Coffee & McGriddles
Premium Coffee
Dollar Menu
McNuggets
From Farm to Table
Tools for Health Professionals
Bob Greene, Personal Trainer
Dean Ornish, MD Tips
new SNACK WRAP
premium salads
premium chicken line

McDonald's USA Food News

McDonald's New Snack Wrap

Warm, crispy chicken, cheddar jack cheese, fresh lettuce and creamy ranch sauce all wrapped up in a soft flour tortilla..

Get snacking now. More >>

McDonald's Premium Salads!

Asian Salad (Grilled or Crispy Chicken), California Cobb Salad (Grilled or Crispy Chicken), Caesar Salad (Grilled or Crispy Chicken), Bacon Ranch Salad (Grilled or Crispy Chicken).

Visit participating McDonald's restaurants to enjoy McDonald's Premium Salads! More >>

New Premium Chicken Line

Grilled? Crispy? Spicy? Yes, yes, and yes. Chicken's got a new address...and all roads lead to Mickey D's.

McDonald's USA Premium Chicken Line at participating McDonald's restaurants. More >>

Characteristics of CBM

- **Standardized format for presentation**
- **Material chosen is controlled for grade level difficulty**
- **Material presented as brief, timed probes**
- **Rate of performance used as metric**
- **Results provide index of student progress in instructional materials over time**
- **Indexes growth toward long-term objectives**
- **Measures are not designed to be formative or diagnostic**

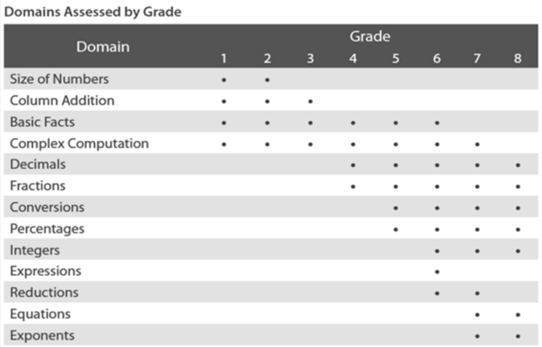
CBM and Reading Assessment Measures

- Early Literacy
  - Phoneme Segmentation Fluency
  - Initial Sound Fluency
  - Nonsense Word Fluency
  - Letter Identification Fluency
- Reading
  - Oral Reading Fluency
  - Maze
  - Retell Fluency
- AIMSweb as example

Types of CBM Math Assessment

- M-COMP = Computation Skills
  - Assesses many skills across the grade
  - Samples the skills expected to be acquired
  - Grade-based assessment
  - Reflects performance across time
- M-CAP = Concepts/Applications Skills

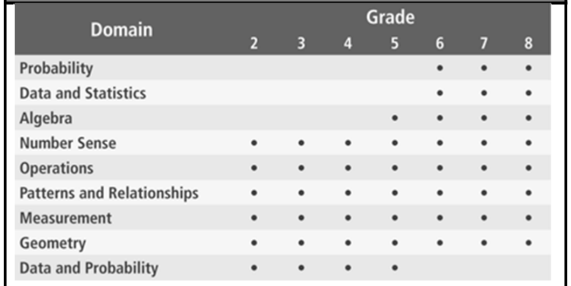
AIMSweb – MCOMP Domains



Domains Assessed by Grade

Domain	Grade 1	2	3	4	5	6	7	8
Size of Numbers	•	•						
Column Addition	•	•	•					
Basic Facts	•	•	•	•	•	•		
Complex Computation	•	•	•	•	•	•	•	
Decimals				•	•	•	•	•
Fractions				•	•	•	•	•
Conversions					•	•	•	•
Percentages					•	•	•	•
Integers						•	•	•
Expressions						•		
Reductions						•	•	
Equations							•	•
Exponents							•	•

AIMSweb- MCAP Domains Assessed

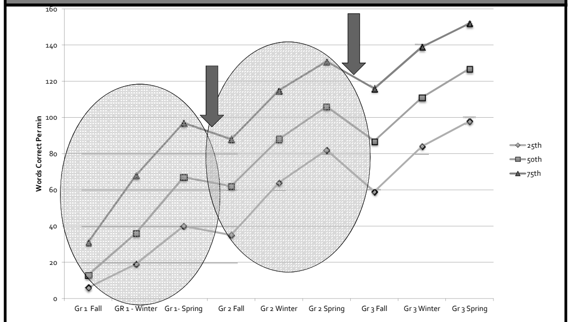


Domain	Grade 2	3	4	5	6	7	8
Probability					•	•	•
Data and Statistics					•	•	•
Algebra				•	•	•	•
Number Sense	•	•	•	•	•	•	•
Operations	•	•	•	•	•	•	•
Patterns and Relationships	•	•	•	•	•	•	•
Measurement	•	•	•	•	•	•	•
Geometry	•	•	•	•	•	•	•
Data and Probability	•	•	•	•			

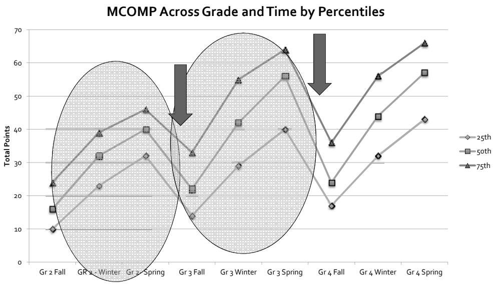
Keys to Interpretation of CBM Data

- Change over time interpreted differently for reading and math – problems of vertical scaling
- Change from end of one year to start of next (summer decline?)
- Implications for instruction?

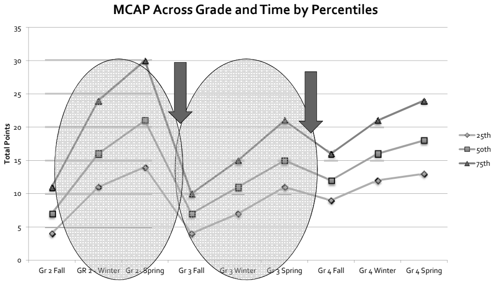
AIMSweb RCBM Across Time



MCOMP Across Grades, Time by Percentiles



MCAP Across Grades and Time by Percentiles



Some Key Elements of Interpreting AIMSweb CBM

- Within and across grade growth is evident for reading (RCBM) but not math
- Across grade growth in reading shows step wise improvements, after "summer decline"
- In math, within year change over the year can be very small
- Across grade growth in math not possible to determine from math CBM, i.e., each grade is not necessarily higher scoring than the previous grade
- Interpretation within grade rather than across grade is stronger
- Why? Due to nature of within grade measures- Math measures are more specific skills probes than general outcome measures

Alternatives to CBM for Screening

- Problem
  - CBM not instructionally linked
  - Issue especially with the coming of Common Core
  - CBM in reading loses its punch as grade increases
  - CBM in math is problematic because of across year growth
- Solutions
  - Use measure that is developmentally sensitive across the grade span
  - Use measures that can also provide instructionally linked relevant information

Computer Adaptive Tests

What are Computer Adaptive Tests?

- Based on IRT (Item Response Theory) method of test construction
- Adjusts items administered based on student responses and difficult of items
- Similar to finding a basal and ceiling of tests
- Tests have huge item banks
- Items are not timed, based on accuracy of response
- Careful calibration, pinpoints skills acquired and in need of teaching in a skill sequence

Concept of "Probe"

- Item Response Theory

Probe = ITEMS WITHIN THE TEST
Test = Many items (probes)
NOT assume = item equal difficulty, each item tested for difficulty level it represents
Score = sum across items estimates true student ability across domains of assessment

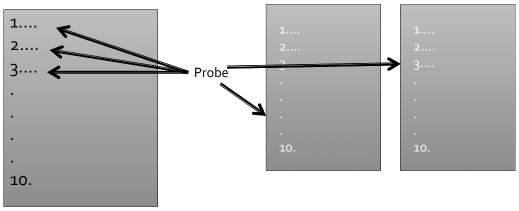
- Classical Psychometric Theory

Probe = WHOLE TEST
Test = many items
Assume = items equal difficulty
Score = sum across items estimates true student performance, unsure what skills are actually embedded in the measure

Concept of "Probe"

IRT THEORY

CLASSICAL PSYCHOMETRIC THEORY



Assumptions

IRT THEORY

- Each item is a "probe"
- Interaction between item difficulty and student ability is tested
- Each item comes from a large set of possible items testing key component skills

CLASSICAL PSYCHOMETRIC THEORY

- All items of a "probe" represent equal difficulty
- All "probes" represent equal difficulty
- No interaction between student ability and probe level

CAT Methods and Measures

- Computer administered entirely
- Between 15-25 minutes per administration
- Skills focused within domains
- Not all students take same items, depends on which items are answered correctly and incorrectly
- Scaled Score is the KEY metric
- Outcome diagnostic and summative

CAT Methods and Measures

- Provides a student's relative standing to peers on a national distribution
- Provides student's goals for growth
- Provides indication of group's performance (grade, school, district) relative to what is expected nationally
- Example for today- STAR Assessment (Enterprise) from Renaissance Learning
- Other similar metrics exist, see NCRTI charts
  - SRI, MAP

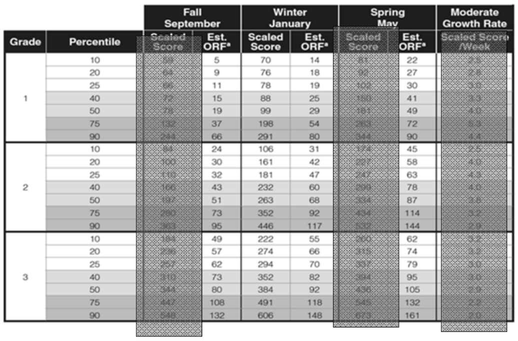
STAR Assessments

- STAR Early Literacy (pre-K - 3)
- STAR Reading (Gr 1 – 12)
- STAR Math (Gr 1 – 12)

STAR Scaled Score - Critical

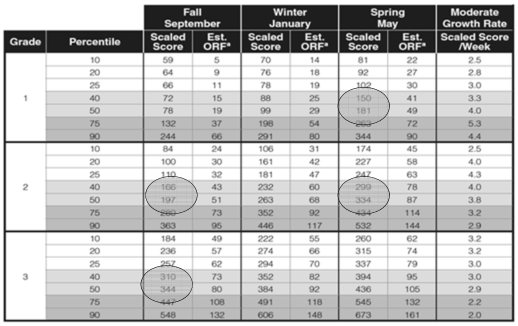
- Metric that places student on a distribution from K through grade 12
- Weight analogy
- STAR Math Scaled Score – 0 to 1400
- Note important difference in interpretation to CBM (AIMSweb) measures across grades and time
- VERTICALLY SCALED

STAR Reading Scaled Scores



		Fall September		Winter January		Spring May		Moderate Growth Rate
Grade	Percentile	Scaled Score	Est. ORF*	Scaled Score	Est. ORF*	Scaled Score	Est. ORF*	Scaled Score /Week
1	10	59	5	70	14	81	22	2.5
	20	64	9	76	18	92	27	2.8
	25	66	11	78	19	102	30	3.0
	40	72	15	88	25	150	41	3.3
	50	78	19	99	29	181	49	4.0
	75	132	37	198	54	263	72	5.3
	90	244	66	291	80	344	90	4.4
2	10	84	24	106	31	174	45	2.5
	20	100	30	161	42	227	58	4.0
	25	110	32	181	47	247	63	4.3
	40	166	43	232	60	299	78	4.0
	50	197	51	263	68	334	87	3.8
	75	280	73	352	92	434	114	3.2
	90	363	95	446	117	532	144	2.9
3	10	184	49	222	55	260	62	3.2
	20	236	57	274	66	315	74	3.2
	25	257	62	294	70	337	79	3.0
	40	310	73	352	82	394	95	3.0
	50	344	80	384	92	436	105	2.9
	75	447	108	491	118	545	132	2.2
	90	548	132	606	148	673	161	2.0

STAR Reading Scaled Scores



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	40	72	15	88	25	150	41	3.3
	50	78	19	99	29	181	49	4.0
	75	132	37	198	54	263	72	5.3
	90	244	66	291	80	344	90	4.4
2	10	84	24	106	31	174	45	2.5
	20	100	30	161	42	227	58	4.0
	25	110	32	181	47	247	63	4.3
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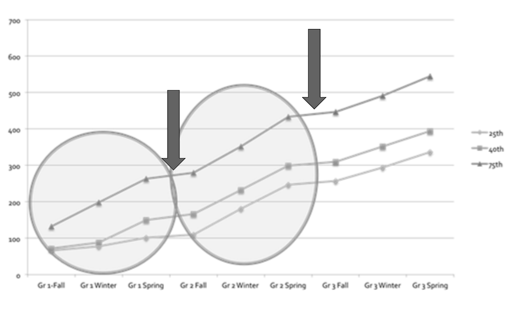
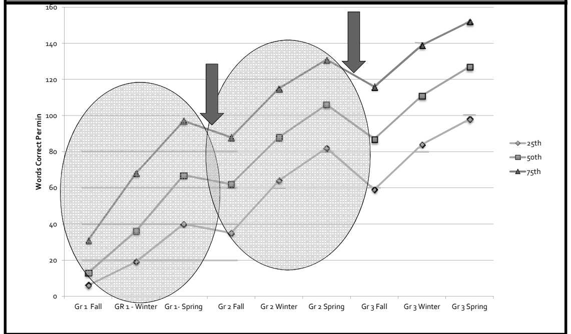
	20	236	57	274	66	315	74	3.2
	25	257	62	294	70	337	79	3.0
	40	310	73	352	82	394	95	3.0
	50	344	80	384	92	436	105	2.9
	75	447	108	491	118	545	132	2.2
	90	548	132	606	148	673	161	2.0

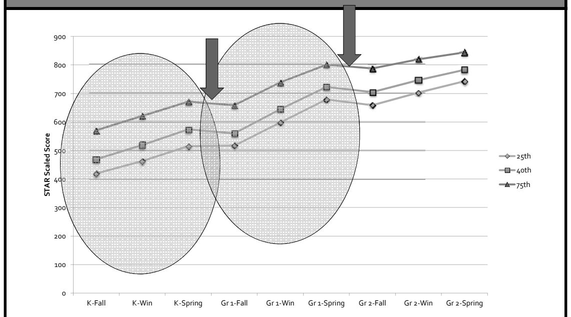
STAR Reading Scaled Score Across Time and Grades



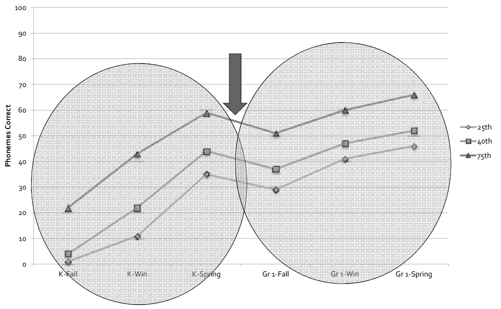
AIMSweb RCBM Across Time



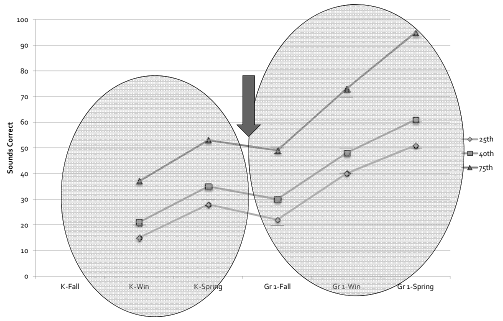
STAR Early Literacy Across Grades



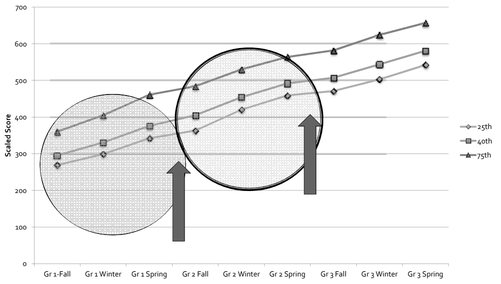
AIMSweb PSF Across Grades



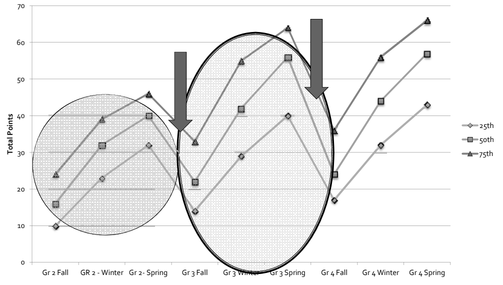
AIMSweb NWF Across Grades



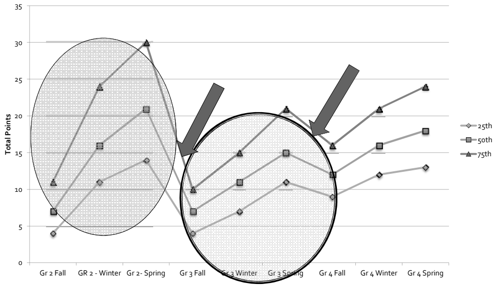
STAR Math Scaled Score Across Time and Grades



MCOMP Across Grades, Time by Percentiles



MCAP Across Grades and Time by Percentiles



STAR Math – Grade 2

- STAR Math Fall Screening Report
- STAR Math Winter Screening Report
- STAR Math with Students

Current Developments in Screening – Changes Needed

Screening at Youngest Grades

- Problem
  - Too many false positives (screener says at risk, really not)
  - Avoid false negatives (screener says NOT at risk, really are)
- Solutions
  - Two stage screening
  - Delay initial screening

Two Stage Screening

- Screening designed to capture larger pool of potential at risk students
- Natural to have more false positives in the pool
- Designed to avoid false negatives
- Too many false positives = resource implications
- Natural adaptation of school

Two Stage Screening – Option 1

- Screen all students as usual at beginning of year
- Identify those below certain cut point, for example, below 25th %tile
- Progress monitor weekly those students below this point for time period
- Wait to start interventions until time period (8 weeks?) is complete

Two Stage Screen- Option 1

- Advantages
  - Avoids starting interventions for false positives
  - More precise use of resources
  - Accounts for typical developmental patterns
- Disadvantages
  - Some students need intervention immediately
  - Logistics

Two Stage Screening – Option 2

- Screen all students at beginning of year using universal screener
- For those below a certain cut point (25th %tile?), conduct second screener
- Those screening at risk on both screeners are placed into intervention
- Selection of second screener is critical

Two Stage Screener- Option 2

- Advantages
  - More precise identification of those at risk
  - Multiple measures provide more info
- Disadvantages
  - Logistics
  - Resources for assessment

Option 3 – Mix

- Initial screen in September
- Start Intervention for those below 10th %tile
- Second stage screen for others

Problem #2- Which Criterion?

- Selection of cut point for risk/no risk is critical decision
- Alteration of cut point shifts resource capability
- Alteration of cut point shifts expected outcomes
- Alteration of cut points shifts goals

Example: DIBELS Next Benchmarks Oregon vs DMG

- Problem (From Oregon's Perspective)
  - Too many false negatives
  - Increasing rigor of curriculum (common core
- Solution
  - Change cut point (Oregon cut points)

DIBELS Next Benchmarks Oregon vs DMG

- The Controversy
  - The Norms/Cut Scores You Use Make a BIG difference
  - DIBELS Next (DMG) cut scores are linked to subsequent scores on next benchmark assessment
  - DMG cut scores were anchored to approximately the 30-40th percentile of distribution, anchored to outcomes on GRADE
  - Oregon examined scores and found high levels of FALSE NEGATIVES (kids scoring at or above benchmark not passing state test)
  - Oregon conducted carefully selected sample
  - Used outcomes of new standardization sample to set cut scores with SAT10 performance

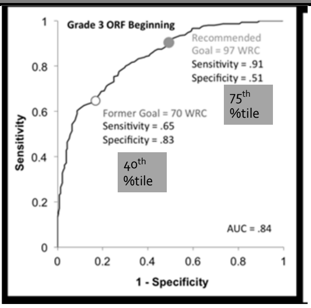
Key Reports

- Report Containing Revised Benchmarks
  - https://dibels.uoregon.edu/docs/techreports/DDS2012TechnicalSupplement.pdf
- Report Containing Information on Revised Composite Benchmarks
  - https://dibels.uoregon.edu/docs/techreports/DDS2012TechnicalBriefPart1.pdf
  - Our primary conclusion is that the scientific evidence does not support the requirement that all DIBELS Next measures be administered.

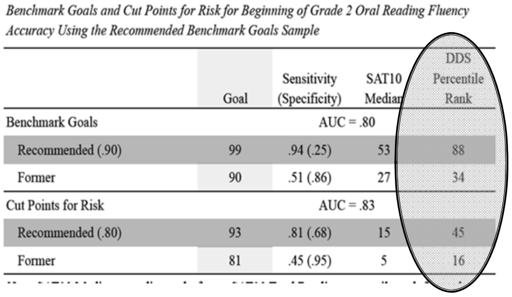
Key Reports

- Report Containing Information on the Study for Revised Benchmarks
  - https://dibels.uoregon.edu/docs/techreports/DDS2012TechnicalBriefPart2.pdf

Oregon vs DMG Benchmarks



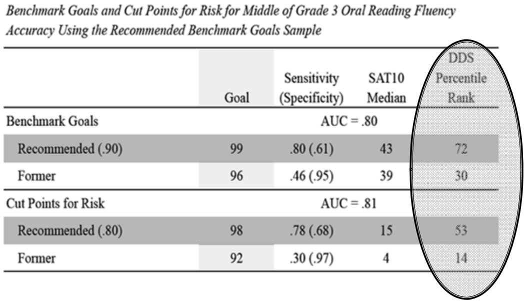
Grade 2 Comparison for ORF



Benchmark Goals and Cut Points for Risk for Beginning of Grade 2 Oral Reading Fluency Accuracy Using the Recommended Benchmark Goals Sample

	Goal	Sensitivity (Specificity)	SAT10 Median	DDS Percentile Rank
Benchmark Goals		AUC = .80		
Recommended (.90)	99	.94 (.25)	53	88
Former	90	.51 (.86)	27	34
Cut Points for Risk		AUC = .83		
Recommended (.80)	93	.81 (.68)	15	45
Former	81	.45 (.95)	5	16

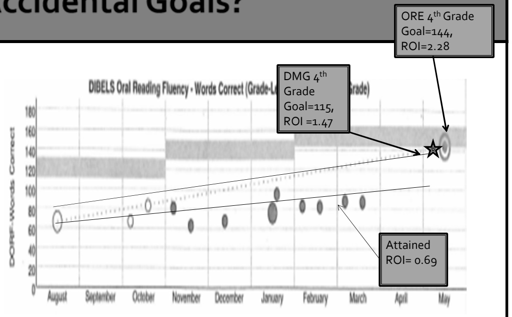
Grade 4 Comparison for ORF



Benchmark Goals and Cut Points for Risk for Middle of Grade 3 Oral Reading Fluency Accuracy Using the Recommended Benchmark Goals Sample

	Goal	Sensitivity (Specificity)	SAT10 Median	DDS Percentile Rank
Benchmark Goals		AUC = .80		
Recommended (.90)	99	.80 (.61)	43	72
Former	96	.46 (.95)	39	30
Cut Points for Risk		AUC = .81		
Recommended (.80)	98	.78 (.68)	15	53
Former	92	.30 (.97)	4	14

Accidental Goals?



ORE 4th Grade Goal=144, ROI=2.28

DMG 4th Grade Goal=115, ROI =1.47

Attained ROI= 0.69

Implications of Choice

- False Positives vs False Negatives
- What is the criterion?
- State Assessment?
- What percentile equals proficiency?
- ORE = More False Positives against State Assessment
- DMG = More False Negatives against External Criterion

Screening (& Progress Monitoring) Above 5th Grade

Reading

- Sensitivity of R-CBM to reflect reading comprehension
- Sensitivity of MAZE as a proxy for reading comprehension
- Prediction to state assessments
- Importance (or reduced importance) of fluency

Read This – Have Someone Time You

- Passage-Jellyfish
- What was the passage about? Retell in your own words.

- Reflect-
  - How easy was it to read? Why?
  - Did you understand it?

Now Read This – Have someone time you

- Science
- What was the passage about? Retell in your own words.

- Reflect-
  - How easy was it to read? Why?
  - Did you understand it?

Screening (& PM) Above 5th Grade

- Problems
- Reading
  - Lack of sensitivity to change over time
  - Meaningfulness of measure – Maze? ORF?
  - Need to assess comprehension over fluency
  - Instructional planning?
- Math
  - Lack of sensitivity to change over time
  - Instructional planning?

Monitoring Above 5th Grade

- Requires broader measure of reading
- Requires broader measure of mathematics
- Skills level assessment is critical
- CBM not designed for this purpose

Screening (& PM) Above 5th Grade

- Solutions
  - Less available but there are some
  - Use of CATs
  - Less reliance on CBM measures
  - Alternatives under development
  - Learning Progressions

TB- Case Example

- TB- Diagnostic Report
- TB- Instructional Planning Report
- TB- Progress Monitoring Report
- TB- State Proficiency Report
- TB- Common Core Report

Progress Monitoring- Research and Need for Changes

Progress Monitoring in RtI

- Key to data based decision making
- Use PM data as basis for continue tiered instruction, increase goals, change instruction
- Use PM data as basis for potential consideration down the road for eligibility decisions

Progress Monitoring Using CBM AIMSweb

- Students in need of tiered instruction are monitored on frequent basis
- Frequency of monitoring can vary but once every two weeks is recommended at minimum
- Monitor student toward grade level goals
- Reading
  - R-CBM (Oral Reading Fluency) – after mid year grade 1
- Math
  - M-COMP & M-CAP (starting second grade)

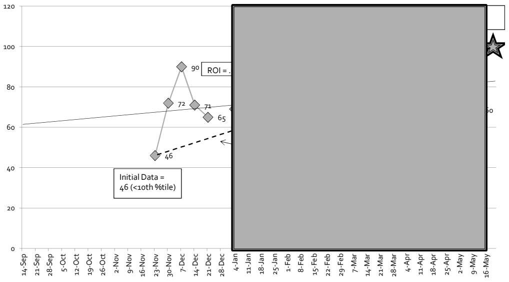
Progress Monitoring

- Same measures used for progress monitoring
- Goals set for expected rate of change over the year
- Measures are used to determine outcomes of interventions
- General Outcomes Measures for overall progress
- Short term measurement might also be needed for skill development

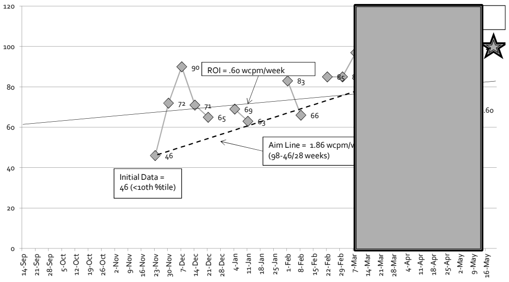
Standard Error – Interpreting Trend

- All measures have error
- Change in performance over time must be interpreted by considering error
- If change from one point to next is within error, no big deal
- If change from one point to next is larger than error, need to check whether change is "real" or "accidental"
  - Easier or harder passage than one before
  - Student was physically ill
  - Student just clicked away on the computer
- CBM ORF SEM = 10 wcpm (range 5-15)
  - Christ, T. J.; Silberglitt, B., (2007) School Psychology Review, 36(1), 130-146.

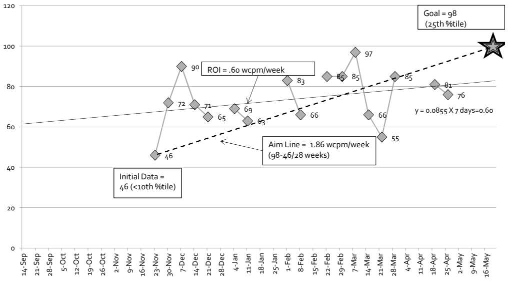
Grade 2= Real or Error? SEM = 10



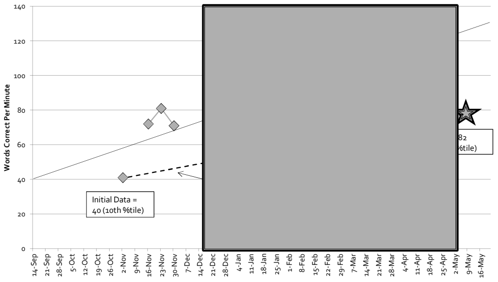
Grade 2= Real or Error? SEM = 10



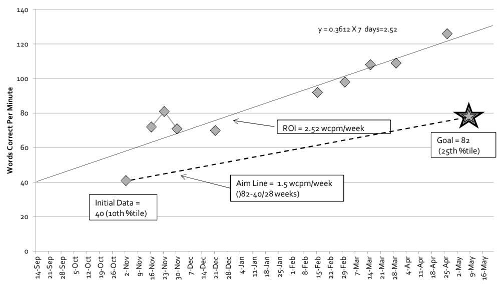
Grade 2= RCBM PM Example



Grade 3 – Real or Error? SEM = 10



Grade 3 – Real or Error?
SEM = 10



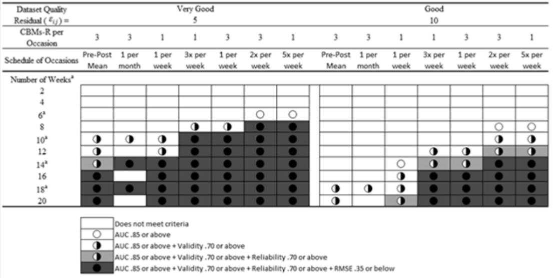
Important New Findings about CBM Reading and Progress Monitoring
(Christ et al., 2013, J. of School Psychology)

- Use of Ordinary Least Squares (OLS) regression is only valid trend estimator
- Number of weeks of monitoring is key and best predictor of outcomes
  - Recommendation is 10-14 weeks with good passage set
- Increasing density of data collection (i.e., more in shorter amount of time) does not improve prediction)
- Need to use more data per assessment (i.e., 3 passages use median) over single passage

How Many Data Points? - RCBM

- 10 data points are a minimum requirement for a reliable trendline (Gall & Gall, 2007)
- 7-8 is minimum for using the Tukey Method (Wright, 1992)
- 8-9 for stable slopes of progress in early writing (McMaster, 2011)
- Take-away: The more data points the more stable the slope (Christ, 2006; Hintze & Christ, 2004)

Results Summary - RCBM



Dataset Quality	Very Good							Good						
Residual (ε_{ij}) =	5							10						
CBMs-R per Occasion	3	3	1	1	3	3	1	3	3	1	1	3	3	1
Schedule of Occasions	Pre-Post Mean	1 per month	1 per week	3x per week	1 per week	2x per week	5x per week	Pre-Post Mean	1 per month	1 per week	3x per week	1 per week	2x per week	5x per week
Number of Weeks[a]														
2														
4														
6[a]						○	○							
8				◑	◑	●	●						○	○
10[a]	◑	◑	◑	●	●	●	●						◑	◑
12	◑		◑	●	●	●	●				◑	◑	▨◑	▨◑
14[a]	▨◑	●	●	●	●	●	●			○	▨◑	▨◑	●	●
16	●		●	●	●	●	●			◑	●	●	●	●
18[a]	●	●	●	●	●	●	●	◑	◑	◑	●	●	●	●
20	●		●	●	●	●	●	◑		▨◑	●	●	●	●

	Does not meet criteria
○	AUC .85 or above
◑	AUC .85 or above + Validity .70 or above
▨◑	AUC .85 or above + Validity .70 or above + Reliability .70 or above
●	AUC .85 or above + Validity .70 or above + Reliability .70 or above + RMSE .35 or below

Much to be Done!

- ROI for instructional decisions is not a perfect process, but is well-documented and researched
- Many sources of error to consider:
  - Standard error of measurement for slope (Christ, 2006)
  - Reading passage variability (Ardoin & Christ, 2009)
  - Frequency of progress monitoring (Jenkin, Graff, & Miglioretti, 2009)

Much to be Done!

- Many sources of error to consider (cont.):
  - Progress monitoring off grade level (Silberglitt & Hintze, 2007)
  - CBM for non-English speaking students
  - Difference in growth for benchmarks between fall and spring (Ardoin & Christ, 2008; Christ, Silberglitt, Yeo, & Cormier, 2010; Graney, Missall, & Martinez, 2009; Fien, Park, Smith, & Baker, 2010)
  - Difference in growth depending on initial level of performance (Fien, Park, Smith, & Baker, 2010; Good et. al., 2010, Silberglitt & Hintze, 2007)

General Strengths of CBM for PM

- Measures are generally short and efficient (1 minute for Reading individually administered, 8 minutes for math that can be group administered)
- Reading is General Outcome Measure, cuts across reading skills, strong correlations to state assessments
- Math measures of both computation and concepts offer rich array of assessments across domains of skills
- Measures remain sensitive to growth within grades across the year

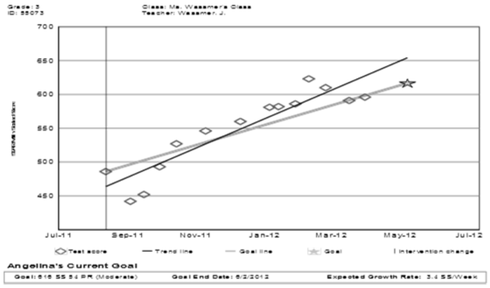
General Weaknesses of CBM Measures for RTI

- Measures are not designed to be formative (diagnostic) but some math measures can be
- Additional assessment needed for purposes of formative assessment and instructional linkages
- Math measures do not always show same growth patterns across grades
- Math measures cannot be easily used across grades
- Links to state and common core standards are not always clear, measures are designed to be broad growth indicators not specific skills assessments

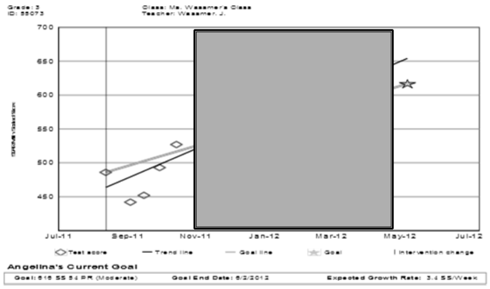
STAR Math- Progress Monitoring

- Same measure can be used as progress monitoring device
- Frequency can be as often as once per week
- Standard Score measure is reflected in data

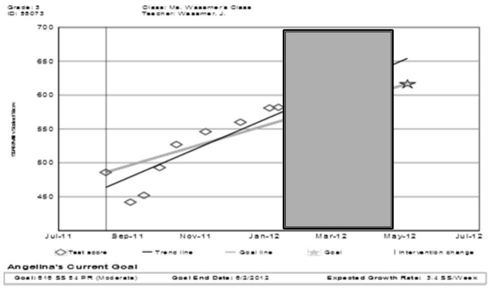
Sample PM from STAR Math SEM = 30, Grade 3



STAR Math: Is it Real of Error? SEM = 30, Grade 3



STAR Math: Is it Real of Error? SEM = 30, Grade 3



STAR Math: Is it Real of Error?
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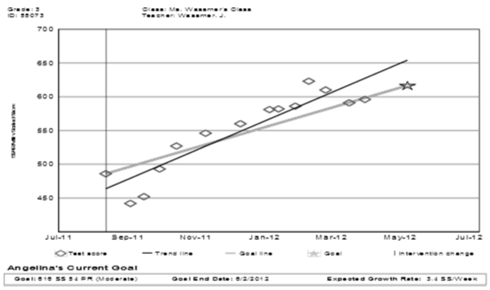

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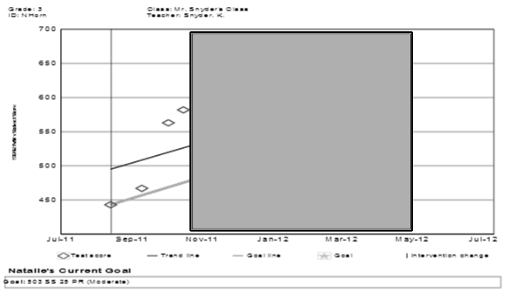
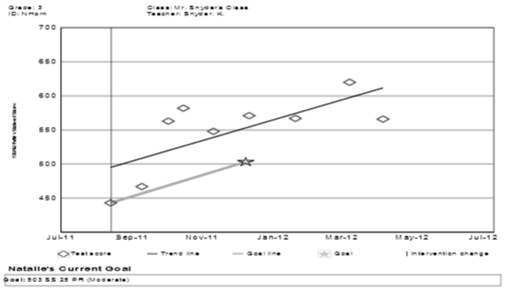


STAR Math: Is it Real of Error?
SEM = 30



Research Comparisons-
RCBM and STAR-R

- 117 students from Tennessee school district
- Data collection spanned two years
- Monitoring Processes – Once per week to one every other week
  - Year 1 - Monitored in Grades 1 through 4
  - Year 2 – Monitored in Grades 2 through 5
- Interventions for students same across two years
  - Tier 2 – Grades 4 and 5 = Reading Triumphs
  - Tier 3 – Specific area identified, intervention focused on specific problem

Research Comparisons-
RCBM and STAR-R

- RCBM used for progress monitoring 2007-2008 through 2011-2012
- RTI teams needed to document growth or lack of growth in complex reading comprehension skills
- 2012-2013 school year, STAR Reading was selected by the district as the universal screening and progress monitoring tool.

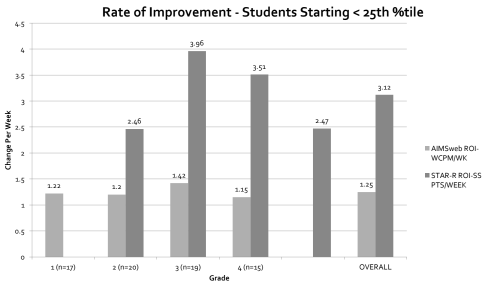
Research Comparisons-
RCBM and STAR-R

- Comparison of PM outcomes
- AIMSweb in Year 1, STAR-R in Year 2
- Same students across years, same RTI intervention programs, same schools, same interventionists

Key Questions

- Are STAR Reading and AIMSweb (R-CBM) sensitive to incremental growth for progress monitoring?
- How do student actual rates of growth compare to the expected rates of growth in STAR Reading and AIMSweb?
- How do STAR Reading and AIMSweb correlate to the Tennessee TCAP assessment?

STAR-R and RCBM- Sensitive to Incremental Growth?



STAR-R and RCBM- Sensitive to Incremental Growth?

- Variability? Bounce?

Grade	RCBM			STAR-R		
	Mean	SD	%V	Mean	SD	%V
1	1.22	0.60	49.1			
2	1.20	0.47	39.2	2.46	2.31	93.9
3	1.42	0.89	62.7	3.96	2.59	65.4
4	1.15	0.63	54.8	3.51	2.41	68.7
5				2.47	2.38	96.4

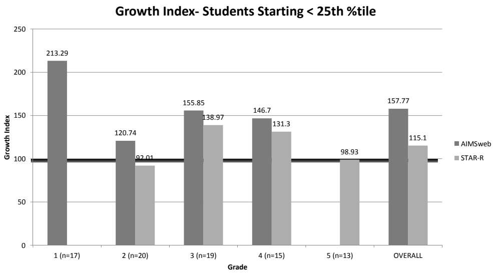
STAR-R vs RCBM- Growth Against Expected

- Expected growth rate selected was normative rate based on student's starting point
  - Ex: 2nd grade, RCBM, 10th percentile = 1.46 wcpm/week
  - Ex: 2nd grade, STAR-R, 10th percentile = 2.50 SSpts/week

STAR-R vs RCBM- Growth Against Expected

- Growth Index (GI) calculated
  - Actual Growth/Expected Growth X 100
  - Actual = Expected, GI = 100
  - Actual > Expected, GI > 100
  - Actual < Expected, GI < 100
  - GI negative = Actual growth less than zero

STAR-R vs RCBM- Growth Against Expected



STAR-R and RCBM- Growth Against Expected

- Variability? Bounce?

Grade	RCBM			STAR-R		
	Mean	SD	%V	Mean	SD	%V
1	213.29	140.14	65.7			
2	120.74	86.79	71.9	92.01	82.73	89.9
3	155.85	110.53	70.9	138.97	63.92	46.0
4	146.7	80.74	55.0	131.30	90.45	68.9
5				98.93	97.27	99.3

Correlations to Tennessee Staste Assessment?

- Concurrent Validity – Final Data Point of RCBM or STAR-R to State Scaled Score
- Combined 3rd and 4th graders (RCBM)
- Combined 4th and 5th graders (STAR-M)

RCBM (n=41)	STAR-R (n=67)
0.14	0.42

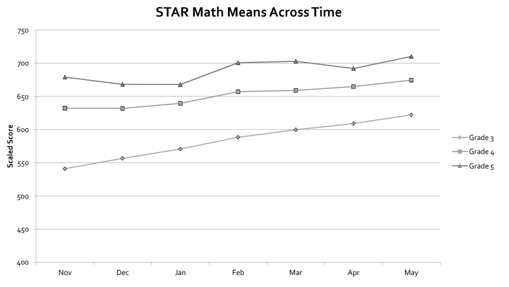
General Conclusions

- Limitations in Design
- Both measures are sensitive to growth over time
- Both measures reflect expected growth levels against expected outcomes based on starting points for the year
- Less "bounce" in data for RCBM
  - Single skill versus multiple skills

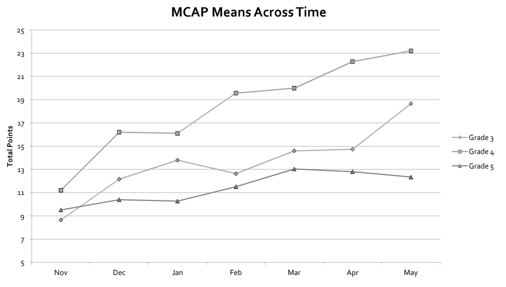
MCOMP/MCAP vs STAR-M

- 232 students, two elementary schools, grades 3, 4, 5
- Assessed monthly from November 2012 to June 2013
- Assessed on MCOMP, MCAP, STAR-M
- Compared Rate of Progress on Each Measure
- Calculated Growth Index
- Correlation to PSSA
- Examined by strata
  - <25th %tile, 25-74th %tile, 75+ %tile

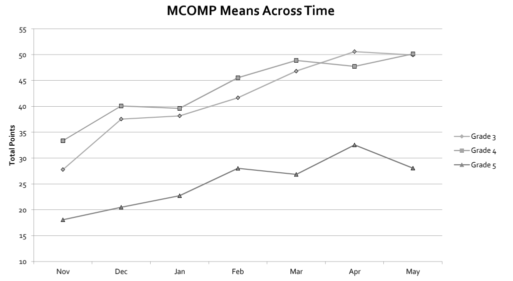
STAR-M – Mean Performance Across Time



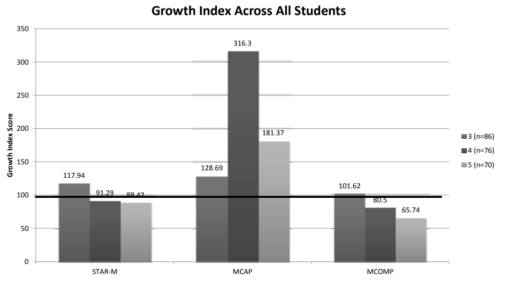
MCAP- Mean Performance Across Time



MCOMP- Mean Performance Across Time



STAR-M vs MCOMP/MCAP- Growth Against Expected



STAR-M vs MCOMP/MCAP- Growth Against Expected

- Variability? Bounce?

Gr	STAR-M			MCAP			MCOMP		
	Mean	SD	%V	Mean	SD	%V			
3	117.94	76.03	64.5	128.69	110.19	85.9	101.62	66.85	65.8
4	91.29	90.08	98.7	316.30	300.05	94.9	80.50	56.61	70.3
5	88.42	42.00	47.5	181.37	486.77	2.68	65.74	91.67	1.39

Correlations to State Assessment Across Grades

Concurrent (4th data point)

	PSSA Math SS	STAR Math	MCAP	MCOMP
PSSA Math SS	---	.71	.43	.59
STAR Math			.29	.40
MCAP				.44
MCOMP				---

Predictive (1st data point)

	PSSA Math SS	STAR Math	MCAP	MCOMP
PSSA Math SS	---	.65	.57	.53
STAR Math			.50	.32
MCAP				.59
MCOMP				---

General Conclusions

- STAR Math and MCAP, MCOMP all capable and sensitivity to growth
- STAR Math somewhat more variability than MCAP and MCOMP, but varies by grade
- STAR Math more indicative and related to expected growth than MCOMP but MCAP showed more link to expected growth
- STAR Math stronger correlation to state test

Seasonal Changes in Data

- Problem
  - Is growth in a straight line across the year?
  - Fall to Winter versus Winter to Spring? Why?
- Solutions
  - Use half year growth rates as benchmarks

Typical Growth: Is There Such a Thing?

- More growth from fall to winter than winter to spring for benchmarks (3x per year)
  - Christ & Ardoin (2008)
  - Christ, Silberglitt, Yeo, & Cormier (2010)
  - Fien, Park, Smith, & Baker (2010)
- More growth from winter to spring than fall to winter
  - Graney, Missall, & Martinez (2009)

DIBELS (6th Ed.) ORF Norms

	Fall to Winter	Winter to Spring
2nd	**24**	22
3rd	15	**18**
4th	13	13
5th	**11**	9
6th	**11**	5

DIBELS Next ORF Norms (DMG)

	Fall to Winter	Winter to Spring
2nd	**20**	15
3rd	**16**	14
4th	**13**	12
5th	9	**10**
6th	2	**9**

AIMSWeb Norms R-CBM

Based on 50th Percentile	Fall to Winter	Winter to Spring
1st	18	**31**
2nd	**25**	17
3rd	**22**	15
4th	**16**	13
5th	**17**	15
6th	**13**	12

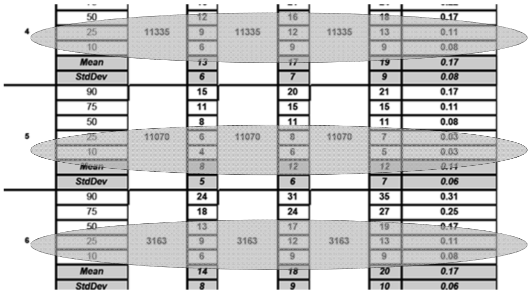
Why the Difference Between Semesters?

- Relax instruction after high stakes testing in March/April; a state assessment effect?
- Depressed initial benchmark scores due to summer break; a rebound effect (Clemens).
- Instructional variables could explain differences in Graney (2009) and Ardoin (2008) & Christ (in press) results (Silberglitt).
- Variability within progress monitoring probes (Ardoin & Christ, 2008) (Lent).

Progress Monitoring Measures

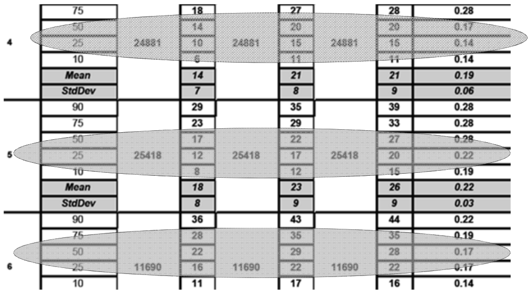
- Sensitivity to change over time?
  - Math Concepts/Applications?
  - Maze

MCAP



	50		12		16		18	0.17
4	25	11335	9	11335	12	11335	13	0.11
	10		6		9		9	0.08
	Mean		*13*		*17*		*19*	*0.17*
	StdDev		*6*		*7*		*9*	*0.08*
	90		15		20		21	0.17
	75		11		15		15	0.11
	50		8		11		11	0.08
5	25	11070	6	11070	8	11070	7	0.03
	10		4		6		5	0.03
	Mean		*8*		*12*		*12*	*0.11*
	StdDev		*5*		*6*		*7*	*0.06*
	90		24		31		35	0.31
	75		18		24		27	0.25
	50		13		17		19	0.17
6	25	3163	9	3163	12	3163	13	0.11
	10		6		9		9	0.08
	Mean		*14*		*18*		*20*	*0.17*
	StdDev		*8*		*9*		*10*	*0.06*

MAZE



	75		18		27		28	0.28
	50		14		20		20	0.17
4	25	24881	10	24881	15	24881	15	0.14
	10		6		11		11	0.14
	Mean		*14*		*21*		*21*	*0.19*
	StdDev		*7*		*8*		*9*	*0.06*
	90		29		35		39	0.28
	75		23		29		33	0.28
	50		17		22		27	0.28
5	25	25418	12	25418	17	25418	20	0.22
	10		8		12		15	0.19
	Mean		*18*		*23*		*26*	*0.22*
	StdDev		*8*		*9*		*9*	*0.03*
	90		36		43		44	0.22
	75		28		35		35	0.19
	50		22		29		28	0.17
6	25	11690	16	11690	22	11690	22	0.17
	10		11		17		16	0.14

General Strengths of STAR for PM

- Measures are efficient since they are administered by computer (15-20 minutes) and can be given to large groups at the same time
- Reading & Math serve as General Outcome Measures (looking at scaled scores and movement toward goals)
- Reading & Math serve as indicators of instructional foci with direct links to skills in need of instruction
- Reading & Math measures assess the domains consistent with common core and state standards, with strong correlations to state assessments
- Reading & Math measures remain sensitive to growth within AND across grades across the year

General Weaknesses of STAR for PM Measures for RTI

- Measures can show more bounce in the data due to students not being carefully monitored in their taking of the tests on computers (pay attention to SEM rules)
- Measures are not direct measures of fluency
- Measures may be somewhat limited in sensitivity to small increments of growth over short periods of time (i.e. 4-6 weeks)
- Use of STAR (or any CAT) requires full understanding of the nature of CAT

Conclusions - Screening

- For advanced RTII users
- Consider two stage screening, especially for younger grades
- Consider reducing screeners for advanced level students
- Consider using DMG Dibels Next benchmarks or percentile benchmarks
- Consider alternatives to CBM

Conclusions – Progress Monitoring

- Consider at least 8 data points before making instructional decisions (thinking is required!)
- Consider seasonal differences, use half year ROI
- Consider looking for alternatives to screening and PM when using above 5th grade

Thanks!

- Ed Shapiro
  - Ed.shapiro@lehigh.edu

Wisconsin School Psychologists Association
Spring 2014
March 28, 2014

School Psychology and the Management of Concussion

Daniel Krenzer, PhD, NCSP
UW-Stout

WSPA
Wisconsin School Psychologists Association, Inc.

Game Plan for the Morning

-Define Concussion
-What's the big deal?
-Support Teams
-Symptoms
-Problems after concussi
-Making return to play/learn ecisions
-Problem Solving and Monitoring Progress
-Addressing persistent problems with concussion

March is Brain Injury Awareness Month!
Brain Injury Assoc. of America

Definition

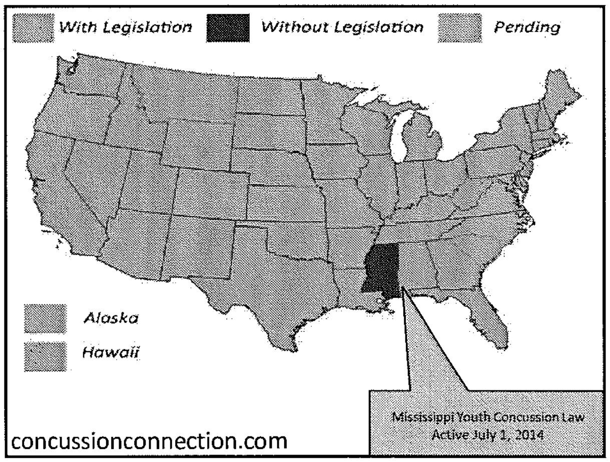
-A type of injury that interferes with normal functioning of the brain, changes how the cells in the brain normally work.

-Generally, synonymous with mTBI

-Caused by a bump, blow, or jolt to the head or body.

-Any force that is transmitted to the head causing the brain to literally bounce around or twist within the skull

-A disruption at the cellular level not at the structural level



Mississippi Youth Concussion Law
Active July 1, 2014

concussionconnection.com

2011 Wisconsin Act 172
Assembly Bill 259

-Does not cover college athletics or accidents

-Development of guidelines to educate coaches, athletes, parents about the nature and risk of head injury in athletics

-The person operating a athletic activity shall distribute information regarding risks of concussion

-No person can participate without a returned information form by parent

-Player will be removed from activity if official, coach, or health care provider suspects symptoms assoc. with concussion

-Player removed from play cannot return until given written clearance by health care provider

Sports related TBI

-CDC estimates 300,000 sports related concussions each year.

Included only cases with loss of consciousness.
LoC only account for 8-19.2% of sports related concussion.

Athletes tend to under-report

Therefore, approx. 1.6-3.8 million sports related concussions per year.

Langlois et al. (2006)

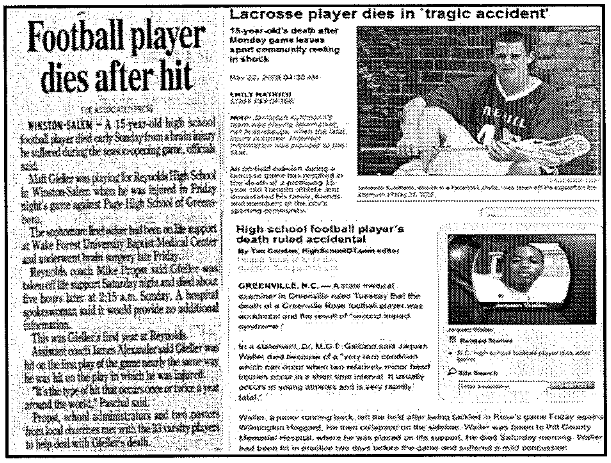
What's the big deal?

Brand and Age of Football Helmets Make No Difference in Concussions
Concussions were no less frequent or severe among players with newer and more costly equipment. U of Wisconsin-Madison tested various mouth guard brands, as well as new and older football helmets worn by 1,332 high school football players from 36 different schools. The researchers found that there was no significant difference in the frequency of concussions among players, regardless of the brand or age of the helmets they wore

NFL, players reach proposed $765M settlement of concussion-related lawsuits

Frontline:
League of Denial

Young Football Players Take Adult-Size Hits
RELATIVELY SPEAKING, THE MAGNITUDE IS THE SAME AS FOR OLDER PLAYERS



Football player dies after hit

THE ASSOCIATED PRESS

WINSTON-SALEM – A 15-year-old high school football player died early Sunday from a brain injury he suffered during the season-opening game, officials said.

Matt Gfeller was playing for Reynolds High School in Winston-Salem when he was injured in Friday night's game against Page High School of Greensboro.

The sophomore linebacker had been on life support at Wake Forest University Baptist Medical Center and underwent brain surgery late Friday.

Reynolds coach Mike Propst said Gfeller was taken off life support Saturday night and died about five hours later at 2:15 a.m. Sunday. A hospital spokeswoman said it would provide no additional information.

This was Gfeller's first year at Reynolds.

Assistant coach James Alexander said Gfeller was hit on the first play of the game nearly the same way he was hit on the play in which he was injured.

"It's the type of hit that occurs once or twice a year around the world," Paschal said.

Propst, school administrators and two pastors from local churches met with the 53 varsity players to help deal with Gfeller's death.

Lacrosse player dies in 'tragic accident'

15-year-old's death after Monday game leaves sport community reeling in shock

High school football player's death ruled accidental

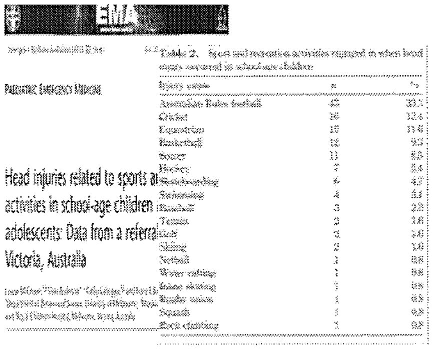
By Tim Gordon, HighSchoolOT.com editor

GREENVILLE, N.C. — A state medical examiner in Greenville ruled Tuesday that the death of a Greenville Rose football player was accidental and the result of "second impact syndrome."

In a statement, Dr. M.G.F. Gilliland said Jaquan Waller died because of a "very rare condition which can occur when two relatively minor head injuries occur in a short time interval. It usually occurs in young athletes and is very rarely fatal."

Waller, a junior running back, left the field after being tackled in Rose's game Friday against Wilmington Hoggard. He then collapsed on the sideline. Waller was taken to Pitt County Memorial Hospital, where he was placed on life support. He died Saturday morning. Waller had been hit in practice two days before the game and suffered a mild concussion.

Its not just here...



Head injuries related to sports a
activities in school-age children
adolescents: Data from a referral
Victoria, Australia

Helmets and Mouth Guards

-Helmets prevent skull fractures

-Helmets do not prevent concussions, they cause concussions

-Mouth guards prevent dental injuries

-Mouth guards do not prevent concussions

- Perceived quality of helmets and mouth guards doesn't seem to matter regarding concussion prevention

(Brooks, McGuine, McCrea, 2013)

NJSportsMed.com
& Performance Center

High School Concussions

-Over 50% of concussed high school football athletes do NOT report their injury

-Concussion rates were higher in college, but concussions were a higher proportion of all high school athletic injuries

-16.8 % of concussed athletes had suffered a previous concussion in that season or in a prior season

-Greater than 20% of concussions in boys' and girls' basketball were recurrent concussions

-Girls took longer than boys to recover

McCrea, M., Hammeke, T., Olsen, G., Leo, P., and Guskiewicz, K.M. (2004). Unreported concussion in high school football players: implications for prevention. Clin. J. Sport Med. 14

High School Concussions

Concussion rate per 1000 athlete-exposures

Football	0.47
Girl's soccer	0.36
Boy's soccer	0.22
Girl's basketball	0.21
Boy's basketball	0.07

Concussion 5.5% of total injuries

Football	63.4%
Wrestling	10.5%
Girls Soccer	6.2%
Boys Soccer	5.7%
Girls Basketball	5.2%
Boys Basketball	4.2%
Softball	2.1%
Baseball	1.2%
Field Hockey	1.1%
Volleyball	0.5%

Gessel LM et al. "Concussions Among United States High School and Collegiate Athletes" Journal of Athletic Training 2007; 42:495-503

JAMA. 1999 Sep 8;282(10):989-91

What is going on in there?

-In a concussion, certain chemical levels are altered at the cellular level

-Blood supply to the brain decreases

-The brain's demand for glucose increases

-Mismatch in fuel supply and demand
  - Neuronal tissue vulnerability

-

So, the brain needs time to recover

Myths

-Non-athletes don't get concussed

-Must lose consciousness
  less than 10% blackout

-Brain is bruised or bleeding

-CT or MRI will tell you all you need to know

-Concussions must be a blow to the head

MYTHS

-Three concussions and career in sports is over (there isn't a magic number)

-Concussions determine risk of chronic traumatic Encephalopathy

-Boys suffer concussions more then
  -women were more likely to sustain concussions then men in soccer

-Mouth guards prevent concussions

-Concussion symptoms are obvious immediately

Perceptions

Survey 300 players, 100 coaches, 100 parents, 100 ATCs

If a player complains of a headache , should return to play?
  Players 55%, Coaches 33%, ATC 30%, Parents 24%

Percentage who would play a concussed star in a title game?
  Players 54%, ATC 9%, Parents 6.1%, Coaches 2.1%

Level of concern for concussions (1 = most concerned; 4 = least)
  Players 3.5, Coaches 2.4, Parents 2.1, ATC 1.6

Is a good chance of playing in the NFL worth a decent chance of permanent brain damage?
  Players 44.7%, Coaches 19.4%, Parents 15%, ATC 10%

Domains of concussion

-Physical: headaches, vision, nausea, noise/light sensitivity, motor difficulties, tired

-Cognitive: memory, learning, concentration, processing speed, word-finding

-Emotional: mood changes, motivation, irritable, impulsive, easily overwhelmed

-Sleep: more/less, difficulty getting to sleep

Behaviors You May See

-Appearing dazed & confused

-Slow responses

-Repeats questions

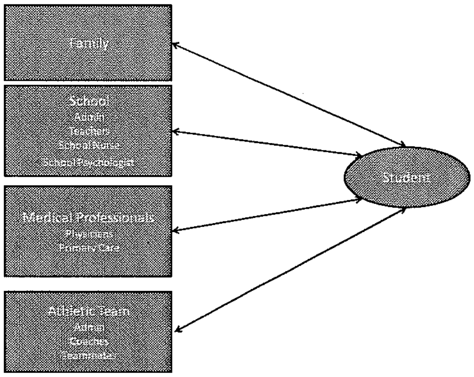
-Can't recall events prior to or immediately after event

-Behavior or personality changes

-Easily frustrated

-Impulsive behavior

SUPPORT TEAMS



Family

School
Admin
Teachers
School Nurse
School Psychologist

Medical Professionals
Physicians
Primary Care

Athletic Team
Admin
Coaches
Teammates

Student

Concussion's Effects on School Learning & Performance (Gioia & Collins, 2006)

Common experiences in school after concussion

Headaches interfering	71.3%
Can't pay attn in class	62.5%
HW taking much longer	59.5%
Difficulty studying for test/quiz	51.9%
Too tired	50.6%
Difficulty understanding material	44.0%
Difficulty taking notes	28.8%

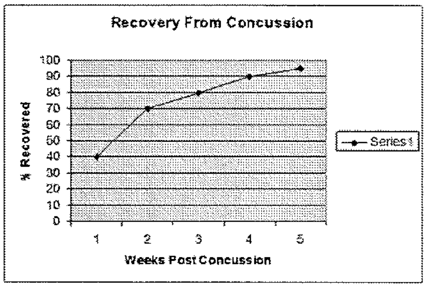
Concussion’s Effects on School Learning & Performance (Gioia & Collins, 2006)

“Which classes are you having the most trouble with?”

(Percent reporting trouble in class)

	Parent	Student
Math	60.3%	73.7%
Reading/LA	38.1%	46.1%
Science	38.1%	47.4%
Soc Stud	38.1%	40.8%
Foreign Lang	38.1%	38.2%
Music	6.3%	17.9%
PE	7.9%	10.5%
Art	3.2%	5.3%
None	25.4%	6.6%

Typical Recovery



Collins M, Lovell MR, Iverson GL, et al. Examining concussion rates and return to play in high school football players wearing helmet technology: a three-year prospective cohort study. *Neurosurgery*. 2006;58(2):275–286

POST CONCUSSIVE SYNDROME

-If behaviors and symptoms persist for 3+ months, PCS may be present

-Headache & Dizziness (60%)
-Hearing loss (20%)
-Memory & Attention Problems may be persistent
(Cobb & Battin, 2004)

Less than 5% of cases meet criteria for PCS after 6 months (Iverson, 2005)

But, if academic difficulty is experienced for months, what may need to happen for the student?

Fatigue
Nausea
Irritability
Headache

Mood Changes
Social Difficulties
Academic Struggles
Cognitive Fogginess

Second Impact Syndrome

-An individual who receives a second concussion before symptoms from a previous one has healed may be at risk of developing a rare but deadly condition called SIS
(Buzzini & Guskwicz, 2006; Solomos 2002)

-Brain swells catastrophically after even a mild blow can cause the debilitating or deadly results

-SIS very rare, remains controversial (Cobb & Battin, 2004).

Second Impact Syndrome

Two examples of why concussion legislation is vital and that it includes that athletes must be taken out upon suspicion on concussion

-Zachary Lystedt suffered head injury in an eighth grade football game, returned to the field and finished game then collapsed on the field NOW DISABLED

-Preston Pleverete suffered SIS November 2005 playing football for LaSalle University. He received settlement for 7.5 million dollars, but currently struggles to walk and talk.

Who Gets Second Impact Syndrome?

-Any athlete who returns to a sports competition while still experiencing concussion-like symptoms is at risk

1.6 to 3.8 million sports related concussions occur every year.

Injury rate per 1 thousand exposures

Football (2.34)
Mens Ice Hockey(1.47)
Womens Soccer(1.42)
Wrestling (1.27)

Prevention of Second Impact Syndrome

-SIS has a higher mortality rate in young athletes.

-The key to preventing SIS is to ensure that athletes do no return to sport with any post-concussion symptoms.

-Athletes do not return to sport on the same day that they are concussed and they do not return to sport unless they have been cleared by a sports medicine professional.

-Education regarding the proper diagnosis and management of a concussion needs to occur throughout all communities.

What is Chronic Traumatic Encephalopathy?

-Sub-concussive hits.

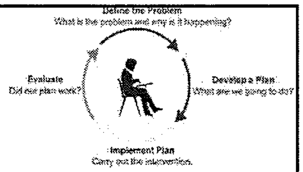
-CTE is a progressive neurodegenerative disease caused by repeated trauma to the head and characterized by the build up of a toxic protein called Tau.

-The abnormal protein (Tau) impairs normal functioning and eventually kills brain cells

-CTE symptoms:

Memory Impairment	Depression
Emotional Instability	Problems with impulse control
Erratic Behavior	Progresses to full grown dementia

What do we do?


Define the Problem
What is the problem and why is it happening?
Develop a Plan
What are we going to do?
Implement Plan
Carry out the intervention.
Evaluate
Did our plan work?

-Problem Solving Model

-Collaboration; health care professionals, athletics, parents, and student

-All school staff should be informed about the returning student's injury and symptoms

-School staff must assist with transition process and making accommodations for student

What do we do?
The nuts and bolts

-Conduct a reentry meeting with school team

-Consider the four domains, behaviors, symptoms

-Based on functioning of student, initiate a plan to reintegrate student to school

-Consider accommodations based on each of the domains

What do we do?
The nuts and bolts

-Train relevant school personnel on the plan

-Perhaps develop a checklist for the school team to ensure that accommodations are being followed and to track student behaviors/symptoms

-Schedule follow up meetings 5-7 school days after reentry & until full or near full recovery

Making Return to Play/Learn Decisions

Symptom free = return to play

Not all kids are athletes but all kids are students

Student does not need to be symptom free to return to learning

Return to Learn
Team Concept

-Medical team

-Family team

-School teams:
- academic team
- athletic team

Role of the Medical Team

-Educate the child and family on the nature and typical course of concussion, the importance of **REST**

-Verify symptoms that might interfere with learning and communicate with the school.

-Reassess the student as indicated based on family and school feedback.

-Eventually provide clearance to full return

Role of the School Teams

-Allow a student to rest and return to learning at a pace consistent with recommendations

-Designate a contact person who can serve as manager of communication between teams

-Report to family and medical team on how the student is managing symptoms of concussion with stressors of school.

-Work as a team to further transition student to school, slow transition plan, or stay the course.

Role of the Family

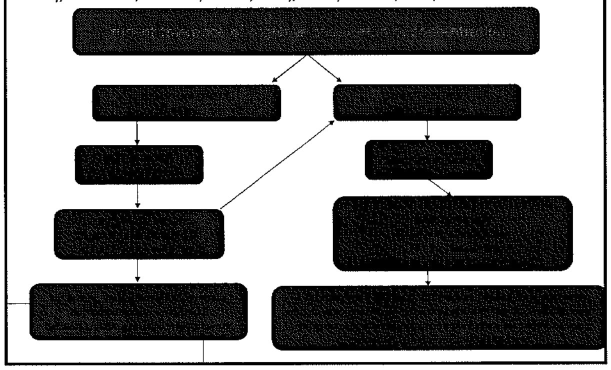
-Follow medical plan to include rest and reduce stimulation.

-Work with the school to develop a plan for return to learning

-Sign essential releases to allow communication between the school and the medical teams.

Guidance for Determining Student Readiness to Return to Learning

McCrory, Meeuwisse, Johnston, Dvorak, Aubry, Molloy & Cantu, 2008)



Tutoring Following Concussion

-Tutoring may be used for a student who can attend 20-30 min.

-Work in the school library with teacher after hours
-Avoid passing time in the halls
-Avoid crowded areas, cafeterias, auditoriums, gymnasiums

-Tutoring may be used for a student who cannot leave home for reasons other than concussion, such as additional injuries.

Return to Learning Model Based on Six Step Return to Play Model

Step 1	Rest and recovery at home without any academics
Step 2	Light mental activity in quiet environment (30-45min.)
Step 3	More sustained mental activity in more stimulating environments for longer periods and shorter breaks
Step 4	Increased mental activity in regular school setting with continued adjustments only as needed
Step 5	Full day in all academic classes with adjustments as needed
Step 6	Regular school attendance full time with no restrictions

Graduated Return to Play

Rehab Stages (1-6)	Functional Exercise	Objective

Academic Adjustments

-Can be implemented immediately

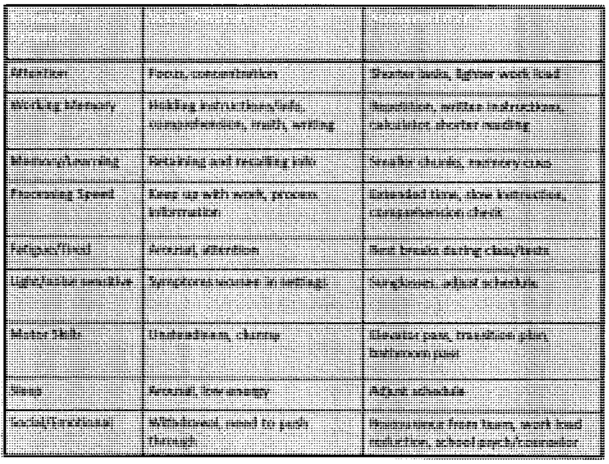
-Are temporary, for up to usually 3 weeks or less

-Are easily adjusted and changed based on need

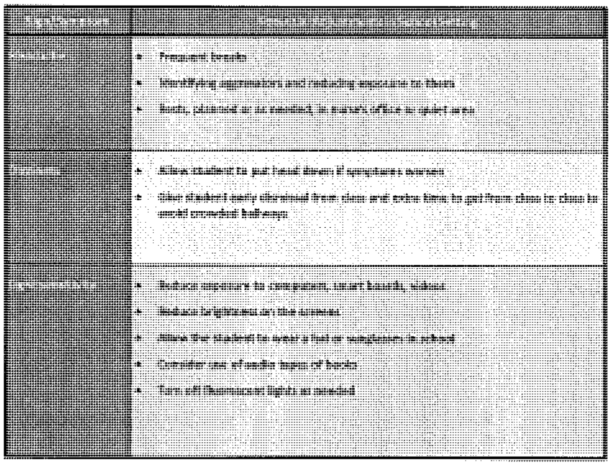
-Are done at building level by principal and teaching team

-Can address all aspects of instruction except
standardized testing

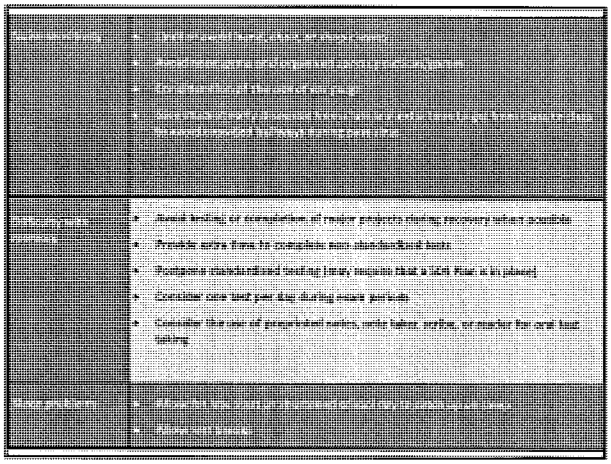
-Involves General Education



[illegible]	[illegible]	[illegible]
Attention	Focus, concentration	Shorter tasks, lighter work load
Working Memory	Holding instructions/info, comprehension, math, writing	Repetition, written instructions, calculator, shorter reading
Memory/Learning	Retaining and recalling info	Smaller chunks, memory cues
Processing Speed	Keep up with work, process information	Extended time, slow instruction, comprehension check
Fatigue/Tired	Arousal, attention	Rest breaks during class/tests
Light/noise sensitive	Symptoms worsen in settings	Sunglasses, adjust schedule
Motor Skills	Unsteadiness, clumsy	Elevator pass, transition plan, bathroom pass
Sleep	Arousal, low energy	Adjust schedule
Social/Emotional	Withdrawal, need to push through	Reassurance from team, work load reduction, school psych/counselor



[illegible]	[illegible]
[illegible]	- Frequent breaks - Identifying aggravators and reducing exposure to them - Rests, planned or as needed, in nurse's office or quiet area
[illegible]	- Allow student to put head down if symptoms worsen - Give student early dismissal from class and extra time to get from class to class to avoid crowded hallways
[illegible]	- Reduce exposure to computers, smart boards, videos - Reduce brightness on the screens - Allow the student to wear a hat or sunglasses in school - Consider use of audio tapes of books - Turn off fluorescent lights as needed



[illegible]	[illegible]
[illegible]	- Avoid testing or completion of major projects during recovery when possible - Provide extra time to complete non-standardized tests - Postpone standardized testing (may require that a 504 Plan is in place) - Consider one test per day during exam periods - Consider the use of preprinted notes, note taker, scribe, or reader for oral test taking
[illegible]	[illegible]

Response to Intervention

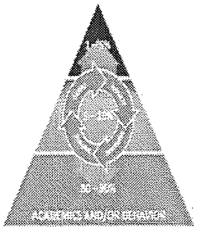
What I really meant was a Multi-tiered System of Support

Academic Systems

Tier III: Comprehensive and Intensive Interventions – *Few Students* (Students who need individualized interventions)

Tier II: Strategic Interventions – *Some Students* (Students who need more support in addition to the core curriculum)

Tier I: Core Curriculum – *All Students*



Behavioral Systems

Tier III: Intensive interventions – *Few Students* (Students who need individualized interventions)

Tier II: Targeted Group Interventions – *Some Students* (Students who need more support in addition to the core curriculum)

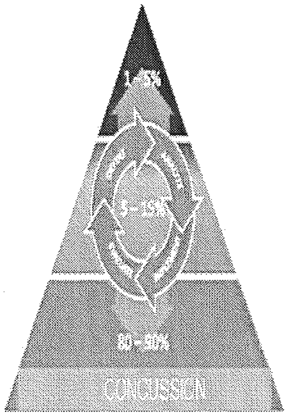
Tier I: Universal Inventions – *All Students, all settings*

Multi-tier System of Support Concussion Style

Tier III: Special Education/IDEA permanent brain damage = **Academic Modification** of curriculum, specialized instruction or placement

Tier II: Longer-term plan due to prolonged effects of concussion. May be a 504 Plan = **Academic Accommodations.** Still responsible for curriculum but will provide supports to environment, more targeted interventions for a longer period of time

Tier I: Typical recovery from concussion = **Academic Adjustments** Universal interventions, applied in general education, fast, fluid, flexible, put in place immediately and lifted regularly as symptoms improve daily



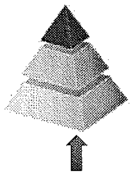
Interventions:	Provided in:	Affects:
Adjustments – Informal, flexible day-to-day interventions. Can be applied immediately and lifted easily when no longer needed.	General Education classroom. Student still required to progress through General Education curriculum.	80% to 90% of students with a concussion for the typical 3 week recovery. Apply for days to weeks.
Accommodations – More formal process for longer interventions; often called a 504 Plan. Requires a meeting to enter and exit.	General Education classroom; occasional extra support/targeted interventions outside of General Education. Student still required to progress through General Education curriculum with accommodations to the environment (i.e., extra time, large print, rest).	5% to 15% of students with prolonged symptoms from a concussion. Apply for weeks to months.
Modifications – Very formal process to document a chronic and permanent disability of brain injury; referred to as Special Education or Individuals with Disabilities Education Act (IDEA). Disability makes it so that student cannot benefit from General Education alone.	Primary services provided in Special Education classroom; student in General Education classroom as much as possible. Allows for modification of the General Education curriculum. Often requires specialized instruction and specialized placement.	1% to 5% of students with permanent brain damage; brain damage sustained as a concussion. Apply for months to years.

Recovery with Academic Adjustments 80% to 90%

Tips:

Don't be too prescriptive on these initial adjustments. Allow teachers to apply them as generously as they please and allow them to adjust depending upon student's:

- -Type of symptoms
- -Type of content material
- -Type of teaching style
- -Areas of strengths and weaknesses
- -Time of day of class



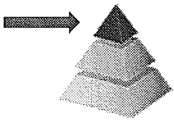
80% to 90%

Allow teachers to apply and lift interventions as they see fit. Symptoms should start resolving from week 1 to week 2 to week 3. Academic adjustments should be lifted over the 3 weeks and the student with the typical concussion should be almost back to 100% pre-concussion learning level by 3 weeks.

(McAvoy, & Werther, Colorado Department of Education, 2012)

Special Education

1% to 5%



-Permanent damage and symptoms impacting access to education.

-Proven, with data and over time that skills will not be returning.

-Medical team can be helpful in documenting the brain injury but a medical diagnosis does not automatically = IEP.

-School gets to determine if student can no longer "benefit from General Education alone."

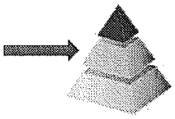
-School is capable of doing the assessment internally.

-If found to be appropriate for a Special Education/IDEA/IEP, student now will need specialized instruction

(McAvoy, & Werther, Colorado Department of Education, 2012)

The Tough Cases

5% to 15%



-Prolonged symptoms but still hoping to get close to full recovery.

-Getting resolution with time but need more time and more intervention.

-Medical team can be helpful in documenting the recovery of concussion but a diagnosis does not automatically = a 504 Plan.

-School gets to determine if the "physical impairment substantially limits one or more major life activities" .

-If found to be appropriate for a 504 Plan, student will still be responsible for the General Education curriculum but can receive accommodations to the environment to support learning.

504 Plans & Health Care Plans

-4 or more weeks into recovery, progress is promising, but slow, and you know recovery will take more time

-Concussed student has been placed on medication for prolonged symptoms and you know you cannot discontinue prescription for a number of months. A 504 Plan in this case will allow schools to provide specific accommodations longer while awaiting maximum effectiveness of the prescription.

-Both of the above uses of a 504 Plan help to "buy" more time for recovery and decrease the stress of the daily questions, "Are you better today? Can you take this test today?" It protects the student and the school.

-504 Plan should be specific to the existing symptom (i.e., "headaches, mental fatigue, etc.) and interventions should be chosen accordingly

A 504 Plan might not help when...

-When you are 4 to 6+ weeks into recovery and you know you are almost ready to turn the corner on the concussion—if the school is willing

-Excessive absences or truancy—If a student is excessively truant, consider underlying co-existing reasons (i.e., school avoidance, anxiety).

Symptoms, Accommodation, 504 Plan

SYMPTOMS:

headache/nausea
dizziness
balance problems
blurred vision/
photophobia
noise sensitivity
neck pain

[illegible]

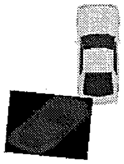
The fine print of concussion

A student with permanent brain damage, technically never returns 100% to pre-concussion state, technically never can get to Step 1 of graduated RTP, and therefore cannot RTP.

Depending upon symptoms and the effectiveness of the treatments and the possible need for a 504 Plan, getting to Step 1 of RTP steps is case by case and therefore, clearance is case by case. Technically a student on a 504 Plan is not 100% symptom-free, so technically a student cannot start the RTP steps if a 504 Plan is still needed.

A student who returns to learning within the typical amount of time with no complications will be at Step 1 of the graduated RTP steps in a reasonable amount of time and RTP seems justifiable.

EXAMPLE CASE



-Penny
-17 year old female student
-Working 3pm to 11pm shift
-Her car gets hit at an angle from the back on the way home
-Head hits the steering wheel and windshield
-Doesn't lose consciousness
-Physicians determine mTBI
-Hard to focus and think, is able to be mobile

In attendance:

Agenda:

1. **Review Student Strengths (2 minutes)**

Goal for the student: To return to school and to work at or near pre-accident levels

2. **What is the problem/challenge?**

3. **Develop Intervention Plan**

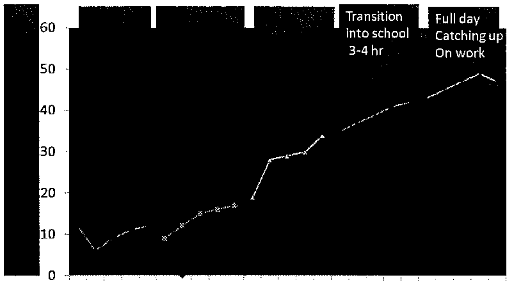
4. **Schedule Follow-Up Meeting**

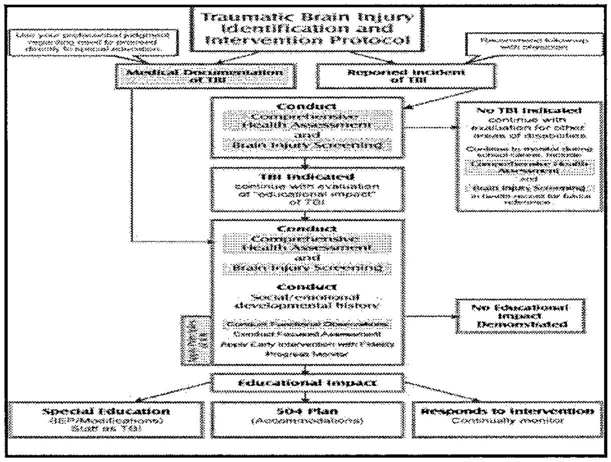
5. **If parent not present, Who will contact parent to review and send invite to next meeting? How/when will the parent be contacted?**

Self-Monitoring Sheet

Name							
Date							
Location	Home School	Home School	Home School	Home School	Home School	Home School	Home School
Activity							
Time until feeling bad *Latency*							
Headache Intensity 0-10							
Energy Level 0-10							
Frustration Level 0-10							

What can this look like?




Traumatic Brain Injury Identification and Intervention Protocol
Medical Documentation of TBI
Reported Incident of TBI
Conduct Comprehensive Health Assessment and Brain Injury Screening
No TBI Indicated continue with evaluation for other areas of disabilities.
TBI Indicated continue with evaluation of "educational impact" of TBI
Conduct Comprehensive Health Assessment and Brain Injury Screening
Conduct Social/emotional developmental history
No Educational Impact Demonstrated
Educational Impact
Special Education
504 Plan (Accommodations)
Responds to Intervention Continually monitor

Child Sport Concussion Assessment Tool 3

-Child Maddocks questions

-Symptom Scale child-specific
- 4 point rating scale

-Parent rating of child's symptoms

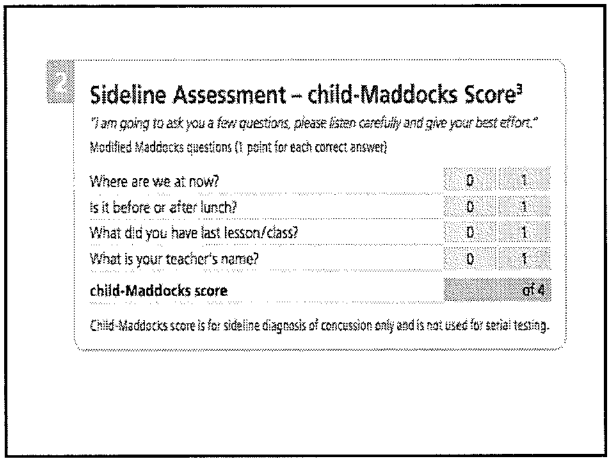
-Orientation
  -no time of day

-Concentration
  -start with 2 reverse digits

-Reverse days of the week

-Modified Balance activity
- no single leg stance

-Patient advice
- return to school



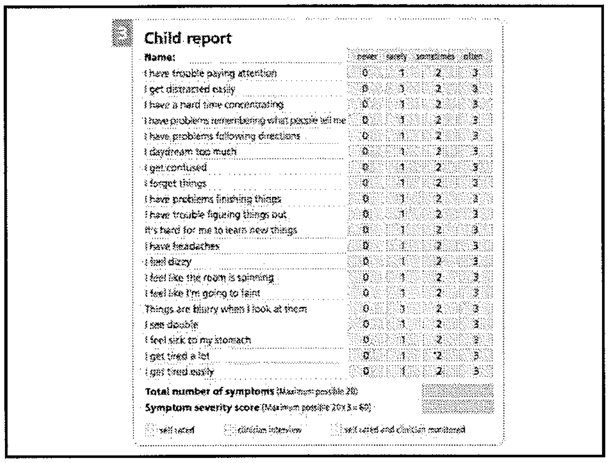
2 Sideline Assessment – child-Maddocks Score[3]

"I am going to ask you a few questions, please listen carefully and give your best effort."

Modified Maddocks questions (1 point for each correct answer)

Where are we at now?	0	1
Is it before or after lunch?	0	1
What did you have last lesson/class?	0	1
What is your teacher's name?	0	1
child-Maddocks score		of 4

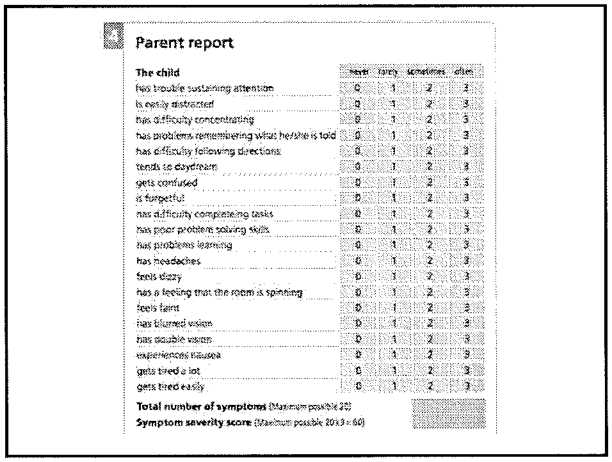
Child-Maddocks score is for sideline diagnosis of concussion only and is not used for serial testing.



3 Child report

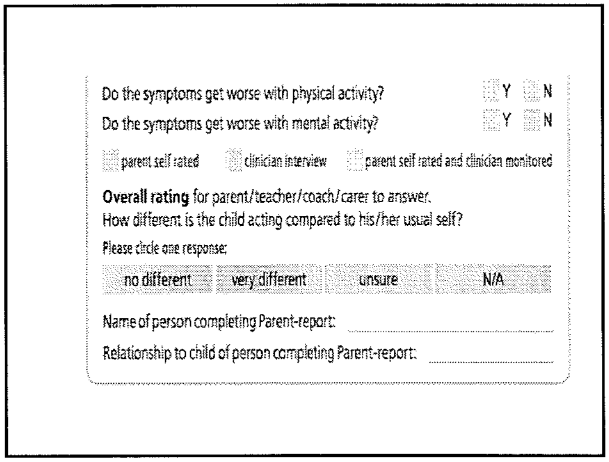
Name:	never	rarely	sometimes	often
I have trouble paying attention	0	1	2	3
I get distracted easily	0	1	2	3
I have a hard time concentrating	0	1	2	3
I have problems remembering what people tell me	0	1	2	3
I have problems following directions	0	1	2	3
I daydream too much	0	1	2	3
I get confused	0	1	2	3
I forget things	0	1	2	3
I have problems finishing things	0	1	2	3
I have trouble figuring things out	0	1	2	3
It's hard for me to learn new things	0	1	2	3
I have headaches	0	1	2	3
I feel dizzy	0	1	2	3
I feel like the room is spinning	0	1	2	3
I feel like I'm going to faint	0	1	2	3
Things are blurry when I look at them	0	1	2	3
I see double	0	1	2	3
I feel sick to my stomach	0	1	2	3
I get tired a lot	0	1	2	3
I get tired easily	0	1	2	3
Total number of symptoms (Maximum possible 20)				
Symptom severity score (Maximum possible 20 x 3 = 60)				

☐ self rated ☐ clinician interview ☐ self rated and clinician monitored



4 Parent report

The child	never	rarely	sometimes	often
has trouble sustaining attention	0	1	2	3
is easily distracted	0	1	2	3
has difficulty concentrating	0	1	2	3
has problems remembering what he/she is told	0	1	2	3
has difficulty following directions	0	1	2	3
tends to daydream	0	1	2	3
gets confused	0	1	2	3
is forgetful	0	1	2	3
has difficulty completing tasks	0	1	2	3
has poor problem solving skills	0	1	2	3
has problems learning	0	1	2	3
has headaches	0	1	2	3
feels dizzy	0	1	2	3
has a feeling that the room is spinning	0	1	2	3
feels faint	0	1	2	3
has blurred vision	0	1	2	3
has double vision	0	1	2	3
experiences nausea	0	1	2	3
gets tired a lot	0	1	2	3
gets tired easily	0	1	2	3
Total number of symptoms (Maximum possible 20)				
Symptom severity score (Maximum possible 20 x 3 = 60)				



Do the symptoms get worse with physical activity?	☐ Y	☐ N
Do the symptoms get worse with mental activity?	☐ Y	☐ N

☐ parent self rated ☐ clinician interview ☐ parent self rated and clinician monitored

Overall rating for parent/teacher/coach/carer to answer.

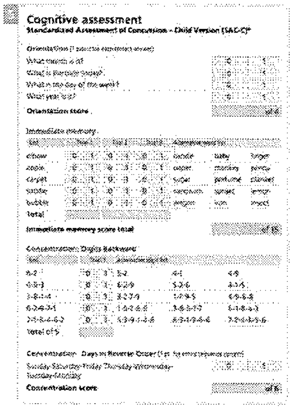
How different is the child acting compared to his/her usual self?

Please circle one response:

no different	very different	unsure	N/A

Name of person completing Parent-report: ____________

Relationship to child of person completing Parent-report: ____________



Cognitive assessment

Standardized Assessment of Concussion – Child Version (SAC-C)

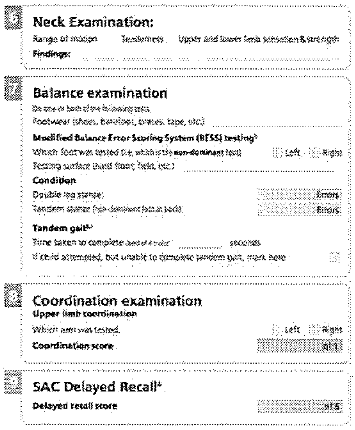
Orientation score of 4

Immediate memory

Immediate memory score total of 15

Concentration: Digits Backward

Concentration score of 6



Neck Examination:

Range of motion Tenderness Upper and lower limb sensation & strength

Findings:

Balance examination

Do one or both of the following tests.

Footwear (shoes, barefoot, braces, tape, etc.)

Modified Balance Error Scoring System (BESS) testing

Which foot was tested (i.e. which is the non-dominant foot) ☐ Left ☐ Right

Testing surface (hard floor, field, etc.)

Condition

Double leg stance: Errors

Tandem stance (non-dominant foot at back): Errors

Tandem gait

Time taken to complete ____ seconds

If child attempted, but unable to complete tandem gait, mark here ☐

Coordination examination

Upper limb coordination

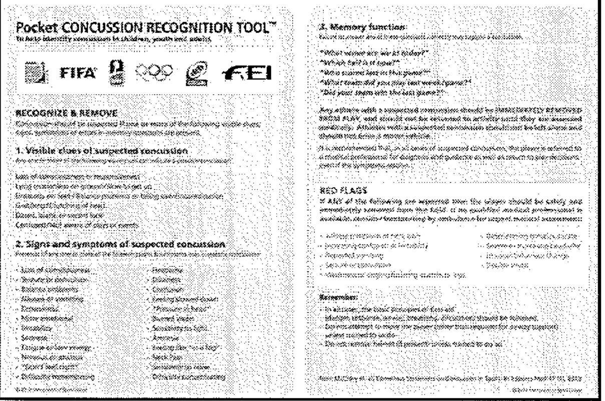
Which arm was tested: ☐ Left ☐ Right

Coordination score of 1

SAC Delayed Recall

Delayed recall score of 5

Pocket Concussion Recognition Tool



Pocket CONCUSSION RECOGNITION TOOL™

RECOGNIZE & REMOVE

1. Visible clues of suspected concussion

2. Signs and symptoms of suspected concussion

3. Memory function

RED FLAGS

Remember:

Conclusions

-COGNITIVE REST

-Concussion impacts learning and can impact concussion recovery.

- Collect data to make decisions of planning and accommodations

-Medical team identifies need and problem

-Family reinforces rest and determines/monitors readiness to return to learning

-School team work with the medical home and family to make immediate temporary adjustments to ensure a successful re-entry.

-Creativity and flexibility by the school is key to a full and speedy return to learn outcome

Conclusions

-Students will need academic adjustments in school.

-Given that most concussions resolve in 3 weeks, General Education interventions are recommended without formal plans such as a 504 Plan or IEP.

-Students with symptoms lasting 3 to 4 weeks may benefit from a more detailed assessment and consideration of a 504 Plan, but likely not an IEP.

-Full return to learn plan before considering return to play

-Additional research is necessary to strengthen evidence-based recommendations for appropriate academic adjustments for students following a concussion.

-Although medical team contributes a lot, it is the schools job to identify academic impact and students ability to access the curriculum before making 504 or IEP considerations.

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Cobb, S & Battin, B. (2004) Second-impact syndrome. *The Journal of School Nursing, 20* (5): 262-267.

Collins M, Lovell MR, Iverson GL, et al. Examining concussion rates and return to play in high school football players wearing helmet technology: a three-year prospective cohort study. Neurosurgery. 2006;58(2):275–286

Langlois, J. A. Rutland-Brown, W., & Wald, M.M. (2006) The epidemiology and impact of traumatic brain injury: A brief overview. *Journal of Head Trauma and Rehabilitation, 21* (5), 375-378.

McAvoy, K & Werther, K. (2012) Colorado Department of Education Concussion Management Guidelines.

McCrory, P., Meeuwisse, W., Johnston, K., Dvorak, J., Aubry, M., Molloy. M., & Cantu, R. (2009). Consensus statement on concussion in sport: The 3rd international conference on concussion held in Zurich, November 2008. *Journal of Athletic Training,* 44 (4), 434-448.

Problem Solving

Meeting # _1_: Review and Develop Plan

Who Attends :

Agenda:

Goal for the student:

1. **Review Student Strengths (2 minutes)**
2. **What is the problem/challenge? (3 minutes)**
3. **Brainstorm and/or discuss possible interventions (5 minutes)**
4. **Develop Intervention Plan (5 minutes)**

   Who does what?
5. **Summarize Plan (2 minutes)**
6. **Schedule Follow-Up Meeting (1 minute)**
7. **If parent not present, Who will contact parent to review and send invite to next meeting? How/when will the parent be contacted? (1 min)**

Resources:

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Child-SCAT3™

Sport Concussion Assessment Tool for children ages 5 to12 years

For use by medical professionals only

What is childSCAT3?[1]

The ChildSCAT3 is a standardized tool for evaluating injured children for concussion and can be used in children aged from 5 to 12 years. It supersedes the original SCAT and the SCAT2 published in 2005 and 2009, respectively[2]. For older persons, ages 13 years and over, please use the SCAT3. The ChildSCAT3 is designed for use by medical professionals. If you are not qualified, please use the Sport Concussion Recognition Tool[1].Preseason baseline testing with the ChildSCAT3 can be helpful for interpreting post-injury test scores.

Specific instructions for use of the ChildSCAT3 are provided on page 3. If you are not familiar with the ChildSCAT3, please read through these instructions carefully. This tool may be freely copied in its current form for distribution to individuals, teams, groups and organizations. Any revision and any reproduction in a digital form require approval by the Concussion in Sport Group.
NOTE: The diagnosis of a concussion is a clinical judgment, ideally made by a medical professional. The ChildSCAT3 should not be used solely to make, or exclude, the diagnosis of concussion in the absence of clinical judgement. An athlete may have a concussion even if their ChildSCAT3 is "normal".

What is a concussion?

A concussion is a disturbance in brain function caused by a direct or indirect force to the head. It results in a variety of non-specific signs and/or symptoms (like those listed below) and most often does not involve loss of consciousness. Concussion should be suspected in the presence of any one or more of the following:

-Symptoms (e.g., headache), or
-Physical signs (e.g., unsteadiness), or
-Impaired brain function (e.g. confusion) or
-Abnormal behaviour (e.g., change in personality).

SIDELINE ASSESSMENT

Indications for Emergency Management

NOTE: A hit to the head can sometimes be associated with a more severe brain injury. If the concussed child displays any of the following, then do not proceed with the ChildSCAT3; instead activate emergency procedures and urgent transportation to the nearest hospital:

- Glasgow Coma score less than 15
- Deteriorating mental status
- Potential spinal injury
- Progressive, worsening symptoms or new neurologic signs
- Persistent vomiting
- Evidence of skull fracture
- Post traumatic seizures
- Coagulopathy
- History of Neurosurgery (eg Shunt)
- Multiple injuries

1 Glasgow coma scale (GCS)

Best eye response (E)	
No eye opening	1
Eye opening in response to pain	2
Eye opening to speech	3
Eyes opening spontaneously	4
Best verbal response (V)	
No verbal response	1
Incomprehensible sounds	2
Inappropriate words	3
Confused	4
Oriented	5
Best motor response (M)	
No motor response	1
Extension to pain	2
Abnormal flexion to pain	3
Flexion/Withdrawal to pain	4
Localizes to pain	5
Obeys commands	6
Glasgow Coma score (E + V + M)	of 15

GCS should be recorded for all athletes in case of subsequent deterioration.

Potential signs of concussion?

If any of the following signs are observed after a direct or indirect blow to the head, the child should stop participation, be evaluated by a medical professional and **should not be permitted to return to sport the same day** if a concussion is suspected.

Any loss of consciousness? ☐ Y ☐ N
"If so, how long?" ______
Balance or motor incoordination (stumbles, slow/laboured movements, etc.)? ☐ Y ☐ N
Disorientation or confusion (inability to respond appropriately to questions)? ☐ Y ☐ N
Loss of memory: ☐ Y ☐ N
"If so, how long?" ______
"Before or after the injury?" ______
Blank or vacant look: ☐ Y ☐ N
Visible facial injury in combination with any of the above: ☐ Y ☐ N

2 Sideline Assessment – child-Maddocks Score[3]

"I am going to ask you a few questions, please listen carefully and give your best effort."

Modified Maddocks questions (1 point for each correct answer)

Where are we at now?	0	1
Is it before or after lunch?	0	1
What did you have last lesson/class?	0	1
What is your teacher's name?	0	1
child-Maddocks score		of 4

Child-Maddocks score is for sideline diagnosis of concussion only and is not used for serial testing.

Any child with a suspected concussion should be REMOVED FROM PLAY, medically assessed and monitored for deterioration (i.e., should not be left alone). No child diagnosed with concussion should be returned to sports participation on the day of Injury.

BACKGROUND

Name: ______ Date/Time of Injury: ______
Examiner: ______ Date of Assessment: ______
Sport/team/school: ______
Age: ______ Gender: ☐ M ☐ F
Current school year/grade: ______
Dominant hand: ☐ right ☐ left ☐ neither
Mechanism of Injury ("tell me what happened"?): ______

For Parent/carer to complete:

How many concussions has the child had in the past? ______
When was the most recent concussion? ______
How long was the recovery from the most recent concussion? ______
Has the child ever been hospitalized or had medical imaging done (CT or MRI) for a head injury? ☐ Y ☐ N
Has the child ever been diagnosed with headaches or migraines? ☐ Y ☐ N
Does the child have a learning disability, dyslexia, ADD/ADHD, seizure disorder? ☐ Y ☐ N
Has the child ever been diagnosed with depression, anxiety or other psychiatric disorder? ☐ Y ☐ N
Has anyone in the family ever been diagnosed with any of these problems? ☐ Y ☐ N
Is the child on any medications? If yes, please list: ☐ Y ☐ N

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SYMPTOM EVALUATION

3

Child report

Name:	never	rarely	sometimes	often
I have trouble paying attention	0	1	2	3
I get distracted easily	0	1	2	3
I have a hard time concentrating	0	1	2	3
I have problems remembering what people tell me	0	1	2	3
I have problems following directions	0	1	2	3
I daydream too much	0	1	2	3
I get confused	0	1	2	3
I forget things	0	1	2	3
I have problems finishing things	0	1	2	3
I have trouble figuring things out	0	1	2	3
It's hard for me to learn new things	0	1	2	3
I have headaches	0	1	2	3
I feel dizzy	0	1	2	3
I feel like the room is spinning	0	1	2	3
I feel like I'm going to faint	0	1	2	3
Things are blurry when I look at them	0	1	2	3
I see double	0	1	2	3
I feel sick to my stomach	0	1	2	3
I get tired a lot	0	1	2	3
I get tired easily	0	1	2	3

Total number of symptoms (Maximum possible 20)

Symptom severity score (Maximum possible 20 x 3 = 60)

self rated   clinician interview   self rated and clinician monitored

4

Parent report

The child	never	rarely	sometimes	often
has trouble sustaining attention	0	1	2	3
Is easily distracted	0	1	2	3
has difficulty concentrating	0	1	2	3
has problems remembering what he/she is told	0	1	2	3
has difficulty following directions	0	1	2	3
tends to daydream	0	1	2	3
gets confused	0	1	2	3
is forgetful	0	1	2	3
has difficulty completeing tasks	0	1	2	3
has poor problem solving skills	0	1	2	3
has problems learning	0	1	2	3
has headaches	0	1	2	3
feels dizzy	0	1	2	3
has a feeling that the room is spinning	0	1	2	3
feels faint	0	1	2	3
has blurred vision	0	1	2	3
has double vision	0	1	2	3
experiences nausea	0	1	2	3
gets tired a lot	0	1	2	3
gets tired easily	0	1	2	3

Total number of symptoms (Maximum possible 20)

Symptom severity score (Maximum possible 20 x 3 = 60)

Do the symptoms get worse with physical activity?	Y	N
Do the symptoms get worse with mental activity?	Y	N

parent self rated   clinician interview   parent self rated and clinician monitored

Overall rating for parent/teacher/coach/carer to answer.
How different is the child acting compared to his/her usual self?

Please circle one response:

no different   very different   unsure   N/A

Name of person completing Parent-report:

Relationship to child of person completing Parent-report:

Scoring on the ChildSCAT3 should not be used as a stand-alone method to diagnose concussion, measure recovery or make decisions about an athlete's readiness to return to competition after concussion.

COGNITIVE & PHYSICAL EVALUATION

5

Cognitive assessment

Standardized Assessment of Concussion – Child Version (SAC-C)[4]

Orientation (1 point for each correct answer)

What month is it?	0	1
What is the date today?	0	1
What is the day of the week?	0	1
What year is it?	0	1
Orientation score		of 4

Immediate memory

List	Trial 1		Trial 2		Trial 3		Alternative word list		
elbow	0	1	0	1	0	1	candle	baby	finger
apple	0	1	0	1	0	1	paper	monkey	penny
carpet	0	1	0	1	0	1	sugar	perfume	blanket
saddle	0	1	0	1	0	1	sandwich	sunset	lemon
bubble	0	1	0	1	0	1	wagon	iron	insect
Total									

Immediate memory score total of 15

Concentration: Digits Backward

List	Trial 1		Alternative digit list		
6-2	0	1	5-2	4-1	4-9
4-9-3	0	1	6-2-9	5-2-6	4-1-5
3-8-1-4	0	1	3-2-7-9	1-7-9-5	4-9-6-8
6-2-9-7-1	0	1	1-5-2-8-6	3-8-5-2-7	6-1-8-4-3
7-1-8-4-6-2	0	1	5-3-9-1-4-8	8-3-1-9-6-4	7-2-4-8-5-6
Total of 5					

Concentration: **Days in Reverse Order** (1 pt. for entire sequence correct)

Sunday-Saturday-Friday-Thursday-Wednesday-Tuesday-Monday	0	1
Concentration score		of 6

6

Neck Examination:

Range of motion   Tenderness   Upper and lower limb sensation & strength

Findings:

7

Balance examination

Do one or both of the following tests.

Footwear (shoes, barefoot, braces, tape, etc.)

Modified Balance Error Scoring System (BESS) testing[5]

Which foot was tested (i.e. which is the **non-dominant** foot)   Left   Right

Testing surface (hard floor, field, etc.)

Condition

Double leg stance: Errors

Tandem stance (non-dominant foot at back): Errors

Tandem gait[6,7]

Time taken to complete (best of 4 trials): seconds

If child attempted, but unable to complete tandem gait, mark here

8

Coordination examination

Upper limb coordination

Which arm was tested: Left   Right

Coordination score of 1

9

SAC Delayed Recall[4]

Delayed recall score of 5

Since signs and symptoms may evolve over time, it is important to consider repeat evaluation in the acute assessment of concussion.

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INSTRUCTIONS

Words in *Italics* throughout the ChildSCAT3 are the instructions given to the child by the tester.

Sideline Assessment – child-Maddocks Score

To be completed on the sideline/in the playground, immediately following concussion. There is no requirement to repeat these questions at follow-up.

Symptom Scale[8]

In situations where the symptom scale is being completed after exercise, it should still be done in a resting state, at least 10 minutes post exercise.

On the day of injury

- the child is to complete the Child Report, according to how he/she feels now.

On all subsequent days

- the child is to complete the Child Report, according to how he/she feels today, **and**
- the parent/carer is to complete the Parent Report according to how the child has been over the previous 24 hours.

Standardized Assessment of Concussion – Child Version (SAC-C)[4]

Orientation

Ask each question on the score sheet. A correct answer for **each question scores 1 point.** If the child does not understand the question, gives an incorrect answer, or no answer, then the score for that question is 0 points.

Immediate memory

"I am going to test your memory. I will read you a list of words and when I am done, repeat back as many words as you can remember, in any order."

Trials 2 & 3:

"I am going to repeat the same list again. Repeat back as many words as you can remember in any order, even if you said the word before."

Complete all 3 trials regardless of score on trial 1 & 2. Read the words at a rate of one per second. **Score 1 pt. for each correct response.** Total score equals sum across all 3 trials. Do not inform the child that delayed recall will be tested.

Concentration

Digits Backward:

"I am going to read you a string of numbers and when I am done, you repeat them back to me backwards, in reverse order of how I read them to you. For example, if I say 7-1, you would say 1-7."

If correct, go to next string length. If incorrect, read trial 2. **One point possible for each string length.** Stop after incorrect on both trials. The digits should be read at the rate of one per second.

Days in Reverse Order:

"Now tell me the days of the week in reverse order. Start with Sunday and go backward. So you'll say Sunday, Saturday ... Go ahead"

1 pt. for entire sequence correct

Delayed recall

The delayed recall should be performed after completion of the Balance and Coordination Examination.

"Do you remember that list of words I read a few times earlier? Tell me as many words from the list as you can remember in any order."

Circle each word correctly recalled. **Total score equals number of words recalled.**

Balance examination

These instructions are to be read by the person administering the childSCAT3, and each balance task **should be demonstrated to the child.** The child should then be asked to copy what the examiner demonstrated.

Modified Balance Error Scoring System (BESS) testing[5]

This balance testing is based on a modified version of the Balance Error Scoring System (BESS)[5]. A stopwatch or watch with a second hand is required for this testing.

"I am now going to test your balance. Please take your shoes off, roll up your pant legs above ankle (if applicable), and remove any ankle taping (if applicable). This test will consist of two different parts."

(a) Double leg stance:

The first stance is standing with the feet together with hands on hips and with eyes closed. The child should try to maintain stability in that position for 20 seconds. You should inform the child that you will be counting the number of times the child moves out of this position. You should start timing when the child is set and the eyes are closed.

(b) Tandem stance:

Instruct the child to stand heel-to-toe with the non-dominant foot in the back. Weight should be evenly distributed across both feet. Again, the child should try to maintain stability for 20 seconds with hands on hips and eyes closed. You should inform the child that you will be counting the number of times the child moves out of this position. If the child stumbles out of this position, instruct him/her to open the eyes and return to the start position and continue balancing. You should start timing when the child is set and the eyes are closed.

Balance testing – types of errors - Parts (a) and (b)

1. Hands lifted off iliac crest
2. Opening eyes
3. Step, stumble, or fall
4. Moving hip into > 30 degrees abduction
5. Lifting forefoot or heel
6. Remaining out of test position > 5 sec

Each of the 20-second trials is scored by counting the errors, or deviations from the proper stance, accumulated by the child. The examiner will begin counting errors only after the child has assumed the proper start position. **The modified BESS is calculated by adding one error point for each error during the two 20-second tests. The maximum total number of errors for any single condition is 10.** If a child commits multiple errors simultaneously, only one error is recorded but the child should quickly return to the testing position, and counting should resume once subject is set. Children who are unable to maintain the testing procedure for a minimum of **five seconds** at the start are assigned the highest possible score, ten, for that testing condition.

OPTION: For further assessment, the same 2 stances can be performed on a surface of medium density foam (e.g., approximately 50cm x 40cm x 6cm).

Tandem Gait[6,7]

Use a clock (with a second hand) or stopwatch to measure the time taken to complete this task. Instruction for the examiner – **Demonstrate the following to the child:**

The child is instructed to stand with their feet together behind a starting line (the test is best done with footwear removed). Then, they walk in a forward direction as quickly and as accurately as possible along a 38mm wide (sports tape), 3 meter line with an alternate foot heel-to-toe gait ensuring that they approximate their heel and toe on each step. Once they cross the end of the 3m line, they turn 180 degrees and return to the starting point using the same gait. ***A total of 4 trials are done and the best time is retained.*** *Children fail the test if they step off the line, have a separation between their heel and toe, or if they touch or grab the examiner or an object. In this case, the time is not recorded and the trial repeated, if appropriate.*

Explain to the child that you will time how long it takes them to walk to the end of the line and back.

Coordination examination

Upper limb coordination

Finger-to-nose (FTN) task:

The tester should **demonstrate it to the child.**

"I am going to test your coordination now. Please sit comfortably on the chair with your eyes open and your arm (either right or left) outstretched (shoulder flexed to 90 degrees and elbow and fingers extended). When I give a start signal, I would like you to perform five successive finger to nose repetitions using your index finger to touch the tip of the nose as quickly and as accurately as possible."

Scoring: 5 correct repetitions in < 4 seconds = 1

Note for testers: Children fail the test if they do not touch their nose, do not fully extend their elbow or do not perform five repetitions. **Failure should be scored as 0.**

References & Footnotes

1. This tool has been developed by a group of international experts at the 4th International Consensus meeting on Concussion in Sport held in Zurich, Switzerland in November 2012. The full details of the conference outcomes and the authors of the tool are published in The BJSM Injury Prevention and Health Protection, 2013, Volume 47, Issue 5. The outcome paper will also be simultaneously co-published in other leading biomedical journals with the copyright held by the Concussion in Sport Group, to allow unrestricted distribution, providing no alterations are made.

2. McCrory P et al., Consensus Statement on Concussion in Sport – the 3rd International Conference on Concussion in Sport held in Zurich, November 2008. British Journal of Sports Medicine 2009; 43: i76-89.

3. Maddocks, DL; Dicker, GD; Saling, MM. The assessment of orientation following concussion in athletes. Clinical Journal of Sport Medicine. 1995; 5(1): 32–3.

4. McCrea M. Standardized mental status testing of acute concussion. Clinical Journal of Sport Medicine. 2001; 11: 176–181.

5. Guskiewicz KM. Assessment of postural stability following sport-related concussion. Current Sports Medicine Reports. 2003; 2: 24–30.

6. Schneiders, A.G., Sullivan, S.J., Gray, A., Hammond-Tooke, G.&McCrory, P. Normative values for 16-37 year old subjects for three clinical measures of motor performance used in the assessment of sports concussions. Journal of Science and Medicine in Sport. 2010; 13(2): 196–201.

7. Schneiders, A.G., Sullivan, S.J., Kvarnstrom. J.K., Olsson, M., Yden. T.&Marshall, S.W. The effect of footwear and sports-surface on dynamic neurological screening in sport-related concussion. Journal of Science and Medicine in Sport. 2010; 13(4): 382–386

8. Ayr, L.K., Yeates, K.O., Taylor, H.G.,&Brown, M. Dimensions of post-concussive symptoms in children with mild traumatic brain injuries. Journal of the International Neuropsychological Society. 2009; 15:19–30.

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CHILD ATHLETE INFORMATION

Any child suspected of having a concussion should be removed from play, and then seek medical evaluation. The child must NOT return to play or sport on the same day as the suspected concussion.

Signs to watch for

Problems could arise over the first 24–48 hours. The child should not be left alone and must go to a hospital at once if they develop any of the following:

- New Headache, or Headache gets worse
- Persistent or increasing neck pain
- Becomes drowsy or can't be woken up
- Can not recognise people or places
- Has Nausea or Vomiting
- Behaves unusually, seems confused, or is irritable
- Has any seizures (arms and/or legs jerk uncontrollably)
- Has weakness, numbness or tingling (arms, legs or face)
- Is unsteady walking or standing
- Has slurred speech
- Has difficulty understanding speech or directions

Remember, it is better to be safe.
Always consult your doctor after a suspected concussion.

Return to school

Concussion may impact on the child's cognitive ability to learn at school. This must be considered, and medical clearance is required before the child may return to school. **It is reasonable for a child to miss a day or two of school after concussion, but extended absence is uncommon.** In some children, a graduated return to school program will need to be developed for the child. The child will progress through the return to school program provided that there is no worsening of symptoms. If any particular activity worsens symptoms, the child will abstain from that activity until it no longer causes symptom worsening. Use of computers and internet should follow a similar graduated program, provided that it does not worsen symptoms. This program should include communication between the parents, teachers, and health professionals and will vary from child to child. The return to school program should consider:

- Extra time to complete assignments/tests
- Quiet room to complete assignments/tests
- Avoidance of noisy areas such as cafeterias, assembly halls, sporting events, music class, shop class, etc
- Frequent breaks during class, homework, tests
- No more than one exam/day
- Shorter assignments
- Repetition/memory cues
- Use of peer helper/tutor
- Reassurance from teachers that student will be supported through recovery through accommodations, workload reduction, alternate forms of testing
- Later start times, half days, only certain classes

The child is not to return to play or sport until he/she has successfully returned to school/learning, without worsening of symptoms. Medical clearance should be given before return to play.

If there are any doubts, management should be referred to a qualified health practitioner, expert in the management of concussion in children.

Return to sport

There should be no return to play until the child has successfully returned to school/learning, without worsening of symptoms.
Children must not be returned to play the same day of injury.
When returning children to play, they should **medically cleared and then follow a stepwise supervised program,** with stages of progression.

For example:

Rehabilitation stage	Functional exercise at each stage of rehabilitation	Objective of each stage
No activity	Physical and cognitive rest	Recovery
Light aerobic exercise	Walking, swimming or stationary cycling keeping intensity, 70 % maximum predicted heart rate. No resistance training	Increase heart rate
Sport-specific exercise	Skating drills in ice hockey, running drills in soccer. No head impact activities	Add movement
Non-contact training drills	Progression to more complex training drills, eg passing drills in football and ice hockey. May start progressive resistance training	Exercise, coordination, and cognitive load
Full contact practice	Following medical clearance participate in normal training activities	Restore confidence and assess functional skills by coaching staff
Return to play	Normal game play	

There should be approximately 24 hours (or longer) for each stage and the child should drop back to the previous asymptomatic level if any post-concussive symptoms recur. Resistance training should only be added in the later stages.
If the child is symptomatic for more than 10 days, then review by a health practitioner, expert in the management of concussion, is recommended.
Medical clearance should be given before return to play.

Notes:

CONCUSSION INJURY ADVICE FOR THE CHILD AND PARENTS / CARERS

(To be given to the **person monitoring** the concussed child)

This child has received an injury to the head. A careful medical examination has been carried out and no sign of any serious complications has been found. It is expected that recovery will be rapid, but the child will need monitoring for the next 24 hours by a responsible adult.

If you notice any change in behavior, vomiting, dizziness, worsening headache, double vision or excessive drowsiness, please call an ambulance to transport the child to hospital immediately.

Other important points:

- Following concussion, the child should rest for at least 24 hours.
- The child should avoid any computer, internet or electronic gaming activity if these activities make symptoms worse.
- The child should not be given any medications, including pain killers, unless prescribed by a medical practitioner.
- The child must not return to school until medically cleared.
- The child must not return to sport or play until medically cleared.

Clinic phone number

Patient's name
Date/time of injury
Date/time of medical review
Treating physician

Contact details or stamp

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2013 Data Book Power Point

Dan Hyson
HVED Data Management Coordinator

* NOTE: To access Internet hyperlinks included, must view Power Point in slide show format and have Internet access

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Guiding Questions

1. Are all of your students meeting standards or growing at a rate that will make them more likely to meet standards in the future?
   a. Assessments serving summative function
      i. MCA Percent Proficient
      ii. Multiple Measurement Rating (MMR)
      iii. NWEA MAP Growth
   b. Assessments serving benchmark screening function
      i. AIMSweb Oral Reading Fluency (ORF) Percent on Track for MCA-II Proficiency
      ii. NWEA MAP Percent on Track for MCA Proficiency

Guiding Questions (continued)

2. Are all of your students in special population subgroups meeting standards or growing at a rate that will make them more likely to meet standards in the future?
   a. MCA Percent Proficient
   b. NWEA MAP Growth

Guiding Questions (continued)

3. What specific skill strengths or weaknesses do your students demonstrate based on standardized assessment results?
   a. MCA Strand Scores Compared to State
   b. NWEA MAP Strand Scores Compared to Overall Scores

Guiding Questions (continued)

4. What are some sources of intervention resources to address these specific skill strengths or weaknesses?

Suggestions for using the Data Book Power Point

Link to recorded webinar training on “Using the Data Book Power Point” - http://connectpro38331668.adobeconnect.com/p8inixc2ncg/

Suggestions

A. Present subsets of slides at different times, to different audiences
B. Ensure staff understand the data in the context of the primary functions of assessment
C. Use links in Power Point to access, interpret and meet in teams to discuss, benchmark screening data throughout the year

A. Present subsets of slides at different times, to different audiences

- EXAMPLE 1: Show slides addressing Guiding Question 1a (and if time 2 a-c) to staff at beginning of the year staff meeting and/or school board to provide overview of progress overall and for subgroups
- EXAMPLE 2: Show slides addressing Guiding Question 3 to grade level teams to help them in identifying strengths or weaknesses in student performance on specific strands over past 2 years
- EXAMPLE 3: Show slides addressing Guiding Question 4 to problem solving team, data team or other school improvement team to help in identifying potential research-based intervention curricula or strategies to address student strengths or weaknesses

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B. Ensure staff understand the data in the context of the primary functions of assessment

- **Summative**
  - Did students meet standards? (e.g., MCA proficiency, NWEA MAP percent meeting growth targets, traditional classroom unit tests)
- **Formative –** *provides evidence of student learning you can use to adjust instruction*
  - **Benchmark screening**
    - Are all students meeting standards or growing at a rate that will make them more likely to meet standards in the future? If not, which students are not meeting standards or not growing at the necessary rate? (e.g., AIMSweb/ NWEA MAP benchmark performance, common classroom assessments and instructional techniques)
  - **Progress monitoring/Mastery monitoring**
    - Are those identified students responding to additional intervention we're providing? (e.g., AIMSweb, common classroom assessments and instructional techniques)
  - **Diagnostic**
    - If students are not responding, what specific areas of weakness are getting in the way? (e.g., MCA and NWEA MAP sub-skill strands, common classroom assessments and instructional techniques)

Fill in the table below to identify which functions are addressed by assessment measures currently used in your school/district

Summative	**Benchmark Screening**
Progress Monitoring / Mastery Monitoring	**Diagnostic**

**** NOTE: A single assessment measure may serve more than one function.***

Progress monitoring

Links to recorded webinar trainings on using different technology tools for progress monitoring:

AIMSweb – http://connectpro38331668.adobeconnect.com/p19rlv24ek4/

Microsoft Excel – http://connectpro38331668.adobeconnect.com/p62e0zyqzrt/

Sample Excel file - http://www.hved.org/documents/DataManagement/Graphing_Tutorial_for_South_Cluster.xlsx

Chart Dog – http://connectpro38331668.adobeconnect.com/p8ks1wo2i5l/

Mastery monitoring

Links to recorded webinar and handouts regarding using formative assessment instructional techniques and common classroom tests for benchmark screening and mastery monitoring:

- Recorded webinar - http://connectpro38331668.adobeconnect.com/p6xxxxqrk87/
- Handouts
  - POWER POINT - Using Formative Assessment to Improve Student Achievement
  - HANDOUT 1 - Bailey and Jakicic templates for creating common classroom assessments (pdf)
  - HANDOUT 2 - Sample data for evaluating quality of common classroom test (pdf)

C. Use links in Power Point to access, interpret and meet in teams to discuss, benchmark screening data throughout the year

- Data teams should meet at least 3 times/year following each benchmark screening assessment to:
  - Determine whether Tier 1 instruction meeting needs of 80-90% of students
  - Identify which students appear in need of Tier 2 or Tier 3 support
  - Review data on which specific skills appear to be relative strengths or weaknesses
- Grade level teams, including both general ed and special ed staff, should be examining progress monitoring data more frequently to:
  - Evaluate the response of students already receiving Tier 2 or Tier 3 support and determine whether their support should be intensified, diminished or discontinued
- If possible, meetings should take place during the school day to stress commitment to data-driven decision-making
  - Links to documents illustrating potential ways to make time for focused collaboration during the school day:
    - All age levels - http://www.allthingsplc.info/pdf/articles/MakingTimeforCollaboration.pdf
    - Especially at middle and high school levels - http://www.hved.org/web-content/PDFS/MDE%20Middle%20and%20High%20School%20Intervention%20Scheduling%20Power%20Point.ppt

Data teaming

Links to recorded webinar training on data teaming and related documents:

[Link to webinar - Creating or Improving the Effectiveness of Data Teams]

[HANDOUT 1 - Bernhardt multiple measures of data diagram]
[HANDOUT 2 - Script and guiding questions for data teaming]
[HANDOUT 3 - What is a data coach and who would make a good one]
[POWER POINT - Creating or Improving the Effectiveness of Data Teams]

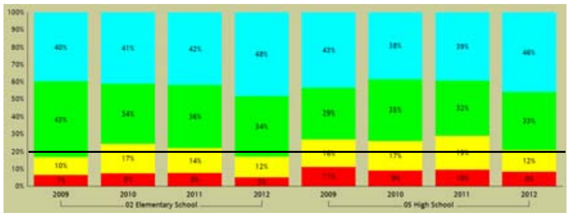
GUIDING QUESTION #1: Are all of your students meeting standards or growing at a rate that will make them more likely to meet standards in the future?

a. Assessments serving summative function
   i. MCA Percent Proficient

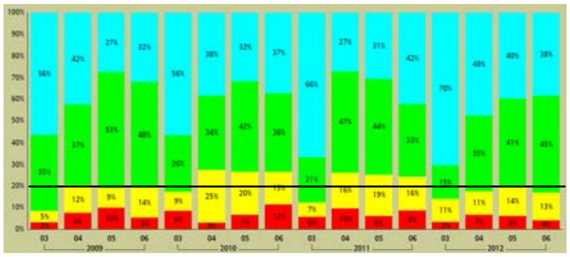
MCA Percent Proficient

- Percent Proficient graphs below are color-coded according to the percent of students earning each of 4 MCA achievement levels:
  - **RED = does not meet standards**
  - **YELLOW = partially meets standards**
  - **GREEN = meets standards**
  - **BLUE = exceeds standards**
- The percent of students "proficient" on the MCA is equal to the percent exceeding standards (BLUE) plus the percent meeting standards (GREEN).
- District staff with administrative access to the data warehouse can access the district graphs themselves in Cognos.
  - Link to directions: http://www.hved.org/web-content/PDFS/Accessing%20and%20navigating%20Cognos%20interactive%20and%20multi-year%20reports.doc (Choose "MCA Proficiency Multi-Year")
  - Links to recorded webinar trainings –
    - Logging into Cognos and setting up your Portal - http://connectpro38331668.adobeconnect.com/p7gq2f96awo/
    - Accessing and navigating within Cognos 1-click graphs - http://connectpro38331668.adobeconnect.com/p4t0m4vcf78/
- The graphs comparing the district to the state and HVED districts are pivot charts created from Excel files available for download from the MDE website.
  - To download the files, click on the following link, choose "Assessment and Growth Files" under the "Accountability and Assessment" section and use the dropdown menus to choose the Test Name, Year, Public/Nonpublic, Subject and Grade: http://education.state.mn.us/MDEAnalytics/Data.jsp
- A dark line has been inserted to represent the goal of having Tier I instruction meet the needs of at least 80% of students.

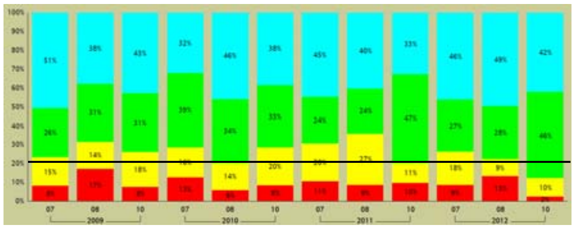
MCA-II Reading Percent Proficient 2009-2012



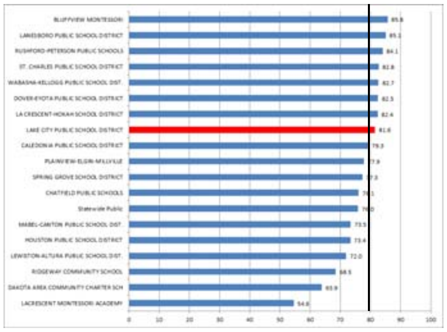
MCA-II Reading Percent Proficient 2009-2012 by Grade - Elementary



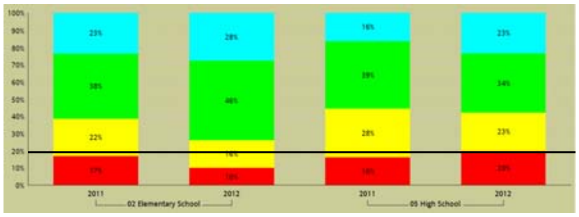
MCA-II Reading Percent Proficient 2009-2012 by Grade - High School



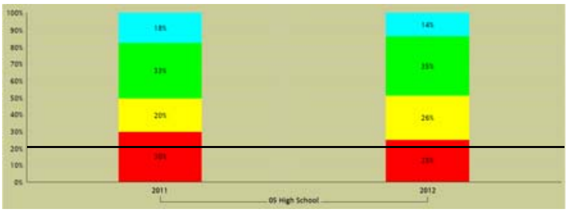
MCA-II Reading Percent Proficient 2012 Compared to State and HVED Districts - Districtwide



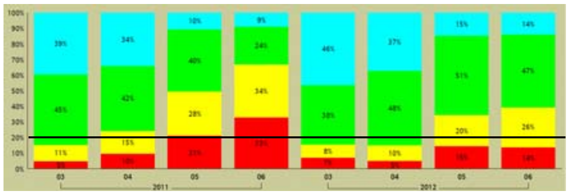
MCA-III Math Percent Proficient 2011-2012 (Grades 3-8)



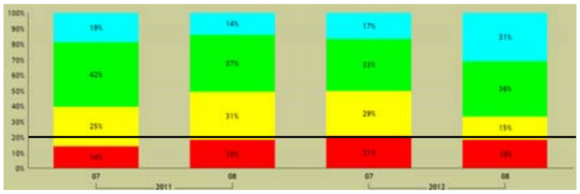
MCA-II Math Percent Proficient 2011-2012 (Grade 11)



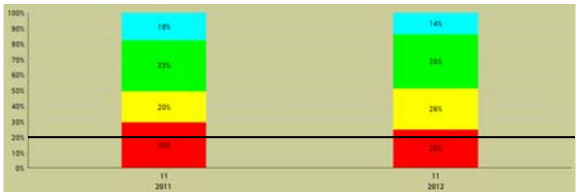
MCA-III Math Percent Proficient 2011-2012 by Grade - Elementary



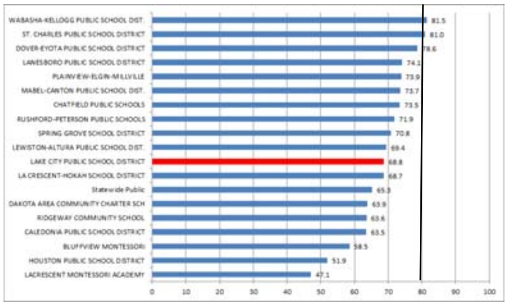
MCA-III Math Percent Proficient 2011-2012 by Grade – High School (Grades 7-8)



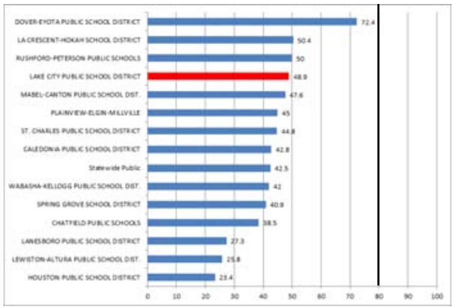
MCA-II Math Percent Proficient 2011-2012 by Grade - High School (Grade 11)



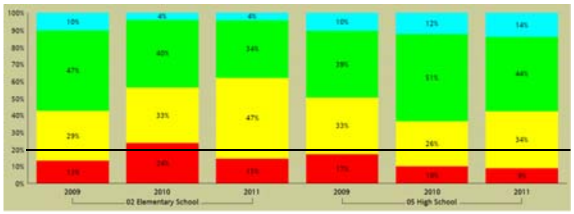
MCA-III Math Percent Proficient 2012 Compared to State and HVED Districts – Grades 3-8



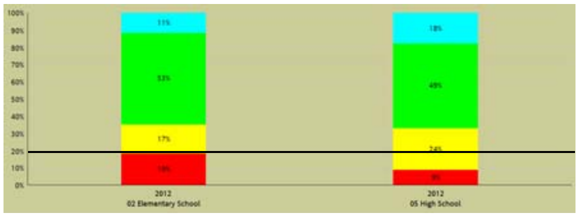
MCA-II Math Percent Proficient 2012 Compared to State and HVED Districts – Grade 11



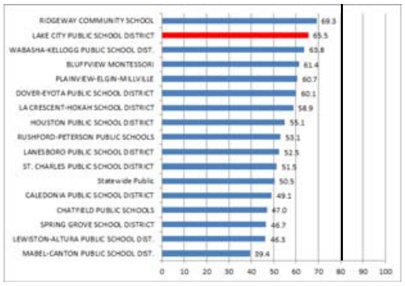
MCA-II Science Percent Proficient 2009-2011



MCA-III Science Percent Proficient 2012



MCA-III Science Percent Proficient 2012 Compared to State and HVED Districts - Districtwide



GUIDING QUESTION #1: Are all of your students meeting standards or growing at a rate that will make them more likely to meet standards in the future?

a. Assessments serving summative function

   ii. Multiple Measurement Rating (MMR)

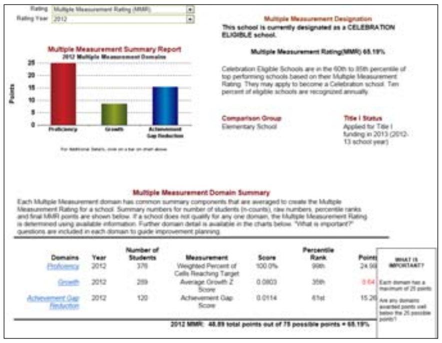
Multiple Measurement Rating (MMR)

- MMR is new set of state accountability measures under Minnesota NCLB waiver
- Math and Reading combined
- Up to 4 domains
  - **Proficiency** – Weighted percent of subgroup cells meeting new AYP targets (designed to close achievement gap by 50% by 2017)
  - **Growth** – Average of individual student 2011-2012 MCA growth z-scores (positive score means growing more than comparable students across state)
  - **Achievement Gap Reduction** – Degree to which closing gap between your students in special population subgroups and students in comparable non special population subgroups across state
  - **Graduation Rate (only for high schools)** - Weighted percent of subgroup cells meeting AYP grad rate targets

Multiple Measurement Rating (MMR)

- For each domain applicable for your school, can earn up to 25 points
  - Points earned calculated by multiplying decimal form of school's domain percentile rank by 25 possible points
- Overall MMR rating percentage calculated by adding up total points earned in each applicable domain, dividing by total points possible in applicable domains and multiplying by 100
- ***Title I schools only*** may earn any of the following designations based on their MMR Ratings:
  - Reward School (Top 15%)
  - Celebration School (Next 25% below Reward may apply; 10% selected)
  - Focus School (Middle 105 with extreme Achievement Gaps)
  - Continuous Improvement School (Bottom 25%)
  - Priority School (Bottom 5%)
- Click here to access a 3-page summary document explaining how MMR is calculated and providing concrete examples
- Click here to access public file comparing MMR ratings for schools across the state
- Click here and log in with your MDE Educator Portal login to access tables, graphs and documents with more information about your school's MMR data

Multiple Measurement Rating (MMR) Data 2012 - Elementary



Rating
Multiple Measurement Rating (MMR)
Rating Year
2012
Multiple Measurement Summary Report
2012 Multiple Measurement Domains
Points
25
20
15
10
5
0
Proficiency
Growth
Achievement Gap Reduction

Multiple Measurement Designation

This school is currently designated as a CELEBRATION ELIGIBLE school.

Multiple Measurement Rating(MMR) 65.19%

Celebration Eligible Schools are in the 60th to 85th percentile of top performing schools based on their Multiple Measurement Rating. They may apply to become a Celebration school. Ten percent of eligible schools are recognized annually.

Comparison Group
Elementary School

Title I Status
Applied for Title I funding in 2013 (2012-13 school year)

Multiple Measurement Domain Summary

Each Multiple Measurement domain has common summary components that are averaged to create the Multiple Measurement Rating for a school. Summary numbers for number of students (n-counts), raw numbers, percentile ranks and final MMR points are shown below. If a school does not qualify for any one domain, the Multiple Measurement Rating is determined using available information. Further domain detail is available in the charts below. "What is important?" questions are included in each domain to guide improvement planning.

Domains	Year	Number of Students	Measurement	Score	Percentile Rank	Points
Proficiency	2012	376	Weighted Percent of Cells Reaching Target	100.0%	99th	24.9
Growth	2012	289	Average Growth Z Score	0.0803	35th	8.64
Achievement Gap Reduction	2012	120	Achievement Gap Score	0.0114	61st	15.26

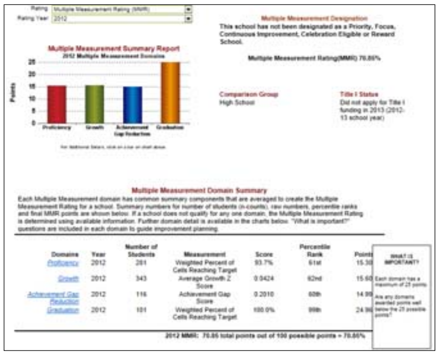
2012 MMR: 48.89 total points out of 75 possible points = 65.19%

WHAT IS IMPORTANT?

Each domain has a maximum of 25 points

Are any domains awarded points well below the 25 possible points?

Multiple Measurement Rating (MMR) Data 2012 – High School



Rating
Multiple Measurement Rating (MMR)
Rating Year
2012
Multiple Measurement Summary Report
2012 Multiple Measurement Domains
Points
25
20
15
10
5
0
Proficiency
Growth
Achievement Gap Reduction
Graduation

Multiple Measurement Designation

This school has not been designated as a Priority, Focus, Continuous Improvement, Celebration Eligible or Reward School.

Multiple Measurement Rating(MMR) 70.85%

Comparison Group
High School

Title I Status
Did not apply for Title I funding in 2013 (2012-13 school year)

Multiple Measurement Domain Summary

Each Multiple Measurement domain has common summary components that are averaged to create the Multiple Measurement Rating for a school. Summary numbers for number of students (n-counts), raw numbers, percentile ranks and final MMR points are shown below. If a school does not qualify for any one domain, the Multiple Measurement Rating is determined using available information. Further domain detail is available in the charts below. "What is important?" questions are included in each domain to guide improvement planning.

Domains	Year	Number of Students	Measurement	Score	Percentile Rank	Points
Proficiency	2012	281	Weighted Percent of Cells Reaching Target	93.7%	61st	15.30
Growth	2012	343	Average Growth Z Score	0.0424	62nd	15.60
Achievement Gap Reduction	2012	116	Achievement Gap Score	0.2010	60th	14.99
Graduation	2012	101	Weighted Percent of Cells Reaching Target	100.0%	99th	24.96

2012 MMR: 70.85 total points out of 100 possible points = 70.85%

WHAT IS IMPORTANT?

Each domain has a maximum of 25 points

Are any domains awarded points well below the 25 possible points?

GUIDING QUESTION # 1: Are all of your students meeting standards or growing at a rate that will make them more likely to meet standards in the future?

a. Assessments serving summative function

iii. NWEA MAP Growth

NWEA MAP Growth

- The stacked bar graphs below display in **GREEN** the percent of students meeting growth targets and in **RED** the percent of students NOT meeting growth targets.
- NWEA MAP Spring-Spring growth targets are based upon the average Spring-Spring growth achieved by students in the NWEA normative sample with the same previous Spring RIT score.
- It is NOT typically a realistic and appropriate goal to expect that 80% of your students will meet their growth targets. (See next slide in Power Point for alternate ways to set expectations for growth.)
- District staff with administrative access to the data warehouse can access the graphs below themselves in Cognos.
  - Link to directions: http://www.hved.org/web-content/PDFS/Accessing%20and%20navigating%20Cognos%20interactive%20and%20multi-year%20reports.doc (Choose "MAP Growth Multi-Year" or "MAP Growth Multi-Year by Grade")
  - Links to recorded webinar trainings –
    - Logging into Cognos and setting up your Portal - http://connectpro38331668.adobeconnect.com/p7gq2f96awo/
    - Accessing and navigating within Cognos 1-click graphs - http://connectpro38331668.adobeconnect.com/p4t0m4vcf78/

NWEA MAP Growth (continued)

- NWEA MAP growth can also be examined in at least 2 alternate ways:
  1. The line graphs and tables at the end of this section display the average growth of your students at each grade level on each of the NWEA MAP tests compared to their average expected growth. The following link from the 2011 NWEA School Norms Study provides you with your national percentile rank at each grade level based on your students' average growth as shown in those graphs and tables:
     - http://www.hved.org/web-content/PDFS/NWEA%20MAP%20School%20Growth%20Norm%20Study.pdf
  2. Meeting the NWEA typical growth target only means that a student has made *average* growth compared to a national sample of his same-grade peers. It does not necessarily mean that he is more likely to achieve proficiency on the MCA. The link below will bring you to an online NWEA MAP growth calculator designed by Bloomington Public Schools. Using this calculator, you may determine "*ambitious*" or "*aggressive*" growth targets. If students meet these growth targets, they would also be more likely to earn proficiency on the MCA.
     - https://re2.bloomington.k12.mn.us/mapgrowth/calculator.cfm

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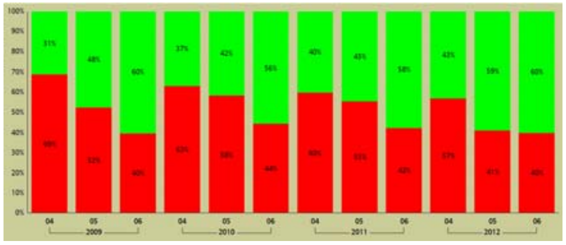
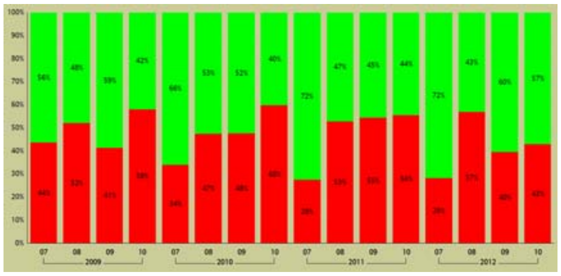
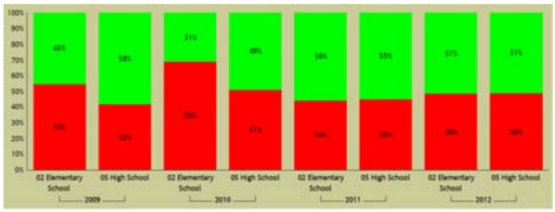
NWEA MAP Reading Percent Meeting Spring-Spring Growth Targets 2009-2012 by Grade - Elementary



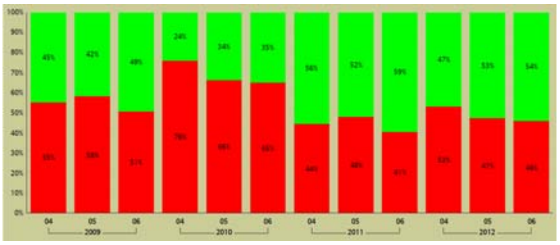
NWEA MAP Reading Percent Meeting Spring-Spring Growth Targets 2009-2012 by Grade - High School



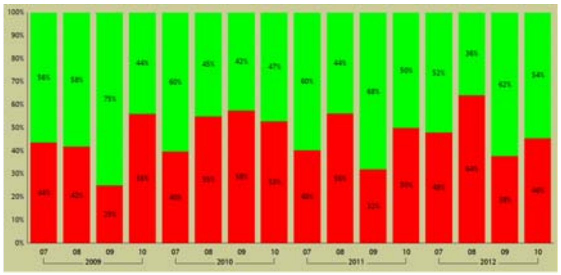
NWEA MAP Math Percent Meeting Spring-Spring Growth Targets 2009-2012



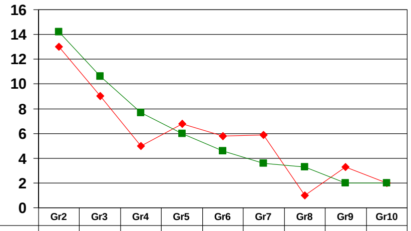
NWEA MAP Math Percent Meeting Spring-Spring Growth Targets 2009-2012 by Grade - Elementary



NWEA MAP Math Percent Meeting Spring-Spring Growth Targets 2009-2012 by Grade - High School

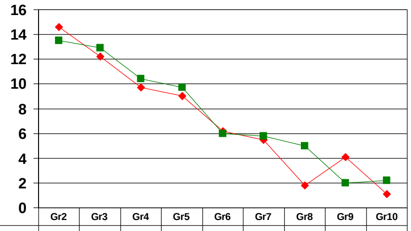


NWEA MAP Reading Average Growth by Grade Compared to NWEA Norm Study Mean Growth Projections



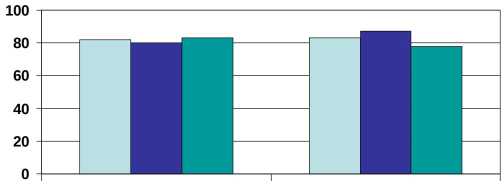
	Gr2	Gr3	Gr4	Gr5	Gr6	Gr7	Gr8	Gr9	Gr10
District Average Growth	13.0	9.0	5.0	6.8	5.8	5.9	1.0	3.3	2.0
NWEA Norm Study Mean Growth Projection	14.2	10.6	7.7	6.0	4.6	3.6	3.3	2.0	2.0

NWEA MAP Math Average Growth by Grade Compared to NWEA Norm Study Mean Growth Projections



	Gr2	Gr3	Gr4	Gr5	Gr6	Gr7	Gr8	Gr9	Gr10
District Average Growth	14.6	12.2	9.7	9.0	6.2	5.5	1.8	4.1	1.1
NWEA Norm Study Mean Growth Projection	13.5	12.9	10.4	9.7	6.0	5.8	5.0	2.0	2.2

NWEA MAP Primary Percent Meeting Fall-Spring Growth Targets 2010-2012 – 1st Grade



	Math	Reading
2010	82	83.1
2011	80.2	87.4
2012	83.1	78

NOTE: NWEA MAP Primary Growth Targets not available for 2nd grade

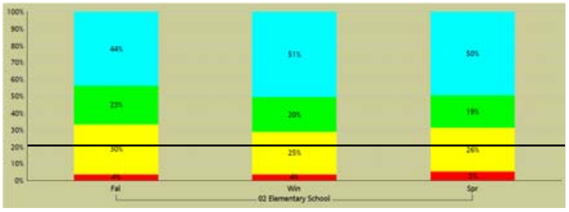
GUIDING QUESTION #1: Are all of your students meeting standards or growing at a rate that will make them more likely to meet standards in the future?

b. Assessments serving benchmark screening function
   i. AIMSweb Oral Reading Fluency (ORF) Percent on Track for MCA-II Proficiency

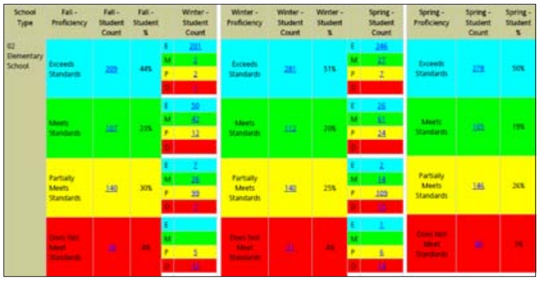
AIMSweb Oral Reading Fluency (ORF) Percent on Track for MCA-II Proficiency

- The slides below are based upon targets established using data from districts using TIES iCue Tests and Assessments (including HVED member districts) and administering AIMSweb Oral Reading Fluency (ORF) with fidelity.
- The targets were calculated using the correlation between AIMSweb ORF and the MCA-II Reading test (approximately .5 to .6).
- Graphs are color-coded as follows:
  - **RED = < 25% predicted chance of proficiency on MCA-II based on AIMSweb ORF score**
  - **YELLOW = 25% to 75% chance of proficiency**
  - **GREEN = Greater than 75% chance of proficiency**
  - **BLUE = Theoretically greater than 75% chance of proficiency on next grade level MCA-II**
- District staff with administrative access to the data warehouse can access the graphs below themselves in Cognos.
  - Link to directions: http://www.hved.org/web-content/PDFS/Accessing%20and%20navigating%20Cognos%20interactive%20and%20multi-year%20reports.doc (Choose "AIMSweb/MAP Proficiency" or "AIMSweb/MAP Change in Proficiency")
  - Links to recorded webinar trainings –
    - Logging into Cognos and setting up your Portal - http://connectpro38331668.adobeconnect.com/p7gq2f96awo/
    - Accessing and navigating within Cognos 1-click graphs - http://connectpro38331668.adobeconnect.com/p4t0m4vcf78/
- A dark line has been inserted to represent the goal of having Tier I instruction meet the needs of at least 80% of students.

AIMSweb ORF Percent on Track for MCA-II Proficiency 2011-2012 by Benchmark Period

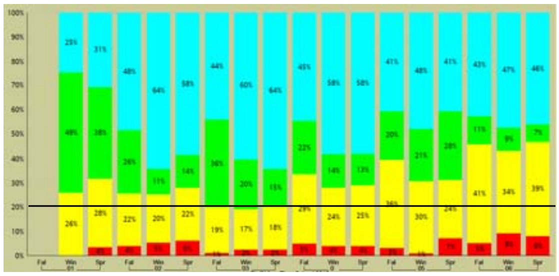


AIMSweb ORF Change in Percent on Track for MCA-II Proficiency 2011-2012 by Benchmark Period



School Type	Fall - Proficiency	Fall - Student Count	Fall - Student %		Winter - Student Count	Winter - Proficiency	Winter - Student Count	Winter - Student %		Spring - Student Count	Spring - Proficiency	Spring - Student Count	Spring - Student %
02 Elementary School	Exceeds Standards	209	44%	E	201	Exceeds Standards	281	51%	E	246	Exceeds Standards	278	50%
				M	2				M	27			
				P	2				P	7			
				D	[illegible]				D				
	Meets Standards	107	23%	E	50	Meets Standards	112	20%	E	26	Meets Standards	105	19%
				M	42				M	61			
				P	12				P	24			
				D					D				
	Partially Meets Standards	140	30%	E	7	Partially Meets Standards	140	25%	E	2	Partially Meets Standards	146	26%
				M	26				M	18			
				P	99				P	109			
				D	[illegible]				D	[illegible]			
	Does Not Meet Standards	[illegible]	4%	E		Does Not Meet Standards	[illegible]	4%	E	1	Does Not Meet Standards	[illegible]	5%
				M					M				
				P	5				P	6			
				D	[illegible]				D	[illegible]			

AIMSweb ORF Percent on Track for MCA-II Proficiency 2011-2012 by Benchmark Period and Grade



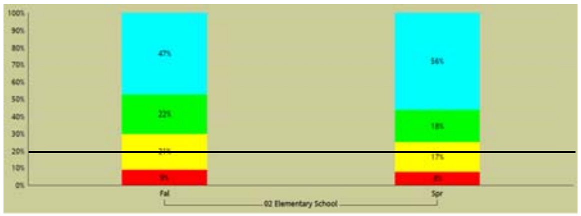
GUIDING QUESTION #1: Are all of your students meeting standards or growing at a rate that will make them more likely to meet standards in the future ?

b. Assessments serving benchmark screening function
   ii. NWEA MAP Percent on Track for MCA Proficiency

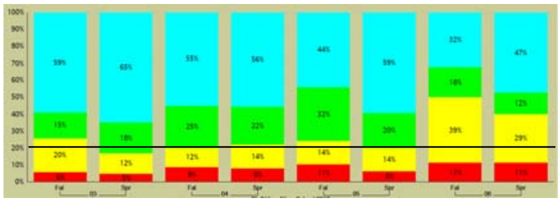
NWEA MAP Percent on Track for MCA Proficiency

- The slides below are based upon targets established through research conducted by the St. Croix River Education District (SCRED).
- The targets were calculated using the correlation between NWEA MAP Reading and Math tests and the MCA Reading and Math tests (approximately .8).
- Graphs are color-coded as follows:
  - **RED = < 25% predicted chance of proficiency on MCA based on AIMSweb ORF score**
  - **YELLOW = 25% to 75% chance of proficiency**
  - **GREEN = Greater than 75% chance of proficiency**
  - **BLUE = Theoretically greater than 75% chance of proficiency on next grade level MCA**
- District staff with administrative access to the data warehouse can access the graphs below themselves in Cognos.
  - Link to directions: http://www.hved.org/web-content/PDFS/Accessing%20and%20navigating%20Cognos%20interactive%20and%20multi-year%20reports.doc (Choose "AIMSweb/MAP Proficiency")
  - Links to recorded webinar trainings –
    - Logging into Cognos and setting up your Portal - http://connectpro38331668.adobeconnect.com/p7qq2f96awo/
    - Accessing and navigating within Cognos 1-click graphs - http://connectpro38331668.adobeconnect.com/p4t0m4vcf78/
- A dark line has been inserted to represent the goal of having Tier I instruction meet the needs of at least 80% of students.

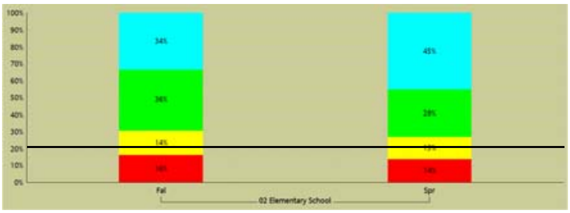
NWEA MAP Reading Percent on Track for MCA-II Proficiency 2011-2012 by Benchmark Period – Elementary



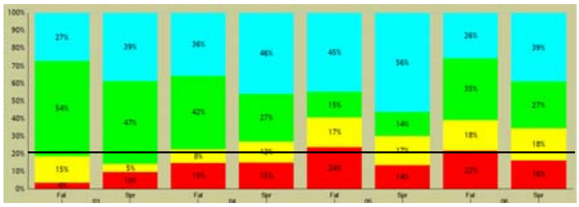
NWEA MAP Reading Percent on Track for MCA-II Proficiency 2011-2012 by Benchmark Period and Grade – Elementary



NWEA MAP Math Percent on Track for MCA Proficiency 2011-2012 by Benchmark Period – Elementary



NWEA MAP Math Percent on Track for MCA Proficiency 2011-2012 by Benchmark Period and Grade – Elementary



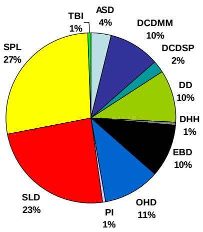
GUIDING QUESTION #2: Are all of your students in special population subgroups meeting standards or growing at a rate that will make them more likely to meet standards in the future?

a. MCA Percent Proficient

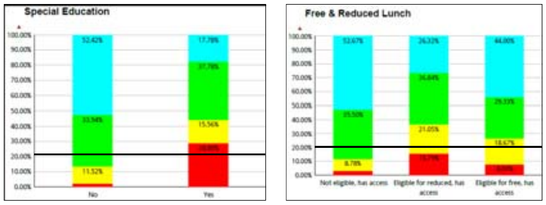
MCA Percent Proficient

- Percent Proficient graphs below are color-coded according to the percent of students earning each of 4 MCA achievement levels:
  - **RED = does not meet standards**
  - **YELLOW = partially meets standards**
  - **GREEN = meets standards**
  - **BLUE = exceeds standards**
- The percent of students "proficient" on the MCA is equal to the percent exceeding standards **(BLUE)** plus the percent meeting standards **(GREEN).**
- Within the Special Education graph,
  - "Yes" = students who ARE receiving special education services
  - "No" = students who are NOT receiving special education services
- Within the Free & Reduced Lunch (F/RL) graph,
  - "Not eligible, has access" = students who are NOT receiving F/RL
  - "Eligible for reduced, has access" = students who ARE receiving REDUCED PRICE lunch
  - "Eligible for free, has access" = students who ARE receiving FREE lunch
- District staff with administrative access to the data warehouse can access the graphs below themselves in Cognos.
  - Link to directions: http://www.hved.org/web-content/PDFS/Accessing%20and%20navigating%20Cognos%20interactive%20and%20multi-year%20reports.doc (Choose "AIMSweb/MAP/MCA-II Proficiency by Special Population")
  - Links to recorded webinar trainings –
    - Logging into Cognos and setting up your Portal - http://connectpro38331668.adobeconnect.com/p7gq2f96awo/
    - Accessing and navigating within Cognos 1-click graphs - http://connectpro38331668.adobeconnect.com/p4t0m4vcf78/
- A dark line has been inserted to represent the goal of having Tier I instruction meet the needs of at least 80% of students.

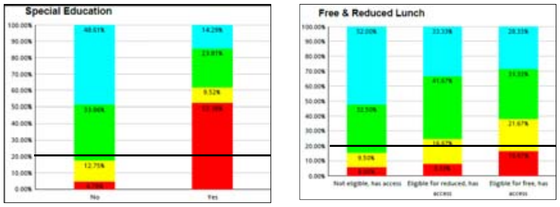
Percent of Students Receiving Special Ed Services under Each Primary Disability



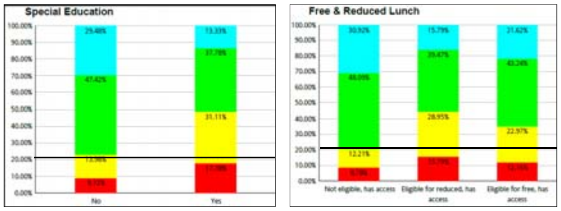
MCA-II Reading Percent Proficient 2012 by Special Population - Elementary



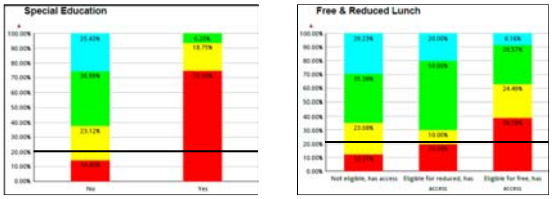
MCA-II Reading Percent Proficient 2012 by Special Population – High School



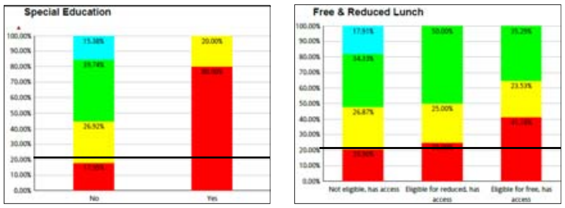
MCA-III Math Percent Proficient 2012 by Special Population - Elementary



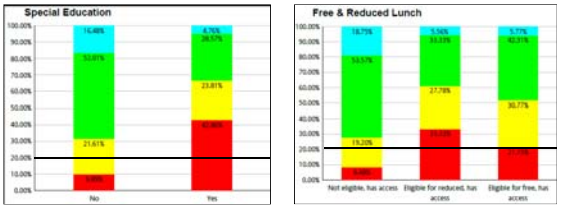
MCA-III Math Percent Proficient 2012 by Special Population – High School (Grades 7 and 8)



MCA-II Math Percent Proficient 2012 by Special Population – High School (Grade 11)



MCA-III Science Percent Proficient 2012 by Special Population - Districtwide



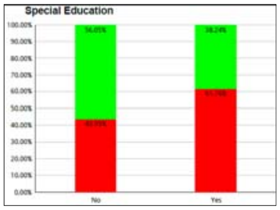
GUIDING QUESTION #2: Are all of your students in special population subgroups meeting standards or growing at a rate that will make them more likely to meet standards in the future?

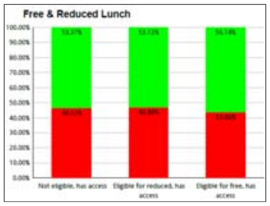
b. NWEA MAP Growth

NWEA MAP Growth

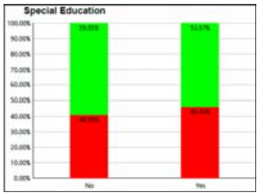
- The stacked bar graphs below display in **GREEN** the percent of students meeting growth targets and in **RED** the percent of students NOT meeting growth targets.
- NWEA MAP Spring-Spring growth targets are based upon the average Spring-Spring growth achieved by students in the NWEA normative sample with the same previous Spring RIT score.
- It is NOT typically a realistic and appropriate goal to expect that 80% of your students will meet their growth targets.
- Within the Special Education graph,
  - "Yes" = students who ARE receiving special education services
  - "No" = students who are NOT receiving special education services
- Within the Free & Reduced Lunch graph,
  - "Not eligible, has access" = students who are NOT receiving F/RL
  - "Eligible for reduced, has access" = students who ARE receiving REDUCED PRICE lunch
  - "Eligible for free, has access" = students who ARE receiving FREE lunch
- District staff with administrative access to the data warehouse can access the graphs below themselves in Cognos.
  - Link to directions: http://www.hved.org/web-content/PDFS/Accessing%20and%20navigating%20Cognos%20interactive%20and%20multi-year%20reports.doc (Choose "MAP Growth by Special Population")
  - Links to recorded webinar trainings –
    - Logging into Cognos and setting up your Portal - http://connectpro38331668.adobeconnect.com/p7qq2f96awo/
    - Accessing and navigating within Cognos 1-click graphs - http://connectpro38331668.adobeconnect.com/p4t0m4vcf78/

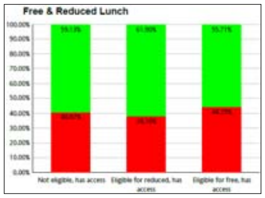
NWEA MAP Reading Percent Meeting Spring-Spring Growth Targets 2011-2012 by Special Population - Elementary



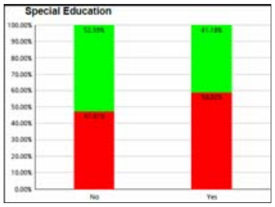


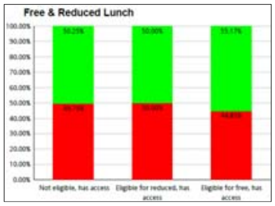
NWEA MAP Reading Percent Meeting Spring-Spring Growth Targets 2011-2012 by Special Population – High School



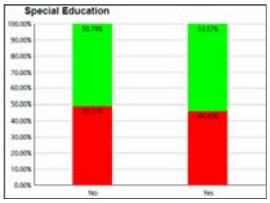


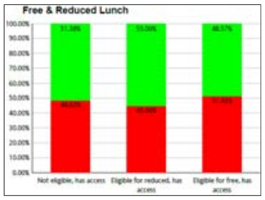
NWEA MAP Math Percent Meeting Spring-Spring Growth Targets 2011-2012 by Special Population - Elementary



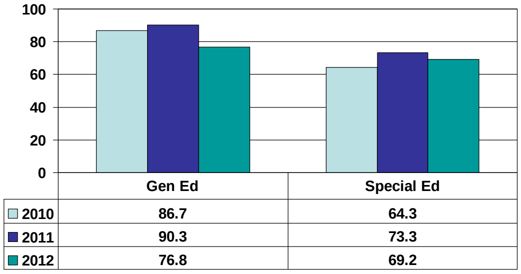


NWEA MAP Math Percent Meeting Spring-Spring Growth Targets 2011-2012 by Special Population – High School





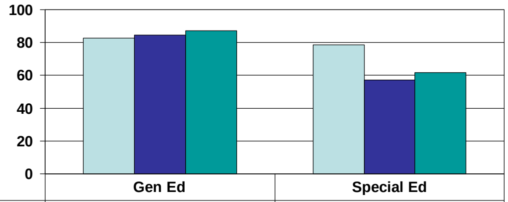
NWEA MAP Primary Reading Percent Meeting Fall-Spring Growth Targets 2010-2012 by Special Ed Status – 1st grade



	Gen Ed	Special Ed
2010	86.7	64.3
2011	90.3	73.3
2012	76.8	69.2

NOTE: NWEA MAP Primary Growth Targets not available for 2nd grade

NWEA MAP Primary Math Percent Meeting Fall-Spring Growth Targets 2010-2012 by Special Ed Status – 1st grade



	Gen Ed	Special Ed
☐ 2010	82.7	78.6
■ 2011	84.7	57.1
■ 2012	87.1	61.5

NOTE: NWEA MAP Primary Growth Targets not available for 2nd grade

GUIDING QUESTION #3: What specific skill strengths or weaknesses do your students demonstrate based on standardized assessment results?

a. MCA Strand Scores Compared to State Averages

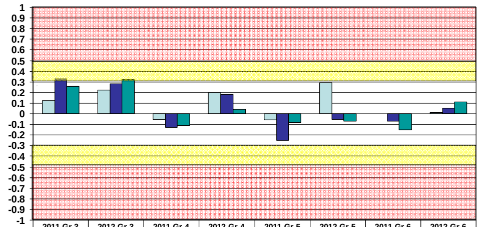
MCA Strand Scores Compared to State Averages

- The graphs below are Power Point graphs created using standardized "difference scores" from the "MCA strands compared to state" report available in Cognos to staff with administrative access to the data warehouse.
- Standardized difference scores, instead of raw scores or percent of items correct, are used in the graphs below because MCA strands differ in both number of items and relative difficulty.
- Difference scores are calculated using the following equation:

  Difference score = (District average strand score – state average strand score) / state strand score standard deviation

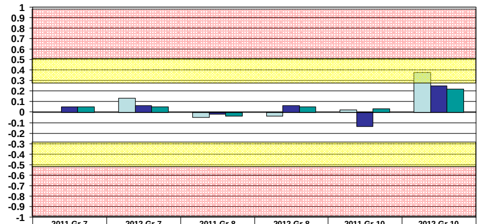
- Below are basic guidelines for interpreting the meaning of difference scores:
  - Positive difference scores indicate that the district average is higher than the state average.
  - Negative difference scores indicate that the district average is lower than the state average
  - A difference score of 0 indicates that the district average is the same as the state average
  - Difference scores of < -.5 or > .5 should be interpreted as statistically significant on their own
  - Difference scores of -.3 to -.5 or .3 to .5 should be interpreted as trends. They are not significant on their own. Districts should determine if these differences are consistent with other information before interpreting them as meaningful.
  - ***Difference scores of -.3 to .3 are statistically equivalent to difference scores of 0 and should NOT be interpreted as meaningful differences.***

MCA-II Reading Strand Scores Compared to State Averages 2011-2012 by Grade - Elementary



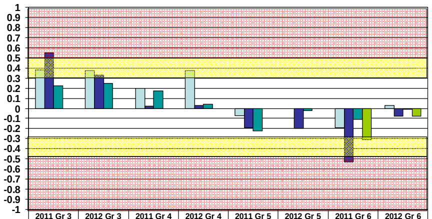
	2011 Gr 3	2012 Gr 3	2011 Gr 4	2012 Gr 4	2011 Gr 5	2012 Gr 5	2011 Gr 6	2012 Gr 6
☐ Vocabulary	0.12	0.22	-0.05	0.2	-0.06	0.29	0	0.01
■ Comprehension	0.33	0.28	-0.13	0.18	-0.25	-0.05	-0.07	0.05
■ Literature	0.26	0.32	-0.11	0.04	-0.08	-0.07	-0.15	0.11

MCA-II Reading Strand Scores Compared to State Averages 2011-2012 by Grade – High School



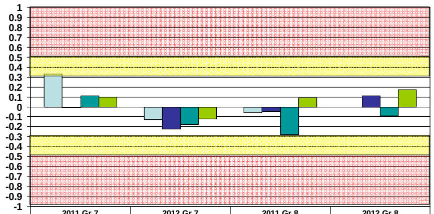
	2011 Gr 7	2012 Gr 7	2011 Gr 8	2012 Gr 8	2011 Gr 10	2012 Gr 10
☐ Vocabulary	0	0.13	-0.05	-0.04	0.02	0.38
■ Comprehension	0.05	0.06	-0.02	0.06	-0.14	0.25
■ Literature	0.05	0.05	-0.04	0.05	0.03	0.22

MCA-III Math Strand Scores Compared to State Averages 2011-2012 by Grade - Elementary



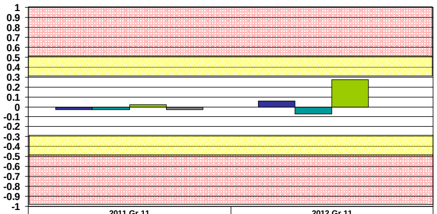
	2011 Gr 3	2012 Gr 3	2011 Gr 4	2012 Gr 4	2011 Gr 5	2012 Gr 5	2011 Gr 6	2012 Gr 6
☐ Number & Operation	0.38	0.37	0.2	0.37	-0.07	0	-0.19	0.03
■ Algebra	0.55	0.33	0.02	0.03	-0.19	-0.2	-0.53	-0.08
■ Geometry & Measurement	0.22	0.25	0.17	0.04	-0.22	-0.02	-0.11	-0.01
■ Data Analysis & Probability							-0.31	-0.08

MCA-III Math Strand Scores Compared to State Averages 2011-2012 by Grade – High School (Grades 7 and 8)



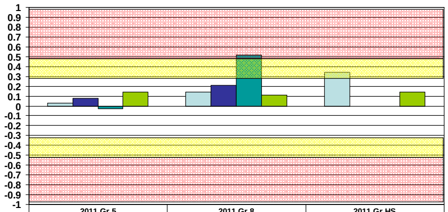
	2011 Gr 7	2012 Gr 7	2011 Gr 8	2012 Gr 8
Number & Operation	0.33	-0.13	-0.06	0
Algebra	-0.01	-0.22	-0.05	0.11
Geometry & Measurement	0.11	-0.18	-0.28	-0.09
Data Analysis & Probability	0.1	-0.12	0.09	0.17

MCA-II Math Strand Scores Compared to State Averages 2011-2012 by Grade – High School (Grade 11)



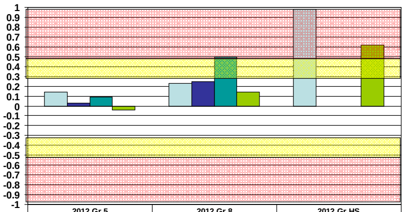
	2011 Gr 11	2012 Gr 11
Patterns, Funct & Algebra	-0.03	0.06
Data, Stats & Probability	-0.03	-0.07
Spat Sense, Geo & Meas	0.02	0.27
Mathematical Reasoning	-0.03	0

MCA-II Science Strand Scores Compared to State Averages 2011 by Grade



	2011 Gr 5	2011 Gr 8	2011 Gr HS
Hist/Nature of Science	0.03	0.14	0.34
Physical Science	0.08	0.21	
Earth and Space	-0.03	0.52	
Life Science	0.14	0.11	0.14

MCA-III Science Strand Scores Compared to State Averages 2012 by Grade



	2012 Gr 5	2012 Gr 8	2012 Gr HS
Nature & Science of Engineering	0.14	0.23	0.98
Physical Science	0.03	0.25	
Earth and Space	0.09	0.5	
Life Science	-0.04	0.14	0.62

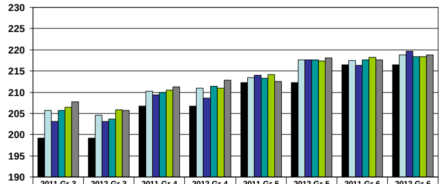
GUIDING QUESTION #3: What specific skill strengths or weaknesses do your students demonstrate based on standardized assessment results?

b. NWEA MAP Strand Scores Compared to Overall Scores

NWEA MAP Strand Scores Compared to Overall Scores

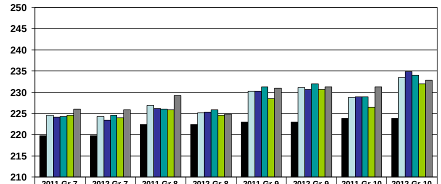
- The graphs below show overall and strand standardized RIT scores by grade for the Spring 2011 and Spring 2012 NWEA MAP Reading and Math tests.
- The standard error of measurement for RIT scores is approximately 3 RIT points. This means that a difference of fewer than 3 RIT points should not be interpreted as meaningful.
- Below is a link to a document that describes the alignment between the NWEA MAP strands and Minnesota state standards.
  - http://www.hved.org/web-content/PDFS/Minnesota%20Math,%20Reading,%20Language%20Goal%20Structure%20Chart%20V5.pdf

Spring NWEA MAP Reading Overall RIT and Strand Scores 2011-2012 by Grade - Elementary



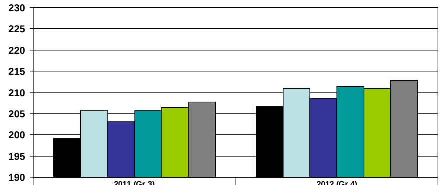
	2011 Gr 3	2012 Gr 3	2011 Gr 4	2012 Gr 4	2011 Gr 5	2012 Gr 5	2011 Gr 6	2012 Gr 6
■ National Avg Overall RIT	199.2	199.2	206.7	206.7	212.3	212.3	216.4	216.4
□ District Avg Overall RIT	205.7	204.6	210.2	211	213.4	217.7	217.5	218.8
■ Word Recog/Vocab	203.1	203.1	209.3	208.6	214	217.7	216.3	219.7
■ Compreh: Informational	205.7	203.7	209.9	211.4	213.3	217.6	217.7	218.3
■ Compreh: Narrative	206.5	205.8	210.5	210.9	214.2	217.3	218.2	218.3
■ Literature	207.7	205.7	211.3	212.9	212.5	218.1	217.6	218.8

Spring NWEA MAP Reading Overall RIT and Strand Scores 2010-2011 by Grade – High School



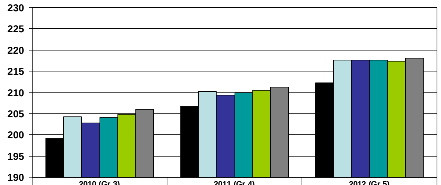
	2011 Gr 7	2012 Gr 7	2011 Gr 8	2012 Gr 8	2011 Gr 9	2012 Gr 9	2011 Gr 10	2012 Gr 10
■ National Avg. Overall RIT	219.7	219.7	222.4	222.4	222.9	222.9	223.8	223.8
□ District Avg Overall RIT	224.6	224.3	226.8	225.2	230.2	231.1	228.8	233.4
■ Word Recog/Vocab	224.1	223.4	226.1	225.3	230.2	230.7	228.9	234.8
■ Compreh: Informational	224.3	224.5	226	225.8	231.3	231.9	228.9	234
■ Compreh: Narrative	224.5	223.9	225.9	224.5	228.5	230.7	226.4	231.9
■ Literature	226	225.8	229.2	224.9	231	231.3	231.2	232.8

Spring NWEA MAP Reading Overall RIT and Strand Scores by Cohort – 2012 4th graders



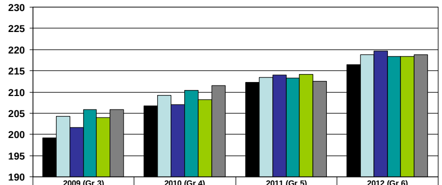
	2011 (Gr 3)	2012 (Gr 4)
■ National Avg Overall RIT	199.2	206.7
□ District Avg Overall RIT	205.7	211
■ Word Recog/Vocab	203.1	208.6
■ Compreh: Informational	205.7	211.4
■ Compreh: Narrative	206.5	210.9
■ Literature	207.7	212.9

Spring NWEA MAP Reading Overall RIT and Strand Scores by Cohort – 2012 5th graders



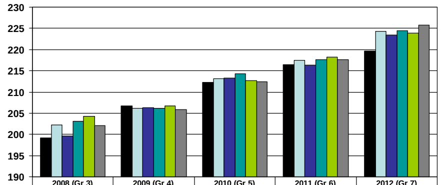
	2010 (Gr 3)	2011 (Gr 4)	2012 (Gr 5)
■ National Avg Overall RIT	199.2	206.7	212.3
□ District Avg Overall RIT	204.3	210.2	217.7
■ Word Recog/Vocab	202.8	209.3	217.7
■ Compreh: Informational	204.1	209.9	217.6
■ Compreh: Narrative	204.8	210.5	217.3
■ Literature	206	211.3	218.1

Spring NWEA MAP Reading Overall RIT and Strand Scores by Cohort – 2012 6th graders



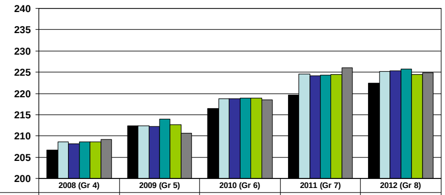
	2009 (Gr 3)	2010 (Gr 4)	2011 (Gr 5)	2012 (Gr 6)
■ National Avg Overall RIT	199.2	206.7	212.3	216.4
□ District Avg Overall RIT	204.2	209.2	213.4	218.8
■ Word Recog/Vocab	201.6	207	214	219.7
■ Compreh: Informational	205.8	210.3	213.3	218.3
■ Compreh: Narrative	203.9	208.2	214.2	218.3
■ Literature	205.8	211.5	212.5	218.8

Spring NWEA MAP Reading Overall RIT and Strand Scores by Cohort – 2012 7th graders



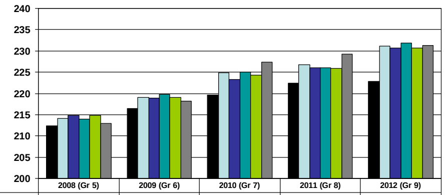
	2008 (Gr 3)	2009 (Gr 4)	2010 (Gr 5)	2011 (Gr 6)	2012 (Gr 7)
■ National Avg Overall RIT	199.2	206.7	212.3	216.4	219.7
□ District Avg Overall RIT	202.2	206.2	213.1	217.5	224.3
■ Word Recog/Vocab	199.6	206.3	213.3	216.3	223.4
■ Compreh: Informational	203.1	206.2	214.3	217.7	224.5
■ Compreh: Narrative	204.3	206.7	212.7	218.2	223.9
■ Literature	202.1	205.8	212.4	217.6	225.8

Spring NWEA MAP Reading Overall RIT and Strand Scores by Cohort – 2012 8th graders



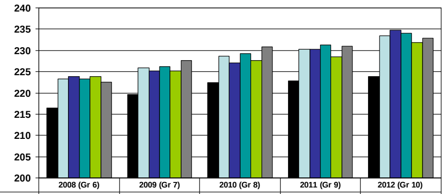
	2008 (Gr 4)	2009 (Gr 5)	2010 (Gr 6)	2011 (Gr 7)	2012 (Gr 8)
■ National Avg. Overall RIT	206.7	212.3	216.4	219.7	222.4
□ District Avg Overall RIT	208.6	212.3	218.8	224.6	225.2
■ Word Recog/Vocab	208.2	212.2	218.8	224.1	225.3
■ Compreh: Informational	208.6	214	218.9	224.3	225.8
■ Compreh: Narrative	208.6	212.6	218.9	224.5	224.5
■ Literature	209.2	210.6	218.5	226	224.9

Spring NWEA MAP Reading Overall RIT and Strand Scores by Cohort – 2012 9th graders



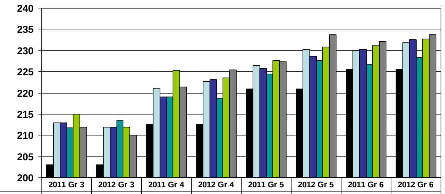
	2008 (Gr 5)	2009 (Gr 6)	2010 (Gr 7)	2011 (Gr 8)	2012 (Gr 9)
■ National Avg. Overall RIT	212.3	216.4	219.7	222.4	222.9
□ District Avg Overall RIT	214.1	219	224.9	226.8	231.1
■ Word Recog/Vocab	214.8	218.9	223.3	226.1	230.7
■ Compreh: Informational	214	219.8	225	226	231.9
■ Compreh: Narrative	214.9	219	224.3	225.9	230.7
■ Literature	212.9	218.2	227.3	229.2	231.3

Spring NWEA MAP Reading Overall RIT and Strand Scores by Cohort – 2012 10th graders



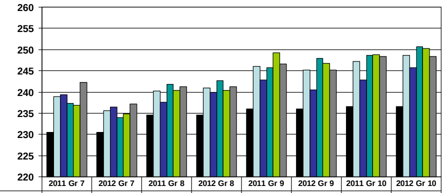
	2008 (Gr 6)	2009 (Gr 7)	2010 (Gr 8)	2011 (Gr 9)	2012 (Gr 10)
■ National Avg. Overall RIT	216.4	219.7	222.4	222.9	223.8
□ District Avg Overall RIT	223.3	225.9	228.6	230.2	233.4
■ Word Recog/Vocab	223.9	225.1	227.1	230.2	234.8
■ Compreh: Informational	223.3	226.2	229.3	231.3	234
■ Compreh: Narrative	223.8	225.2	227.6	228.5	231.9
■ Literature	222.6	227.7	230.9	231	232.8

Spring NWEA MAP Math Overall RIT and Strand Scores 2011-2012 by Grade - Elementary



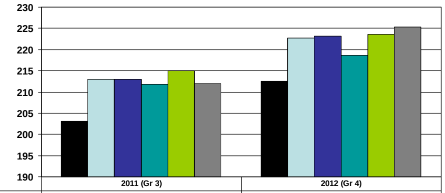
	2011 Gr 3	2012 Gr 3	2011 Gr 4	2012 Gr 4	2011 Gr 5	2012 Gr 5	2011 Gr 6	2012 Gr 6
■ National Avg Overall RIT	203.1	203.1	212.5	212.5	221	221	225.6	225.6
□ District Avg Overall RIT	213	211.9	221.1	222.7	226.4	230.2	230	231.9
■ Number & Operation	213	211.9	219.1	223.1	225.8	228.7	230.2	232.6
■ Algebra	211.8	213.5	219.1	218.7	224.4	227.7	226.7	228.4
■ Geometry & Measurement	215	212	225.3	223.6	227.7	230.9	231.1	232.7
■ Data Analysis	212	210	221.4	225.4	227.4	233.7	232.2	233.7

Spring NWEA MAP Math Overall RIT and Strand Scores 2011-2012 by Grade – High School



	2011 Gr 7	2012 Gr 7	2011 Gr 8	2012 Gr 8	2011 Gr 9	2012 Gr 9	2011 Gr 10	2012 Gr 10
■ National Avg Overall RIT	230.5	230.5	234.5	234.5	236	236	236.6	236.6
□ District Avg Overall RIT	238.9	235.6	240.2	240.9	246.1	245.1	247.2	248.7
■ Number & Operation	239.3	236.4	237.6	240	242.9	240.5	242.8	245.7
■ Algebra	237.3	233.9	241.8	242.7	245.8	247.9	248.7	250.7
■ Geometry & Measurement	236.9	234.9	240.3	240.3	249.2	246.8	248.8	250.3
■ Data Analysis	242.3	237.2	241.3	241.2	246.6	245.2	248.4	248.4

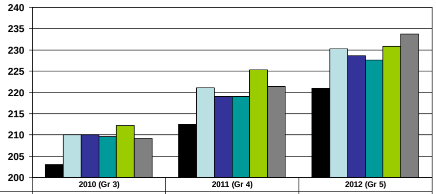
Spring NWEA MAP Math Overall RIT and Strand Scores by Cohort – 2012 4th graders



	2011 (Gr 3)	2012 (Gr 4)
■ National Avg Overall RIT	203.1	212.5
□ District Avg Overall RIT	213	222.7
■ Number & Operation	213	223.1
■ Algebra	211.8	218.7
■ Geometry & Measurement	215	223.6
■ Data Analysis	212	225.4

NOTE: Cohort strand scores only reported for 2010-2012, because strand definitions changed in 2010.

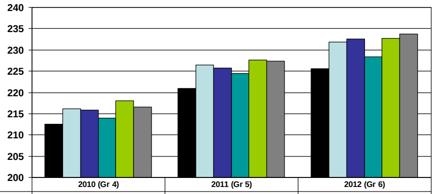
Spring NWEA MAP Math Overall RIT and Strand Scores by Cohort – 2012 5th graders



	2010 (Gr 3)	2011 (Gr 4)	2012 (Gr 5)
■ National Avg Overall RIT	203.1	212.5	221
□ District Avg Overall RIT	210.1	221.1	230.2
■ Number & Operation	210.1	219.1	228.7
■ Algebra	209.6	219.1	227.7
■ Geometry & Measurement	212.2	225.3	230.9
■ Data Analysis	209.1	221.4	233.7

NOTE: Cohort strand scores only reported for 2010-2012, because strand definitions changed in 2010.

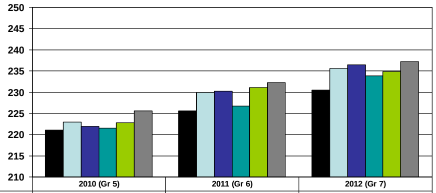
Spring NWEA MAP Math Overall RIT and Strand Scores by Cohort – 2012 6th graders



	2010 (Gr 4)	2011 (Gr 5)	2012 (Gr 6)
■ National Avg Overall RIT	212.5	221	225.6
□ District Avg Overall RIT	216.2	226.4	231.9
■ Number & Operation	215.8	225.8	232.6
■ Algebra	213.9	224.4	228.4
■ Geometry & Measurement	218	227.7	232.7
■ Data Analysis	216.6	227.4	233.7

NOTE: Cohort strand scores only reported for 2010-2012, because strand definitions changed in 2010.

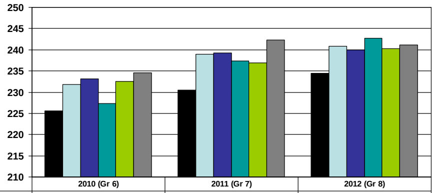
Spring NWEA MAP Math Overall RIT and Strand Scores by Cohort – 2012 7th graders



	2010 (Gr 5)	2011 (Gr 6)	2012 (Gr 7)
■ National Avg Overall RIT	221	225.6	230.5
□ District Avg Overall RIT	222.9	230	235.6
■ Number & Operation	221.9	230.2	236.4
■ Algebra	221.5	226.7	233.9
■ Geometry & Measurement	222.8	231.1	234.9
■ Data Analysis	225.5	232.2	237.2

NOTE: Cohort strand scores only reported for 2010-2012, because strand definitions changed in 2010.

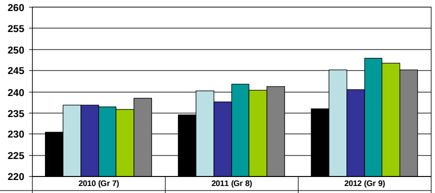
Spring NWEA MAP Math Overall RIT and Strand Scores by Cohort – 2012 8th graders



	2010 (Gr 6)	2011 (Gr 7)	2012 (Gr 8)
■ National Avg Overall RIT	225.6	230.5	234.5
□ District Avg Overall RIT	231.8	238.9	240.9
■ Number & Operation	233.1	239.3	240
■ Algebra	227.3	237.3	242.7
■ Geometry & Measurement	232.5	236.9	240.3
■ Data Analysis	234.6	242.3	241.2

NOTE: Cohort strand scores only reported for 2010-2012, because strand definitions changed in 2010.

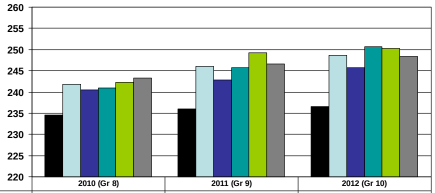
Spring NWEA MAP Math Overall RIT and Strand Scores by Cohort – 2012 9th graders



	2010 (Gr 7)	2011 (Gr 8)	2012 (Gr 9)
■ National Avg Overall RIT	230.5	234.5	236
□ District Avg Overall RIT	236.9	240.2	245.1
■ Number & Operation	236.8	237.6	240.5
■ Algebra	236.5	241.8	247.9
■ Geometry & Measurement	235.8	240.3	246.8
■ Data Analysis	238.4	241.3	245.2

NOTE: Cohort strand scores only reported for 2010-2012, because strand definitions changed in 2010.

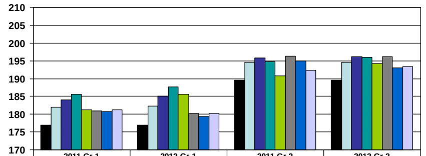
Spring NWEA MAP Math Overall RIT and Strand Scores by Cohort – 2012 10th graders



	2010 (Gr 8)	2011 (Gr 9)	2012 (Gr 10)
■ National Avg Overall RIT	234.5	236	236.6
□ District Avg Overall RIT	241.8	246.1	248.7
■ Number & Operation	240.5	242.9	245.7
■ Algebra	241	245.8	250.7
■ Geometry & Measurement	242.2	249.2	250.3
■ Data Analysis	243.3	246.6	248.4

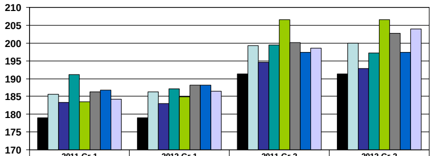
NOTE: Cohort strand scores only reported for 2010-2012, because strand definitions changed in 2010.

Spring NWEA MAP Reading Primary Overall RIT and Strand Scores 2011-2012 by Grade



	2011 Gr 1	2012 Gr 1	2011 Gr 2	2012 Gr 2
■ National Avg Overall RIT	176.9	176.9	189.6	189.6
□ District Avg Overall RIT	182	182.3	194.6	194.6
■ Phonological Awareness	184.1	185	195.8	196.2
■ Phonics	185.6	187.6	194.7	195.9
■ Concepts of Print	181.2	185.5	190.8	194.3
■ Vocabulary & Word Structure	180.9	180.3	196.4	196.2
■ Comprehension	180.7	179.3	194.9	193.1
□ Writing	181.3	180.3	192.3	193.4

Spring NWEA MAP Math Primary Overall RIT and Strand Scores 2011-2012 by Grade



	2011 Gr 1	2012 Gr 1	2011 Gr 2	2012 Gr 2
■ National Avg Overall RIT	179	179	191.3	191.3
□ District Avg Overall RIT	185.6	186.2	199.3	199.9
■ Problem Solving	183.3	183	194.6	192.8
■ Number Sense	191.1	187.2	199.5	197.2
■ Computation	183.5	184.9	206.6	206.5
■ Measurement & Geometry	186.3	188.2	200.2	202.8
■ Statistics & Probability	186.8	188.2	197.3	197.4
□ Algebra	184.2	186.4	198.6	203.9

GUIDING QUESTION #4: What are some sources of intervention resources to address these specific skill strengths and weaknesses?

- South Washington County Schools websites with games, activities and assessments tailored to NWEA MAP strand scores
  - Reading: http://www.sowashco.k12.mn.us/ro/Pages/studentlinks/map/reading.htm
  - Math: http://www.sowashco.k12.mn.us/ro/Pages/studentlinks/map/
  - Link to recorded webinar training in using this resource - http://connectpro38331668.adobeconnect.com/p29187686/
- AIR Learning Point Navigator website with teaching and learning resources linked to Minnesota standards: http://www.mnstateassessments.org/default.html
  - Link to training Power Point on using this resource - http://www.hved.org/documents/DataManagement/Learning-Point-Navigator-training-PowerPoint.pptx
  - Link to recorded webinar training in using this resource - http://mnstateassessments.org/resources/MDE_Learning_Point_Navigator/MN_LPN.htm

GUIDING QUESTION #4: What are some sources of intervention resources to address these specific skill strengths and weaknesses?

- Links to websites and databases with information regarding research-based intervention curricula and strategies: http://www.hved.org/index.php/resources/5-intervention-resources

1. Is the intervention "research-based"?

a. Five criteria for evaluating the effectiveness of any instruction or intervention (Burns et al., 2008):

- Correctly targets skills
- Includes explicit instruction
- Provides appropriate level of challenge
- Allows high opportunity to respond
- Gives students immediate feedback

Guide for using Burns et al. criteria to evaluate effectiveness of instruction

GUIDING QUESTION #4: What are some sources of intervention resources to address these specific skill strengths and weaknesses?

b. Clearinghouses for reviewing research evidence supporting effectiveness of intervention program/curriculum, or method/strategy

HVED-Specific Intervention Programs/Curricula and Methods/Strategies

- Member District Intervention Database

Intervention Programs/Curricula

- Find What Works - What Works Clearinghouse
- National Center on Response to Intervention Instructional Intervention Tools
- Best Evidence Encyclopedia

Intervention Methods/Strategies

- Intervention Central Free Tools and Resources
- Evidence-Based Network Intervention Tools, Resources and Modeling Videos
- Khan Academy Instructional Videos
- FL Center for Reading Research Elem Reading Student Activities

GUIDING QUESTION #4: What are some sources of intervention resources to address these specific skill strengths and weaknesses?

2. **If so, is enough time being allocated to deliver the intervention as intended?**
3. **Were staff sufficiently trained initially to implement the intervention as intended?**
4. **Have staff received adequate followup refresher trainings to ensure they haven't drifted in their implementation of the intervention?**
5. **Are periodic fidelity checks being conducted to monitor whether the intervention is being implemented as intended?**

Intervention Integrity Resources

- Checklists for monitoring intervention integrity

Contact information

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Update on DSM 5 Changes

Ryan Byrne, M.D.

Medical College of Wisconsin

Kathleen Koth, D.O.

Medical College of Wisconsin

Peggy Scallon, M.D.

UW School of Medicine and Public Health

Thank you for inviting us!!

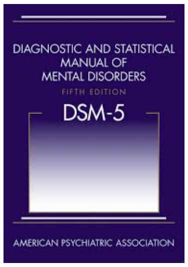
- We are grateful for the chance to speak with Wisconsin's school psychologists!
- The important role of mental health knowledge in schools

Overview of lecture

- We will review the DSM 5 changes in the order that they appear in the manual.
- None of us have financial disclosures to report

We are all here for kids

DSM -5


DIAGNOSTIC AND STATISTICAL
MANUAL OF
MENTAL DISORDERS
FIFTH EDITION
DSM-5
AMERICAN PSYCHIATRIC ASSOCIATION

DSM 5- Process of development

- DSM 5 published in May 2013
- A joint effort of the APA, NIMH and WHO
- The product of 5+ years of intensive work (2007-12)
- 300 international experts
- 13 workgroups and 6 study groups.
- Assessed and analyzed data and made updates
- Lots of controversy. Little transparency

The History of the DSM

History of DSM

- DSM I (Diagnostic and Statistical Manual of Mental Disorders) was published in 1952.
- DSM I was influenced by the US Army and VA in order to classify servicemen post WWII
- DSM undergone 5 major revisions
- DSM III (1980) first to use diagnostic criteria- a bestseller!
- DSM IV was published in 1994
- DSM has reflected cultural beliefs and impacted attitudes and trends related to mental health issues

Why change from the DSM IV ?

- High use of NOS category
- Some classifications no longer fit
- Wanted to integrate new data and findings

DSM 5 Goal

- Wanted to make it a "living document"
- Anticipate frequent updates (every 2 years?)
- Want it to advance with the state of research
- The name is DSM 5 (not DSM V) in order to title future updates (DSM 5.1)
- DSM 5 tried to emphasize a dimensional, rather than categorical, perspective
- Reliability (consistency) & validity (accuracy, meaning)

Why classify?

- To see patterns
- To identify relationships
- To communicate, using the same language
- To stimulate the search for explanations
- To enhance recall
- To improve understanding of diagnosis and accurate prognosis
- Naming something enhances sense of control, and decreases isolation

In the DSM 5, no Multi-Axial system, and no "NOS" diagnoses

- Multi-Axial system was too psychiatry specific (not understood by medical colleagues)
- The Multi-Axial system implied that psychiatric diagnosis is different from medical diagnosis
- In DSM 5, Axes I, II, and III all got folded together
- "Not Otherwise Specified (NOS)" diagnoses no longer exist in DSM 5. "Other Specified" or "Unspecified" diagnoses may replace NOS.

Overview of our DSM 5 review-Thursday

- Autistic Spectrum Disorders
- Intellectual Disability
- Specific Learning Disability
- ADHD
- Schizophrenia and other Psychotic Disorders
- Depressive Disorders
- Anxiety Disorders
- Obsessive-Compulsive and Related Disorders

Overview of DSM 5 review-Friday

- Trauma and Stressor-Related Conditions
- Somatic Symptom and Related Disorders
- Eating Disorders
- Sleep-Wake Disorders
- Sexual Dysfunctions
- Gender Dysphoria
- Disruptive, Impulse Control and Conduct Disorders

Overview of DSM 5 review-Friday (continued)

- Substance Related and Addictive Disorders
- Major and Mild Neuro-cognitive Disorders
- Personality Disorders
- Paraphilic Disorders
- Movement Disorders
- Other
- Wrap-up

Neurodevelopment Disorders

Intellectual Disability

Communication Disorders

Autism Spectrum Disorders

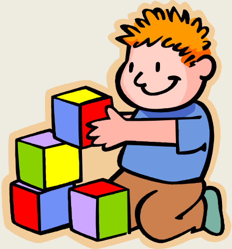
Specific Learning Disorders

Attention Deficit Hyperactivity Disorder

Developmental Coordination Disorder

Stereotypic Movement Disorder

Tic Disorders



Onset is in the “Developmental Period”

These change the trajectory of development

Pervasive Developmental Disorders (PDD) are now Autism Spectrum Disorders (ASD)

-Rett’s syndrome and Childhood Disintegrative Disorder have been removed

-For autism all the previous diagnosis have been merged into one, behaviorally defined disorder

-Three diagnostic domains are now two

-For others where there is an etiologic subtype are described with the qualifiers: **Associated with Known Medical or Genetic Condition or Environmental Factor**

Single Autism Diagnosis

But continues to recognize variability within

Autism Spectrum Disorder

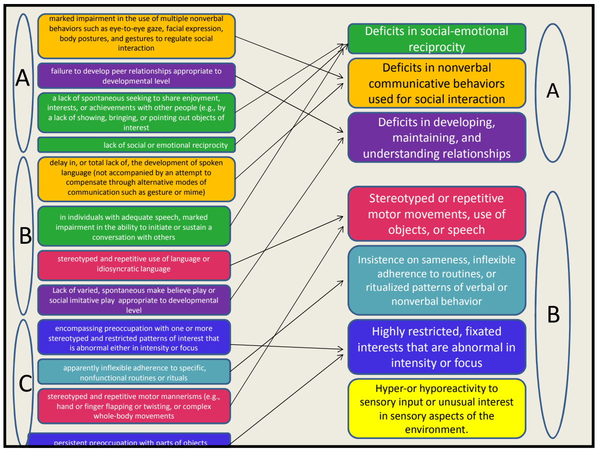
A. **Persistent deficits in social communication and social interaction across multiple contexts, as manifested by the following, currently or by history:**
   1. Deficits in social-emotional reciprocity
   2. Deficits in nonverbal communicative behaviors used for social interaction
   3. Deficits in developing, maintaining, and understanding relationships

B. **Restricted, repetitive patterns of behavior, interests, or activities, as manifested by at least two of the following, currently or by history:**
   1. Stereotyped or repetitive motor movements, use of objects, or speech
   2. Insistence on sameness, inflexible adherence to routines, or ritualized patterns of verbal or nonverbal behavior
   3. Highly restricted, fixated interests that are abnormal in intensity or focus
   4. Hyper-or hypo-reactivity to sensory input or unusual interest in sensory aspects of the environment.

C. **Symptoms must be present in the early developmental period** (but may not become fully manifest until social demands exceed limited capacities, or may be masked by learned strategies later in life).

D. **Symptoms cause clinically significant impairment in social, occupational, or other important areas of current functioning.**

E. **These disturbances are not better explained by intellectual disability or global developmental delay.** Intellectual disability and autism spectrum disorder frequently co-occur; to make co-morbid diagnoses of autism spectrum disorder and intellectual disability, social communication should be below that expected for general developmental level.



A

marked impairment in the use of multiple nonverbal behaviors such as eye-to-eye gaze, facial expression, body postures, and gestures to regulate social interaction

failure to develop peer relationships appropriate to developmental level

a lack of spontaneous seeking to share enjoyment, interests, or achievements with other people (e.g., by a lack of showing, bringing, or pointing out objects of interest

lack of social or emotional reciprocity

B

delay in, or total lack of, the development of spoken language (not accompanied by an attempt to compensate through alternative modes of communication such as gesture or mime)

in individuals with adequate speech, marked impairment in the ability to initiate or sustain a conversation with others

stereotyped and repetitive use of language or idiosyncratic language

Lack of varied, spontaneous make believe play or social imitative play appropriate to developmental level

C

encompassing preoccupation with one or more stereotyped and restricted patterns of interest that is abnormal either in intensity or focus

apparently inflexible adherence to specific, nonfunctional routines or rituals

stereotyped and repetitive motor mannerisms (e.g., hand or finger flapping or twisting, or complex whole-body movements

persistent preoccupation with parts of objects

A

Deficits in social-emotional reciprocity

Deficits in nonverbal communicative behaviors used for social interaction

Deficits in developing, maintaining, and understanding relationships

B

Stereotyped or repetitive motor movements, use of objects, or speech

Insistence on sameness, inflexible adherence to routines, or ritualized patterns of verbal or nonverbal behavior

Highly restricted, fixated interests that are abnormal in intensity or focus

Hyper-or hyporeactivity to sensory input or unusual interest in sensory aspects of the environment.

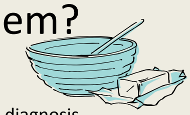
Specify if:

-Use modifiers to indicate issues that are co morbid or play a role:

-With or without intellectual impairment
-With or without structural language impairment
-Associations with known medical disorder, genetic disorder, or environmental factor
-Associations with known other neuro-developmental, mental, or behavioral disorder (now with ADHD, catatonia, etc)
-With catatonia

Severity Level	Social Communication	Restricted, repetitive behaviors
Level 3: 'Requiring very substantial support'	Severe deficits in verbal and nonverbal social communication skills cause **severe impairments in functioning**; very limited initiation of social interactions and minimal response to social overtures from others.	Inflexibility of behavior, extreme difficulty coping with change, or other restricted/repetitive behaviors **markedly interfere with functioning in all spheres**. Great distress/difficulty changing focus or action.
Level 2: 'Requiring substantial support'	**Marked deficits** in verbal and nonverbal social communication skills; **social impairments apparent even with supports in place**; limited initiation of social interactions and reduced or abnormal response to social overtures from others.	Inflexibility of behavior, difficulty coping with change, or other restricted/repetitive behaviors appear frequently **enough to be obvious to the casual observer** and interfere with functioning in a variety of contexts. Distress and/or difficulty changing focus or action.
Level 1: 'Requiring support'	**Without supports in place, deficits in social communication cause noticeable impairments**. Has difficulty initiating social interactions and demonstrates clear examples of atypical or unsuccessful responses to social overtures of others. May appear to have decreased interest in social interactions.	Inflexibility of behavior causes **significant interference with functioning in one or more contexts**. Difficulty switching between activities. Problems of organization and planning hamper independence.

Why Combine Them?



Scientific Validity

-Lack of sensitivity and specificity between diagnosis
-Lack of history around early speech leads one to use current language as the measure (language is trainable)
-When Verbal IQ is controlled for there is an overlap in samples between categories
-Recognition that 'social' and 'communication' were one set of symptoms

Access for Services

-Many states deny services for Asperger's and PDD NOS

The JAMA Network

From: **A Multisite Study of the Clinical Diagnosis of Different Autism Spectrum Disorders**

Arch Gen Psychiatry. 2012;69(3):306-313. doi:10.1001/archgenpsychiatry.2011.148

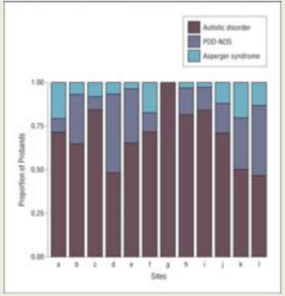


Figure 1. Best-estimate clinical diagnoses across 12 university-based sites (ie, autism service providers) for 2102 probands assigned to 3 autism spectrum disorder diagnostic categories (autistic disorder, Asperger syndrome, and pervasive developmental disorder–not otherwise specified [PDD-NOS]).

Date of download: 8/23/2013 Copyright © 2012 American Medical Association. All rights reserved.

DSM-5 Criteria Maybe MORE Sensitive

More higher functioning impairments included, including:

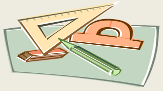
-Failure to develop peer relationships and abnormal social play now reads difficulties adjusting behavior to suit different social context.

No longer must have symptoms before age 3

-Symptoms must begin in "early childhood"
-Caveat that symptoms may not be fully manifest until social demands exceed capacity

Supported thus far in diagnosis of toddlers on the spectrum. (Guthrie et all, 2013)

Intellectual Disabilities
(Intellectual Developmental Disorders)



Changes include:

-Title from Mental Retardation to Intellectual Disability

-Emphasis of importance of **functioning** rather than IQ score

-Keeps the same severity levels, but changes the criteria for them from IQ score to three adaptive domains: **social, practical, and conceptual**

Intellectual Disabilities

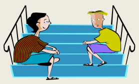
A. Deficits in intellectual functions, such as reasoning, problem solving, planning, abstract thinking, judgment, and academic learning and learning from experience, confirmed by both clinical assessment and individualized, standardized intelligence testing.

B. Deficits in adaptive functioning that result in failure to meet developmental and socio-cultural standards for personal independence and social responsibility. Without ongoing support, the adaptive deficits limit functioning in one or more activities of daily life, such as communication, social participation, and independent living, and across multiple environments, such as home, school, work, and recreation.

C. Onset of intellectual and adaptive deficits during the developmental period.

Intellectual Disabilities

Severity Domains:



-Conceptual or Academic – competency in memory, language, reading, writing, math, acquisition of practical knowledge, problems solving, and judgment in novel situations

-Social – awareness of others' thoughts, feelings, and experiences including empathy, interpersonal communication skills, friendship abilities, and social judgment

-Practical – self management skills across settings including ADLs, money management, recreation, self-management of behavior, job responsibilities

No longer any IQ criteria for these domains

Severity Level	Conceptual Domain	Social Domain	Practical Domain
Mild	For preschool children, there may be no obvious conceptual differences. For **school-age children and adults, there are difficulties in learning academic skills** involving reading, writing, arithmetic, time, or money, with support needed in one or more areas to meet age-related expectations**. In adults, abstract thinking, executive function** (i.e., planning, strategizing, priority setting, and cognitive flexibility), and **short-term memory, as well as functional use of academic skills** (e.g., reading, money management), are impaired. There is a **somewhat concrete approach** to problems and solutions compared with age-mates.	Compared with typically developing age-mates, the individual is **immature in social interactions**. For example, there may be **difficulty in accurately perceiving peers' social cues**. Communication, conversation, and language are more concrete or immature than expected for age. There may be **difficulties regulating emotion and behavior in age-appropriate fashion**; these difficulties are **noticed by peers** in social situations. There is limited understanding of risk in social situations**; social judgment is immature for age, and the person is at risk of being manipulated by others** (gullibility).	The individual may function age-appropriately in personal care. Individuals **need some support with complex daily living tasks in comparison to peers**. In adulthood, **supports typically involve grocery shopping, transportation, home and child-care organizing, nutritious food preparation, and banking and money management**. Recreational skills resemble those of age-mates, although judgment related to well-being and organization around recreation requires support. In adulthood, competitive employment is often seen in jobs that do not emphasize conceptual skills. Individuals generally need support to make health care decisions and legal decisions, and to learn to perform a skilled vocation competently. Support is typically needed to raise a family.

Severity level	Conceptual domain	Social domain	Practical domain
Moderate	All through development, the individual's conceptual skills lag markedly behind those of peers. For **preschoolers, language and pre-academic skills develop slowly**. For **school-age children, progress in reading, writing, mathematics, and understanding of time and money occurs slowly** across the school years and is markedly limited compared with that of peers. **For adults, academic skill development is typically at an elementary level,** and support is required for all use of academic skills in work and personal life. **Ongoing assistance on a daily basis is needed to complete conceptual tasks of day-to-day life**, and others may take over these responsibilities fully for the individual.	The individual shows marked differences from peers in social and communicative behavior across development. **Spoken language is typically a primary tool for social communication** but is much less complex than that of peers. Capacity for relationships is evident in ties to family and friends, and the individual may have successful friendships across life and sometimes romantic relations in adulthood. However, **individuals may not perceive or interpret social cues accurately**. **Social judgment and decision-making abilities are limited**, and caretakers **must assist the person with life decisions**. Friendships with typically developing peers are often affected by communication or social limitations. **Significant social and communicative support is needed in work settings for success.**	The **individual can care for personal needs** involving eating, dressing, elimination, and hygiene as an adult, although an **extended period of teaching and time is needed for the individual to become independent in these areas, and reminders may be needed**. Similarly, participation in all household tasks can be achieved by adulthood, although an extended period of teaching is needed, and ongoing supports will typically occur for adult-level performance. Independent employment in jobs that require limited conceptual and communication skills can be achieved, but **considerable support from co-workers, supervisors, and others is needed to manage social expectations, job complexities, and ancillary responsibilities** such as scheduling, transportation, health benefits, and money management. A variety of recreational skills can be developed. These typically require additional supports and learning opportunities over an extended period of time. Maladaptive behavior is present in a significant minority and causes social problems.

Severity level	Conceptual domain	Social domain	Practical domain
Severe	Attainment of **conceptual skills is limited**. The individual generally has **little understanding of written language** or of concepts involving numbers, quantity, time, and money. **Caretakers provide extensive supports for problem solving** throughout life.	**Spoken language** is quite **limited in terms of vocabulary and grammar**. Speech may be single words or phrases and may be supplemented through augmentative means. Speech and communication are focused on the here and now within everyday events. Language is used for social communication more than for explication. **Individuals understand simple speech and gestural communication**. Relationships with family members and familiar others are a source of pleasure and help.	The individual **requires support for all activities of daily living**, including meals, dressing, bathing, and elimination. The individual **requires supervision at all times**. The individual **cannot make responsible decisions regarding well-being of self or others**. **In adulthood, participation in tasks at home, recreation, and work requires ongoing support and assistance**. Skill acquisition in all domains involves long-term teaching and ongoing support. Maladaptive behavior, including self-injury, is present in a significant minority.

Severity level	Conceptual domain	Social domain	Practical domain
Profound	**Conceptual skills generally involve the physical world rather than symbolic processes**. The individual may use objects in goal-directed fashion for self-care, work, and recreation. **Certain visuo-spatial skills**, such as matching and sorting based on physical characteristics, **may be acquired.** However, co-occurring motor and sensory impairments may prevent functional use of objects.	The individual has **very limited understanding of symbolic communication in speech or gesture**. He or she may understand some simple instructions or gestures. The individual **expresses his or her own desires and emotions largely through nonverbal, non-symbolic communication**. The individual enjoys relationships with well-known family members, caretakers, and familiar others, and initiates and responds to social interactions through gestural and emotional cues. Co-occurring sensory and physical impairments may prevent many social activities.	The individual is **dependent on others for all aspects of daily physical care, health, and safety,** although he or she may be able to participate in some of these activities as well. Individuals without severe physical impairments may assist with some daily work tasks at home, like carrying dishes to the table. **Simple actions with objects may be the basis of participation in some vocational activities with high levels of ongoing support**. Recreational activities may involve, for example, enjoyment in listening to music, watching movies, going out for walks, or participating in water activities, all with the support of others. Co-occurring physical and sensory impairments are frequent barriers to participation (beyond watching) in home, recreational, and vocational activities. Maladaptive behavior is present in a significant minority.

Learning Disorders

Merged four previous subcategories into one

Minimum age changed

-should be evident during school years but may become evident when demands exceed capacity

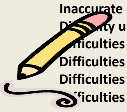
Added: must be persistent and resistant to intervention

Low Academic Achievement – now defined as substantially below average according to standardized assessment for age, education, and culture.

-excludes need for discrepancy between IQ and academic achievement

Excludes diagnosis in presence of intellectual disability

Specific Learning Disorder



A. Difficulties learning and using academic skills, as indicated by the presence of at least one of the following symptoms that have persisted for at least 6 mos, despite provision of interventions that target the difficulties:

Inaccurate or slow and effortful word reading
Difficulty understanding the meaning of what is read
Difficulties with spelling
Difficulties with written expression
Difficulties mastering number sense, number facts, or calculation
Difficulties with mathematical reasoning

B. The affected academic skills are substantially and quantifiably below those expected for the individual's chronological age, based on appropriate standardized measures, and cause significant interference with academic or occupational performance or with activities of daily living.

C. The learning difficulties begin during school-age years but may not become fully manifest until learning demands exceed the individual's limited capacities.

D. The learning difficulties are not better accounted for by: intellectual disabilities, global developmental delay, uncorrected visual or auditory acuity, other mental or neurological disorders, psychosocial adversity, lack of proficiency in the language of academic instruction, or inadequate educational instruction.

Learning Disorder Specifiers:

Code all that are applicable:

With impairment in reading
With impairment in written expression
With impairment in mathematics

Mild, Moderate, severe

Communication Disorders

- Language Disorder

(Note: no longer subtypes of "Expressive" and "Mixed Expressive-Receptive")

- Speech Sound Disorder
- Childhood-Onset Fluency Disorder (Stuttering)
- Social (Pragmatic) Communication Disorder
- Unspecified Communication Disorder

Social (Pragmatic) Communication Disorder

1) Persistent difficulties in the social use of verbal and nonverbal communication as manifest by deficits in all of the following:
- Deficits in using communication for social purposes, in a manner that is appropriate for the social context
- Impairment in the ability to change communication to match context or the needs of the listener
- Difficulties following rules for conversation and storytelling
- Difficulties understanding what is not explicitly stated

2) Deficits result in functional limitations in effective communication, social participation, social relationships, academic achievement, or occupational performance.

3) Deficits must be present in the early developmental period, but may not become fully manifest until social communication demands exceed limited capacities.

4) Deficits are not better explained by autism spectrum disorder, intellectual disability (intellectual development disorder), global developmental delay, or another mental disorder or medical condition.

ADHD

-Symptoms before age 12

-Adults need five of both inattentive and hyperactive/impulsive symptoms to get the diagnosis

-No more exclusion of the diagnosis of ADHD when Autism Spectrum Disorder is present

-Specify:

-Combined Presentation
-Predominately inattentive presentation
-Predominantly hyperactive/impulsive presentation

-In partial remission

-Mild, Moderate, severe

-Other Specified ADHD
-Unspecified ADHD

Motor Disorders

Developmental Coordination Disorder

Stereotypic Movement Disorder

Specify: with or without self injurious behavior
Specify: associated with a known medical or genetic condition,
  neuro-developmental disorder or environmental factor ie Lesch-Nyhan
Specify: current severity: mild, Moderate, severe

Tic Disorders

Tourette's Disorder
Persistent (Chronic) Motor or Vocal Tic Disorder
Provisional Tic Disorder
Other Specific Tic Disorder
Unspecified Tic Disorder

Other Neurodevelopmental Disorders

Other Specified Neurodevelopmental Disorder

-Symptoms characteristic of a neurodevelopmental disorder that cause impairment in social, occupational, or other important areas of functioning but do not meet full criteria for any of the disorders in this chapter

-The other use is when the clinician chooses to communicate the specific reason that the presentation does not meet the criteria by following this diagnosis by a specifier. "neurodevelopmental disorder associated with prenatal alcohol exposure"

Unspecified Neurodevelopmental Disorder

- Do not meet the criteria and the clinician chooses not to specify the reason including that there is insufficient information to make a more specific diagnosis at that time.

Elimination Disorders

New chapter of its own in the manual after feeding and eating disorders

No significant changes in the diagnosis, just moved out of chapter for first diagnosed in infancy, childhood, or adolescence.

Enuresis
Encopresis
Other Specified Elimination Disorder
Unspecified Elimination Disorder

Chapter:
Schizophrenia Spectrum and other Psychotic Disorders

Schizophrenia

-eliminated special attribution of bizarre delusions or Schneiderian
-added that patient must have at least one of the following:
  delusions, hallucinations, and disorganized speech

-eliminated subtypes (paranoid, disorganized, cationic, undifferentiated, and residual)

-section III includes a dimensional approach of severity rating for all in this spectrum

Specify:
- First Episode, currently in acute episode
- First Episode, currently in partial remission
- First Episode, Currently in full remission
- Multiple Episodes, currently in acute episode
- Multiple Episodes, currently in partial remission
- Multiple Episodes, Currently in full remission
- Continuous
- Unspecified
- With catatonia

Schizoaffective

-Addition that a major mood episode be present for a majority of the disorder's total duration after Criteria A are meet

Delusional Disorder

-Eliminate that delusions must be non bizarre
-Addition – symptoms may not be better explained by OCD or body dysmorphic disorder
-Eliminate the separation with shared delusional disorder
-Specifiers:
  Erotomanic type
  Grandiose type
  Jealous type
  Persecutory type
  Somatic type
  Mixed type
  Unspecified type

Specify if : with bizarre content
Specify with episode first or multiple and with current state as in schizophrenia

Brief Psychotic Disorder

Unchanged

Schizophreniform Disorder

Unchanged

Schizophrenia Cont

Catatonia

-Same criteria is now used no matter whether the context is psychosis, mood, or medical related. Specifiers are used for these
-All require three symptoms

Substance/Medication Induced Psychotic Disorder

While there are only two codes in ICD-9 for this (291.9 for alcohol and 292.9 for all other substances) in ICD-10 there are separate codes for each substance

Specifiers: With use disorder, mild
  With use disorder, moderate to severe
  Without use disorder
    ICD -10 codes change for each substance with each of these

Specify if: With onset during intoxication
  With onset during withdrawal
Specify current severity

Psychotic Disorder due to Another Medical Condition
Other Specified Schizophrenic Spectrum and Other Psychotic Disorder
Unspecified Schizophrenic Spectrum and Other Psychotic Disorder

End of the Chapter Diagnosis:

Psychotic Disorder due to Another Medical Condition

Other Specified Schizophrenic Spectrum and Other Psychotic Disorder

Unspecified Schizophrenic Spectrum and Other Psychotic Disorder

Depressive Disorders

Four Significant changes in Depressive Disorders

- Added Disruptive Mood Dysregulation Disorder
- Elimination of the Bereavement Specifier
- Name change from Dysthymia to Persistent Depressive Disorder
- Added Premenstrual Dysphoric Disorder

DMDD

- A new diagnosis in the Depressive Disorders category of DSM 5
- Expressly developed to stop the over-diagnosis of pediatric bipolar disorder in children, and to decrease the prescribing of atypical antipsychotics to these kids
- 40-fold increase in the pediatric bipolar disorder diagnosis in past 18 years for many reasons

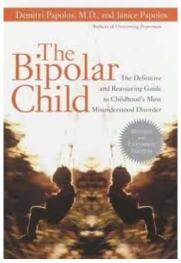
Why the huge increase in the pediatric bipolar disorder diagnosis?

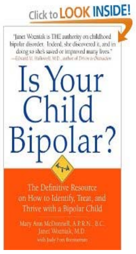
- Researchers in the field were being compensated by pharmaceutical companies who sell atypical antipsychotics
- Shorter office visits with psychiatrists
- Lack of resources for the therapies these kids need
- Blurred use of the criteria for bipolar disorder in kids (eg. grandiosity, racing thoughts).
- Disregard for the time criteria for bipolar disorder (4 days-hypomania, 7 days-mania). "A broad phenotype"

Why the huge increase in the pediatric bipolar disorder diagnosis?

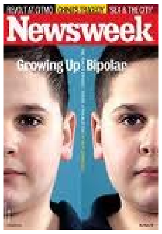
- Well-intentioned reasons as well, there is a wish to de-stigmatize psychiatric disorders
- NAMI, a patient advocacy group, for example, is largely funded by pharmaceutical companies, and often supports a biological model of illness
- Resulted in a "reductionistic" approach to treating serious pediatric behavioral and mood disorders
- And many other media, marketing, cultural and familial trends

Books for parents: "The Bipolar Child" and others


Demitri Papolos, M.D., and Janice Papolos
The Bipolar Child
The Definitive and Reassuring Guide to Childhood's Most Misunderstood Disorder


Click to LOOK INSIDE!
Is Your Child Bipolar?
The Definitive Resource on How to Identify, Treat, and Thrive with a Bipolar Child

The effect of the media


Newsweek
Growing Up Bipolar

CNN
Bipolar child: 'Nobody on my side'

TIME
YOUNG AND BIPOLAR

Marketing practices: atypical antipsychotic medications

These medications have been heavily marketed to physicians and patients

Confusion about pediatric bipolar disorder

- As a result, the diagnosis of pediatric bipolar disorder has become over-used, misunderstood, and confusing for clinicians, patients and the public

Credibility flaws in the pediatric bipolar disorder diagnosis

- Has not been described historically.
- Hard to distinguish from normal development (ex. grandiosity, euphoria)
- Considerable overlap with other disorders.
- Described almost exclusively in the US.
- The validity of this diagnosis is not holding up over time. Falling apart with further studies and scrutiny.
- Thought leaders couldn't agree: "irritability vs. euphoria"

Irritability much more common than mania in kids

- DSM 5 work groups had to decide how to classify severe, chronic irritability in kids
- Chronic irritability in children is common, but mania is very rare.
- Chronically irritable kids (without discrete episodes of mania) do not meet criteria for bipolar disorder.

DSM 5 work-group deliberations

- The DSM 5 work group created the new DMDD diagnosis, to describe kids with severe chronic irritability and frequent, severe tantrums, and placed DMDD in the Depressive Disorders category
- DMDD has elements of ODD, ADHD, anxiety and depression
- In follow-up studies, kids with severe, chronic irritability go on to have depressive and anxiety disorders

Bipolar Disorder- DSM 5

- The bipolar disorder diagnosis requires an ***episode*** of mania lasting at least one week, and present most of the day, nearly every day –DSM 5
- The "non-episodic" language describing DMDD is significant, and contrasts with the bipolar disorder criteria.
- DSM 5 explicitly emphasized that the mood symptoms in bipolar disorder are episodic.

DMDD-Diagnostic Criteria

A. DMDD- persistent, severe, non-episodic irritability; and frequent episodes of extreme behavioral dys-control

B. And severe recurrent temper outbursts, grossly out of proportion to the situation or provocation.

C. The temper outbursts are inconsistent with developmental level

DMDD Diagnostic Criteria

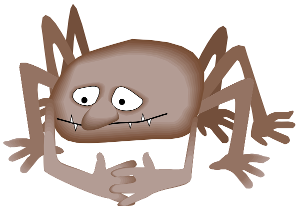
C. The temper outbursts occur three or more times per week.

D. Irritable mood most of the day, nearly every day, observable by others

E. The age at onset is before 10 years, but the diagnosis should not be made before age 6, or after age 18.

F. Impairment from DMDD is often severe, and the frequency of hospitalization is comparable to that in bipolar disorder

Anxiety Disorder



Major Chapter Changes:

Anxiety disorders: no longer includes OCD which is in its own grouping
no longer includes PTSD which is in its own grouping

However these related chapters are grouped closely together to signify their close relationships with each other

Separation Anxiety Disorder

Moved from former Disorders First Diagnosed in Infancy, Childhood, or Adolescence.

Largely Unchanged

Added: some wording has been changed to more adequately represent the expression of separation anxiety in adulthood

-Attachment figure can be children of an adult with separation anxiety

-Avoidance behaviors can be evident at the workplace and school

Eliminated: No longer must be before 18 yo

Added: Duration criteria – typically lasing 6 months or longer to minimize transient fears.

Selective Mutism

Move from former Disorders First Diagnosed in Infancy, Childhood, or Adolescence.

Diagnostic criteria largely unchanged

Specific Phobia

Core features unchanged

Eliminated the need for people 18yo or older to recognize that fear and anxiety are excessive or unreasonable

Added – Duration requirement no applies to all ages (6 months or longer)

Individual types of specific phobias are specifiers:
Animal
Natural environment
Blood-injection-injury (in ICD-9 300.29 but in IDC-10 will be F40.23 fear of blood, F40.231 fear of injections and transfusions, F40.232 fear of other medical care, F40.233 fear of injury)
Situational
Other (for ICD-10 code all that apply)

Social Anxiety Disorder

formerly Social Phobia

Eliminate – that people over 18 must recognize fear and anxiety as excess or unreasonable

Added - all ages must have symptoms for 6 months or longer

Eliminate – the Generalized specifier

Added – Performance specifier: If fear is restricted to speaking or performing in public

Panic Disorder

Unlinked from Agoraphobia

Criterion A. Recurrent unexpected panic attacks.

Panic Attack Specifier

-Criteria are for the purpose of defining a panic attack
-NOT a coded mental disorder
-Can be added to any mental disorder (mood, anxiety, PTSD, etc)
-Can be expected or unexpected
  eliminate the previous different types of panic attacks

Agoraphobia

Separate from panic

Recognized that large number of people with agoraphobia do not have panic

Added – endorsement of fears from two or more agoraphobia situations required

Added – some criteria that makes it more in line with other anxiety disorders

ie. clinician judgment of the fears as being out proportion to the actual danger, with typically a 6 month or more duration.

Generalized Anxiety Disorder

Unchanged

Substance/medication-Induced Anxiety Disorder

IDC-9: all coded 292.89
ICD-10: various codes for different substances and meds

Specifiers:
  with onset during intoxication
  with onset during withdrawal
  with onset during medication use

Anxiety Disorder Due to Another Medical Condition
Other Specified Anxiety Disorder
Unspecified Anxiety Disorder

Introducing a new chapter:

Obsessive- Compulsive and Related Disorders

Obsessive-Compulsive Disorder

Largely unchanged

-Added –with good or fair insight
  -with poor insight
  -with absent insight/delusional

-Added – tic related specifier
  current or past history of tic disorder

Body Dysmorphic Disorder

Now in this chapter

Specifier : “with muscle dysmorphia” has been added
reflects growing literature on the diagnostic validity and clinical utility of this distinction
Specifiers: with good or fair insight
-with poor insight
-with absent insight/delusional

In DSV-IV this was correctly coded as both BDD and a delusional disorder

In DSM-5 it is coded as BDD only with the absent insight/delusional beliefs specifier

Hoarding Disorder

A. Persistent Difficulty discarding or parting with possessions, regardless of their actual value.
B. This difficulty is due to a perceived need to save the items and to distress associated with discarding them.
C. The difficulty discarding possessions results in the accumulation of possessions that congest and clutter active living areas and substantially compromises their intended use.
D. The hoarding causes clinically significant distress or impairment
E. The hoarding is not attributable to other medical condition (Prader-Willi)
F. The hoarding is not better explained by another mental disorders

Specify if :
With excessive acquisition
With good/fair insight,
With poor insight or
With absent insight/delusional beliefs.

Trichotillomania (Hair-Pulling Disorder)

Hair loss does not need to be noticeable

Tension and gratification (criterian B&C) are gone.

Excoriation (Skin-Picking) Disorder

A. Recurrent skin picking resulting in skin lesions
B. Repeated attempts to decrease or stop skin picking
C. The skin picking causes clinically significant distress or impairment in social, occupational, or other areas of functioning
D. The skin picking is not attributable to the physiological effects of a substance
E. The skin picking is not better explained by other mental disorder

End of the chapter additions - OCD

Substance/medication induced obsessive-compulsive and related disorder
Again coding will change with ICD-10
Specifiers for onset during intoxication, withdrawal or after medication use

Obsessive- compulsive and related disorder due to another medical condition

Other Specified obsessive-compulsive and related disorder

Unspecified obsessive-compulsive and related disorder

Trauma and Stressor Related Disorders

Trauma and Stressor Related Disorders

- A new chapter in DSM 5 which includes PTSD, Acute Stress Disorder, Reactive Attachment Disorder, Disinhibited Social Engagement Disorder, Adjustment Disorders. All have the presence of a stressor or a trauma
- PTSD now specifically includes pre-school and older children, and recognizes their symptoms from a developmental perspective. Will help with recognition of PTSD and trauma in kids

PTSD

- DSM 5 identifies 4 domains of PTSD (expanded from 3 in the DSM IV):
- 1) exposure to trauma, 2) intrusive re-experiencing, 3) avoidance of stimuli associated with the trauma, 4) negative cognitions and mood associated with the trauma (#4 is new)
- Specifier about "dissociative symptoms" (depersonalization, derealization)
- Removed the subjective emotional reaction to the trauma

PTSD in young children

- New, developmental criteria recognizes that repetitive play may include themes of the trauma
- It is likely that the child does not verbally associate hyper-arousal symptoms to the trauma.
- Irritability, temper tantrums, physical aggression, poor sleep, poor concentration, poor behavior, or relationship disturbances may be the observable symptoms that result from trauma

Reactive Attachment Disorder

Reactive Attachment Disorder

- DSM 5 abandoned previous "inhibited and dis-inhibited" RAD subtypes and re-defined them as RAD and Dis-inhibited Social Engagement Disorder.
- These 2 disorders share the requirement for neglect or loss of, or limited exposure to attachment figures during childhood
- The neglect ***results in*** the child's limitation to form healthy interpersonal attachments

DSM 5-Reactive Attachment Disorder

- An inhibited pattern of relating to adult caregivers
- Emotionally withdrawn, not responsive
- Child rarely seeks or responds to comfort when distressed
- Minimal responsiveness to others, limited positive affect, unexplained sadness, irritability, fearfulness with adult caregivers

Disinhibited Social Engagement Disorder

- Child shows too little wariness with unfamiliar adults; wanders away without checking back; or is willing to go off with an unfamiliar adult with minimal hesitation
- Not limited to impulsivity from ADHD
- Related to history of social neglect and lack of stable adult caregivers

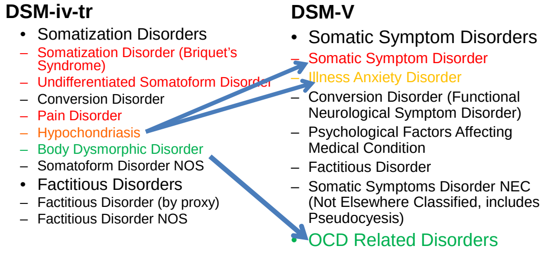
Somatic Symptom and Related Disorders

HYPOCHONDRIAC CAMEL
A LUMP!

Somatic Symptom and Related Disorders

- Consolidation of disorders due to significant overlap in DSM-IV
- Deemphasizing the use of medically unexplained symptoms to make a diagnosis of somatic symptoms
  - Somatic symptoms can be present in diagnosed medical disorder
  - Reliability of medically unexplained symptom is limited
  - Grounding a diagnosis in absence of an explanation reinforces mind-body dualism
  - Now classification is based on positive symptoms (thoughts, feelings, and behaviors related to symptoms)
  - Medically unexplained symptoms do remain a key feature in conversion disorder and pseudocyesis because it is possible to demonstrate definitively that symptoms are not consistent with medical pathophysiology
- Elimination of Pain Disorder
  - Lack of evidence that distinction between psychogenic pain and biologic pain can be established
  - Divided into somatic symptom disorder, psychological factors affecting medical condition, or adjustment disorder based on psychogenic-biologic spectrum

Changing diagnoses



DSM-iv-tr

- Somatization Disorders
  - Somatization Disorder (Briquet's Syndrome)
  - Undifferentiated Somatoform Disorder
  - Conversion Disorder
  - Pain Disorder
  - Hypochondriasis
  - Body Dysmorphic Disorder
  - Somatoform Disorder NOS
- Factitious Disorders
  - Factitious Disorder (by proxy)
  - Factitious Disorder NOS

DSM-V

- Somatic Symptom Disorders
  - Somatic Symptom Disorder
  - Illness Anxiety Disorder
  - Conversion Disorder (Functional Neurological Symptom Disorder)
  - Psychological Factors Affecting Medical Condition
  - Factitious Disorder
  - Somatic Symptoms Disorder NEC (Not Elsewhere Classified, includes Pseudocyesis)
- OCD Related Disorders

Somatic Symptom Disorder vs Somatization Disorder

- "Attempt to better recognize the complexity of the interface between psychiatry and medicine"
- High symptom count for somatization disorder did not recognize spectrum between somatic symptoms and psychopathology
- Undifferentiated somatoform disorder was too vague and arbitrary
- Somatic symptom disorder attempts to better define psychopathology NOT symptom count

Somatization disorder – DSM IV-TR

A. A history of many physical complaints beginning before age 30 that occur over a period of several years and result in treatment being sought or significant impairment in social, occupational, or other important areas of functioning

B. Each of the following criteria must have been met, with individual symptoms occurring at any time during the course of the disturbance:
   1) Four pain symptoms
   2) Two gastrointestinal symptoms (other than pain)
   3) One sexual system (other than pain)
   4) One pseudoneurological symptom

C. Either (1) or (2)
   1) Each symptom cannot be "fully explained" by a known medical condition or direct effects of a substance
   2) When there is a medical condition, physical complaints are in excess or what would be expected

D. The symptoms are not intentionally produced or feigned

What a mess!

Somatic symptom Disorder – DSM 5

A. One or more somatic symptoms that are distressing or result in significant disruption of daily life.
B. Excessive, thoughts, feelings, or behaviors related to the somatic symptoms or associated health concerns as manifested by one of the following:
  1. Disproportionate and persistent thoughts about seriousness of one's symptoms
  2. Persistently high level of anxiety about health or symptoms
  3. Excessive time and energy devoted to these symptoms or health concerns
C. Although any one somatic symptom may not be continuously present, the state of being symptomatic is persistent (typically more than 6 months)

Illness Anxiety Disorder

A. Preoccupation with having or acquiring a serious, undiagnosed medical illness
B. Somatic symptoms are not present, or if present, are only mild in intensity
C. High level of anxiety about health, and the individual is easily alarmed about personal health status
D. Individual performs excessive health-related behaviors or exhibits maladaptive avoidance (doctors or hospitals)
E. Illness preoccupation has been present for at least 6 months, but the specific illness that is feared may change over that period of time
F. Not explained by another anxiety disorder, somatic disorder, OCD/related disorders or psychotic disorder

Conversion Disorder Changes

- Stresses that clinical findings indicate incompatibility between symptom and pathophysiology
- Elimination of psychological factors as a criteria, as these are often minimized initially in disease course

Conversion disorder – DSM IV-TR

A. One or more symptoms or deficits affecting voluntary motor or sensory function that suggest a neurological or other general medical condition
B. Psychological factors are judged to be associated with the symptom of deficit because the initiation or exacerbation of the symptom of deficit is preceded by conflicts or other stressors
C. The symptom or deficit is not intentionally produced or feigned
D. The symptom or deficit cannot be fully explained by a general medical condition, or by the direct effects of a substance, or as a culturally sanctioned behavior or experience
E. The symptom or deficit causes clinically significant distress or impairment
F. The symptom or deficit is not limited to pain or sexual dysfunction, does not occur exclusively during the course of Somatization Disorder, and is not better accounted for by another mental disorder.

Conversion disorder – DSM 5 (aka functional neurological symptom disorder)

A. One or more symptoms of altered voluntary motor or sensory function
B. Clinical findings provide evidence of incompatibility between the symptom and recognized neurological or medical conditions
C. The symptom or deficit is not better explained by another medical or mental disorder
D. The symptom or deficit causes clinically significant distress or impairment in social, occupational, or other important areas of functioning or warrants medical evaluation

Psychologic Factors Affecting Other Medical Conditions

- Previously in “Other Conditions That May Be a Focus of Clinical Attention”
- Essential feature is presence of psychological or behavioral factor that adversely affect a medical condition
- Factors can affect the condition via influencing treatment course (noncompliance) or directly impacting pathophysiology (asthma attack provoked by anxiety)
- Is not a psychologic response to diagnosis (Adjustment Disorder)
- No Major DSM Changes - only minor wording

Factitious Disorder

- Was previously in own chapter
- Now specified into “Imposed on Self” vs “Factitious Disorder Imposed on Another” (Munchausen By Proxy)
  - By Proxy was formerly included in Factitious Disorder NOS
- Adds criteria that the behavior is not better explained by another mental disorder

Factitious disorder – DSM 5

IMPOSED ON SELF	**IMPOSED ON ANOTHER**
A. Falsification of physical or psychological signs or symptoms, or induction of injury or disease, associated with identified deception	A. Falsification of physical or psychological signs or symptoms, or induction of injury or disease, in another, associated with identified deception
B. The individual presents himself or herself to others as ill, impaired, or injured	• The individual presents another individual (victim) to others as ill, impaired, or injured
C. The deceptive behavior is evident even in the absence of obvious external rewards	• The deceptive behavior is evident even in the absence of obvious external rewards
D. The behavior is not better explained by another mental disorder, such as delusional disorder or another psychotic disorder	• The behavior is not better explained by another mental disorder, such as delusional disorder or another psychotic disorder

Other Specified Somatic Symptom and Related Disorder

- Lumping of “other” somatic disorders that do not meet criteria of other somatic symptom disorder, all have same coding (300.89/ F45.8)
- Examples include:
  1. Brief somatic symptom disorder (less than 6 months)
  2. Brief illness anxiety disorder (less than 6 months)
  3. Illness anxiety disorder without excessive health-related behaviors (Don’t meet Criteria D)
  4. Pseudocyesis: A false belief of being pregnant that is associated with objective signs and reported symptoms of pregnancy

Unspecified Somatic Symptom Disoder

- Different code (300.82/F45.9) than “Other” specified somatic symptom and related disorder
- Same definition except diagnosis is made if: “there are decidedly unusual situations where there is insufficient information to make a more specific diagnosis”
- Lack of information vs lack of symptoms

Feeding and Eating Disorders

What's New

- Chapter includes several disorders from previous chapter "Disorders Usually First Diagnosed in Infancy, Childhood, or Adolescence"
- Feeding Disorder has become Avoidant/ Restrictive Food Intake Disorder
- Binge Eating Disorder has moved from an Appendix B diagnosis to a valid diagnosis

Pica and Rumination Disorder

- Very minor wording changes from DSM IV-TR
- Are no longer limited to infancy or childhood
- For ICD-10, Pica has two different codes for childhood (F98.3) and adult (F50.8)

Avoidant Restrictive Food Intake Disorder vs Feeding Disorder

- Not limited to young children
- Included with other eating disorders
- Expanded criteria
  - More detail on Cluster A symptoms
  - Not solely based on weight gain or loss
  - No age criteria

Feeding Disorder of Infancy/ Early Childhood DSM-IV-TR

A. Feeding disturbance as manifested by persistent failure to eat adequately with significant failure to gain weight or significant loss of weight over at least 1 month

B. The disturbance is not due to an associated GI or other medical condition

C. The disturbance is not better accounted for by another mental disorder or by lack of available food

D. Onset before age 6

Avoidant/Restrictive Food Intake Disorder

A. An eating or feeding disturbance as manifested by persistent failure to meet appropriate nutritional or energy needs associated with one of the following:

  1. Weight loss (or failure to achieve expected weight gain or faltering growth in children)
  2. Significant nutritional deficiency
  3. Dependence on enteral feeding
  4. Marked interference with psychosocial functioning

B. Disturbance is not better explained by lack of available food or culturally sanctioned practice

C. Does not occur with anorexia or bulimia, no disturbance in the way in which one's body weight is experienced

D. Not attributable to another medical or mental disorder

Anorexia Nervosa

- Minor changes with core criteria remaining
- Removal of amenorrhea as a criteria
  - Did not fit all patients (males, those on OCPs, premenarcheal females)
  - No clinical data that supports any clinical difference between patients with or without amenorrhea
- No specific body weight – was 85% of IBW
- Criterion B has expanded to include behavior that interferes with weight gain along with fear of gaining weight.

Anorexia Nervosa DSM 5

A. Restriction of energy intake relative to requirements leading to a "significantly low body weight" in the context of age, sex, developmental trajectory and physical health
  - Significantly low weight is defined as a weight that is less than minimally normal or, for children and adolescents, less than minimally expected

B. Intense fear of gaining weight or of becoming fat, or persistent behavior that interferes with weight gain

C. Disturbance in the way in which one's body weight or shape is experienced, undue influence of body weight, or persistent lack of recognition of the seriousness of the current low body weight

Anorexia Specifiers

- DSM IV-TR
  - Subtypes
    - Restricting
    - Binge-Eating/Purging
  - No Remission or severity scales

- DSM 5

Subtypes
  - Restricting
  - Binge-Eating/Purging

Remission specifiers
  - Partial remission – A is no longer met but B or C are
  - Full remission – no criteria are met for sustained period

Severity
  - Based on BMI, but numbers given for adults
  - May be increased to reflect symptoms, functional disability, and need for supervision

Bulimia Nervosa + Binge Eating

- Only change in Bulimia Nervosa criteria is reduction of frequency from 2/week to 1/week
- Binge eating disorder criteria is the same as purging component of bulimia nervosa

Bulimia nervosa

A. Recurrent episodes of binge eating. Defined by:
  A. Eating in a discrete period of time an amount of food that is definitely larger than what most individuals would eat
  B. Sense of lack of control over eating episode

B. Recurrent inappropriate compensatory behaviors (vomiting, laxatives, exercise, fasting, etc.)

C. Once a week for 3 months
  – Was twice a week

D. Self-evaluation is unduly influenced by body shape and weight

E. Does not occur during anorexia nervosa

Binge-eating disorder

A. Recurrent episodes of binge eating. Defined by:
  A. Eating in a discrete period of time an amount of food that is definitely larger than what most individuals would eat
  B. Sense of lack of control over eating episode

B. Binge eating episodes are associated with 3 (or more) of the following:
  1. Eating much more rapidly
  2. Eating until uncomfortable full
  3. Eating large amounts when not hungry
  4. Eating alone because of feeling embarrassed
  5. Feeling disgusted by oneself

C. Marked distress regarding binge eating

D. Occurs 1/week for 3 months

E. Not associated with bulimia (compensatory behavior) or anorexia

Bulimia Specifiers

- DSM IV-TR specifiers
  - Subtypes
    - Purging Type
    - Nonpurging type
  - No remission or severity specifiers

- DSM 5 Specifiers

Eliminated distinction between purging and nonpurging

Remission
  - Partial remission – some but not all critera met
  - Full remission – no criteria met for sustained time

Severity
  - Based on number of compensatory behaviors per week
  - Level may be adjusted to reflect other symptoms
  - Mild: 1-3
  - Moderate: 4-7
  - Severe: 8-13
  - Extreme: 14 or more

Sleep-Wake Disorders

http://come.to/csx23

Paradigm shift in the way sleep medicine has conceptualized

Removed: sleep disorders due to another mental disorder and sleep disorders due to a general medical condition

Primary insomnia has also been renamed insomnia disorder to avoid the differentiation between primary and secondary insomnia.

Narcolepsy, which is now know to be related to a hypocretin deficiency is distinguished from other forms of hypersomnia.

Pediatric and developmentally appropriate text are added when appropriate.

Insomnia Disorder

A. A predominant complaint of dissatisfaction with sleep quantity or quality, associated with one (or more) of the following symptoms:
  -Difficulty initiating sleep. **(In children, this may manifest as difficulty initiating sleep without caregiver intervention.)**
  -Difficulty maintaining sleep, characterized by frequent awakenings or problems returning to sleep after awakenings. **(In children, this may manifest as difficulty returning to sleep without caregiver intervention.)**
  -Early-morning awakening with inability to return to sleep.

Specifiers:
  with non-sleep disorder mental comorbidity (including substance use)
  with other medical comorbidity
  with other sleep disorder
Specifiers:
  episodic
  persistent
  recurrent

Narcolepsy

Specifiers:
  Narcolepsy without cataplexy but with hypocretin deficiency:
  Narcolepsy with cataplexy but without hypocretin deficiency
  Autosomal dominant cerebellar ataxia, deafness, and narcolepsy
  Autosomal dominant narcolepsy, obesity, and type 2 diabetes
  Narcolepsy secondary to another medical condition
    (for ICD-9-CM code 347.10 only): Code first the underlying medical condition (e.g., 040.2 Whipple's disease; 347.10 narcolepsy secondary to Whipple's disease).

Specifiers:
  mild
  moderate
  severe

New Sub section: Sleep-Related Breathing Disorders

Three disorders:

Obstructive Sleep Apnea Hypopnea
  Specify: Mild, moderate, Severe

Central Sleep Apnea
  idiopathic central sleep apnea
  Cheyne-strokes breathing
  Central sleep apnea comorbid with opioid use
Sleep-Related hypoventilation
  idiopathic
  congenital conteral alveolar hypoventilation
  comorbid sleep-related hypoventilation

All require polysomnograpy for diagnosis

Circadian Rhythm Sleep-Wake Disorders

Expanded to include five types:

Delayed Sleep Phase Type
  specify if familial or overlapping with non-24 hour sleep wake cycle

Advanced Sleep Phase Type
  Specify if familial

Irregular sleep-wake Type

Non-24 hour sleep wake Type

Shift work Type

For all specify: episodic, persistent, recurrent

Parasomnias

Non-Rapid Eye Movement Sleep Arousal Disorder
- Specify: Sleep walking type
  - Sleep terror type
- Specify: With Sleep-Related Eating
  - With Sleep-Related Sexual Behavior

Nightmare Disorder
- Specify if: during sleep onset
- specify if: with associated non-sleep disorder including substances
  - with associated other medical condition
  - with associated other sleep disorder
- Specify if: Acute, subacute, or persistent
- Specify if: mild, moderate, severe

Rapid Eye Movement Sleep Behavior Disorder
- moved from Sleep disorder NOS in DSM-IV
- repeated episodes of arousal during sleep associated with vocalization and/or complex motor behaviors during REM

Restless Leg Syndrome
- moved from Sleep disorder NOS in DSM-IV

Other disorders:

Hyper-somnolence Disorder

Substance/Medication – Induced Sleep Disorder

Other specified Insomnia Disorder
Unspecified Insomnia Disorder
Other specified Hyper-somnolence Disorder
Unspecified Hyper-somnolence Disorder
Other Specified Sleep-Wake Disorder
Unspecified Sleep-Wake Disorder

Sexual and Gender Identity Disorders
Changes in the DSM - 5

Kathleen A. Koth, DO

Category Changes

DSM-IV/IV-TR	DSM - 5
Sexual and Gender Identity Disorder	Sexual Dysfunction
Sexual Dysfunctions	Gender Dysphoria
Paraphilias	Paraphilic Disorders
Gender Identity Disorder	

Male Sexual Dysfunction

DSM- IV-TR	DSM-5
Male Orgasmic Disorder	Delayed Ejaculation
Male Erectile Disorder	Erectile Disorder
Hypoactive Sexual Desire Disorder	Male Hypoactive Sexual Desire Disorder
Premature Ejaculation	Premature (Early) Ejaculation
Sexual Aversion Disorder	Deleted
Sexual Dysfunction Due to a General Medical Condition Substance-Induced Sexual Dysfunction	Substance/Medication Induced Sexual Dysfunction
Sexual Dysfunction Not Otherwise Specified	Other Specified Sexual Dysfunction Unspecified Sexual Dysfunction

Female Sexual Dysfunction

DSM- IV – TR	DSM – 5
Female Orgasmic Disorder	Female Orgasmic Disorder
Hypoactive Sexual Desire Disorder Female Sexual Arousal Disorder	Female Sexual Interest/Arousal Disorder
Dyspareunia Vaginismus	Genito-pelvic pain/penetration Disorder
Sexual Dysfunction due to a general medical Condition Substance-Induced Sexual Dysfunction	Substance/Medication Induced Sexual Dysfunction
Sexual Aversion Disorder	Deleted
Sexual Dysfunction Not otherwise Specified	Other Specified Sexual Dysfunction Unspecified Sexual Dysfunction

Specifiers

DSM- VI – TR	DSM – 5
Lifelong Type vs. Acquired Type	Lifelong vs. Acquired
Generalized Type vs. Situational Type	Generalized vs Situational
	Severity (mild, moderate, severe)
	Never experienced an orgasm under any situation
With onset during intoxication	Onset after beginning to take the substance/medication or after dose increase Onset during withdrawal
With impaired Desire/Arousal/Orgasm/Sexual Pain	Deleted
Due to Psychological Factors Due to Combined Factors	Deleted

Gender Identity Disorder

DSM – IV – TR	DSM – 5
Gender Identity Disorder	Gender Dysphoria
Gender Identity Disorder Not Otherwise Specified	Other Specified Gender Dysphoria Unspecified Gender Dysphoria
Specifiers for sexual attraction	Deleted
	Specifier: with a disorder of sex development Specifier: posttransition

Gender Dysphoria
Criteria change for children

DSM – IV – TR – A1 repeatedly stated desire to be, or insistence that he or she is the other sex

DSM – 5: A1 A strong desire to be of the other gender or an insistence that he or she is the other gender (or some alternative gender different from one's assigned gender)

Paraphilias

Definition..”any intense and persistent sexual interest other than sexual interest in genital stimulation or preparatory fondling with phenotypically normal, physically mature, consenting partner.”

“a paraphilic disorder is a paraphilia that is currently causing distress or impairment to the individual or a paraphilia whose satisfaction has entailed personal harm, or risk or harm, to others. A paraphilia is necessary but not a sufficient condition for having a paraphilic disorder, and a paraphilia by itself does not necessarily justify or require a clinical intervention.”

Voyeurism, Exhibitionism, Frotteurism, Sexual Masochism, Sexual Sadism, Pedophilia, and Fetishism now have the word disorder added.

Tranvestic Fetishism can now apply to both males and females

Paraphilia NOS – now other specified and unspecified

Paraphilias Continued

DSM – Disorder	DSM- 5 Specifier
Voyeuristic Disorder, Exhibitionistic Disorder Frotteruristic Disorder Sexual Sadism Disorder	In a controlled Environment In remission
Sexual Masochism Disorder	With Asphyxiophilia In a controlled environment In remission
Fetishistic Disorder	Body Parts, non living objects, other In a controlled environment In remission
Transvestic Disorder (male and female)	With fetishism With autogynephilia In a controlled environment In remission

Oppositional Defiant Disorder/Conduct Disorder

Disruptive, Impulse-Control, and Conduct Disorder

- ODD and Conduct D/O moved to this new chapter in DSM 5 that also contains Antisocial PD, Pyromania, Kleptomania, and Intermittent Explosive Disorder
- ODD did not change criteria, but grouped symptoms into “Angry/irritable mood”, “Argumentative/defiant behavior” and “Vindictiveness”
- ODD can now co-exist with Conduct Disorder
- ODD adds a severity rating based on pervasiveness across settings

Conduct Disorder

- DSM 5 maintained diagnostic criteria from DSM IV. Need to meet 3/15 criteria, which reflect pattern of violating the basic rights of others and major societal rules
- DSM 5 added a specifier- “with limited prosocial emotions”, which reflects capacity for empathy, and concern for the “feelings, wishes and well-being of others”, which may detect risk for Antisocial PD
- Specifiers: Mild, Moderate, Severe

Substance-Related and Addictive Disorders

Substance-Related and Addictive Disorders

- Now includes Gambling Disorder
- No separate diagnoses for abuse and dependence
  - Criteria are abuse and dependence criteria put together without legal effects that were in abuse plus cravings are added
- New diagnoses of Cannabis withdrawal and caffeine withdrawal
- Tobacco use disorder is the same for other substances (previously was no tobacco abuse)
- Severity scale is added
- No “polysubstance dependence”
- New remission specifiers “in a controlled environment” and “on maintenance therapy”

Various Substance Diagnoses

- All have a use disorder (except caffeine) that are same criteria
  - Mild: 2-3 symptoms
  - Moderate: 4-5 symptoms
  - Severe: 6 or more symptoms
- All have specific intoxication criteria based on effects (except tobacco)
- All have specific withdrawal criteria based on symptoms (except inhalants)
- Hallucinations have “Hallucinogen Persisting Perception Disorder”

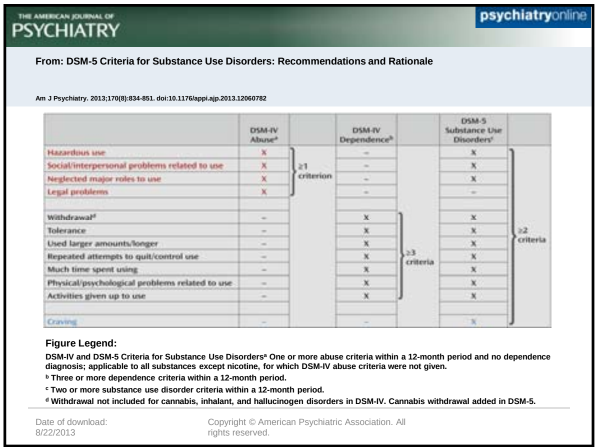
DSM-IV-TR Substance Aubse

A. A pattern of substance use leading to significant impairment or distress, as manifested by one or more of the following during in the past 12 month period:
   1. Failure to fulfill major role obligations at work, school, home such as repeated absences or poor work performance related to substance use; substance-related absences, suspensions, or expulsions from school; neglect of children or household
   2. Frequent use of substances in situation in which it is physically hazardous (e.g., driving an automobile or operating a machine when impaired by substance use)
   3. Frequent legal problems (e.g. arrests, disorderly conduct) for substance abuse
   4. Continued use despite having persistent or recurrent social or interpersonal problems (e.g., arguments with spouse about consequences of intoxication, physical fights)

B. Symptoms have never met the criteria for Substance Dependence for this Class of Substance

DSM-IV-TR Substance Dependence

A. Dependence or significant impairment or distress, as manifested by 3 or more of the following during a 12 month period:
  1. Tolerance or markedly increased amounts of the substance to achieve intoxication or desired effect or markedly diminished effect with continued use of the same amount of substance
  2. Withdrawal symptoms or the use of certain substances to avoid withdrawal symptoms
  3. Use of a substance in larger amounts or over a longer period than was intended
  4. Persistent desire or unsuccessful efforts to cut down or control substance use
  5. Involvement in chronic behavior to obtain the substance, use the substance, or recover from its effects
  6. Reduction or abandonment of social, occupational or recreational activities because of substance use
  7. Use of substances even though there is a persistent or recurrent physical or psychological problem that is likely to have been caused or exacerbated by the substance



THE AMERICAN JOURNAL OF PSYCHIATRY
psychiatryonline

From: DSM-5 Criteria for Substance Use Disorders: Recommendations and Rationale

Am J Psychiatry. 2013;170(8):834-851. doi:10.1176/appi.ajp.2013.12060782

	DSM-IV Abuse[a]		DSM-IV Dependence[b]		DSM-5 Substance Use Disorders[c]	
Hazardous use	X	≥1 criterion	–		X	≥2 criteria
Social/interpersonal problems related to use	X		–		X	
Neglected major roles to use	X		–		X	
Legal problems	X		–		–	
Withdrawal[d]	–		X	≥3 criteria	X	
Tolerance	–		X		X	
Used larger amounts/longer	–		X		X	
Repeated attempts to quit/control use	–		X		X	
Much time spent using	–		X		X	
Physical/psychological problems related to use	–		X		X	
Activities given up to use	–		X		X	
Craving	–		–		X	

Figure Legend:

DSM-IV and DSM-5 Criteria for Substance Use Disorders[a] One or more abuse criteria within a 12-month period and no dependence diagnosis; applicable to all substances except nicotine, for which DSM-IV abuse criteria were not given.

[b] Three or more dependence criteria within a 12-month period.

[c] Two or more substance use disorder criteria within a 12-month period.

[d] Withdrawal not included for cannabis, inhalant, and hallucinogen disorders in DSM-IV. Cannabis withdrawal added in DSM-5.

Date of download: 8/22/2013

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Substance Use Disorder

- A problematic pattern of “substance” use leading to clinically significant impairment or distress, as manifested by at least two of the following, occurring within a 12-month period:
  - Substance is often taken in larger amounts or over a longer period than was intended.
  - There is a persistent desire or unsuccessful efforts to cut down or control substance use.
  - A great deal of time is spent in activities necessary to obtain substance, use substance, or recover from its effects.
  - Craving, or a strong desire or urge to use substance.
  - Recurrent substance use resulting in a failure to fulfill major role obligations at work, school, or home.
  - Continued substance use despite having persistent or recurrent social or interpersonal problems caused or exacerbated by the effects of substance .
  - Important social, occupational, or recreational activities are given up or reduced because of substance use.
  - Recurrent substance use in situations in which it is physically hazardous.
  - Substance use is continued despite knowledge of having a persistent or recurrent physical or psychological problem that is likely to have been caused or exacerbated by alcohol.
  - Tolerance, as defined by either of the following:
    - A need for markedly increased amounts of substance to achieve intoxication or desired effect.
    - A markedly diminished effect with continued use of the same amount of substance.
  - Withdrawal, as manifested by either of the following:
    - The characteristic withdrawal syndrome for substance
    - Substance (or a closely related substance) is taken to relieve or avoid withdrawal symptoms.

Gambling Disorder

- Small changes include:
  - 4/9 instead of 5/10 symptoms required
  - Committing illegal acts is the symptom that is removed
  - Name changed from “Pathological Gambling”

WELCOME
TO Fabulous
LAS VEGAS
NEVADA

Neurocognitive Disorders

Formerly: “Dementia, Delirium, Amnestic, and Other Cognitive Disorders”

Major Changes

- Amnestic Disorders and Dementias have been combined into new entity of Major Neurocognitive Disorder
  - The term dementia may still be used where standard
- Recognition of a less severe level of cognitive impairment: mild neuorocognitive disorder
  - Although this is new to the DSM, its presence is consistent with its use in other fields of medicine
- More etiologic subtypes have been included

Delirium

- One set of criteria for delirium with specifiers for:
  - Substance intoxication
  - Substance withdrawal
  - Medication-induced
  - Due to another medical condition
  - Multiple etiologies
- DSM-IV-TR had different criteria for delirium from medical condition and substances
- Coding is complex
  - There are substance specific codes
  - More than one code may be used (medical condition and intoxication)

Delirium DSM-IV-TR

A. Disturbance in consciousness with reduced ability focus, sustain, or shift attention

B. A change in cognition or the development of a perceptual disturbance that is not better accounted for by a preexisting, established, or evolving dementia

C. The disturbance develops over a short period of time and tends to fluctuate over the course of a day

D. There is evidence from the history, physical, or laboratory findings that the disturbance is caused by the direct physiological consequences of a medical condition.

Delirium DSM 5

A. Disturbance in attention and awareness (consciousness criteria removed)

B. The disturbance develops over a short period of time and tends to fluctuate over the course of a day

C. An additional disturbance in cognition

D. The disturbances in A and C are not better explained by another preexisting, established or evolving neurocognitive disorder and do not occur in the context of a severely reduced level of arousal, such as coma

E. There is evidence from the history, physical, or laboratory findings that the disturbance is caused by the direct physiological consequences of a medical condition, substance intoxication or withdrawal.

Dementias and amnesias(IV-TR) vs Neurocognitive Disorders (5)

- DSM-IV-TR
  - Had specific criteria for Alzheimer's, Vascular, Substance-Induced, and "Other General Medical Conditions"
  - No specific criteria for "Other General Medical Conditions"
  - Amnestic Disorder Due to general medical condition, subtance-induced or NOS

- DSM 5

Major and Mild Neurocognitive Disorders

No Amnestic Disorders

Criteria specifically for:

- Alzheimer's disease
- Frontotemporal dementia
- Lewy body disease
- Vascular disease
- Traumatic Brain injury
- Substance/medication use
- HIV infection
- Prion disease
- Parkinson's disease
- Huntington's disease
- Another medical condition
- Multiple etiologies
- Unspecified

DSM-IV-TR Dementia of Alzheimer's Type

A. The development of multiple cognitive deficits manifested by both:
   1. Memory impairment
   2. One or more or the following cognitive disturbances:
      a. Aphasia (language disturbance)
      b. Apraxia (motor activities)
      c. Agnosia (recognize objects)
      d. Disturbance in executive functioning

B. Cognitive deficits cause significant impairment in social or occupational functioning and represent a significant decline from previous level of functioning

C. Course is characterized by gradual onset and continuing cognitive decline

D. Cognitive deficits are not due to:
   1. Other CNS condition
   2. Systemic conditions
   3. Substance-induced

E. Deficits do not occur solely in delirium

F. Disturbance is not explained by another Axis I disorder

DSM 5 – Major Neurocognitive Disorder

A. Evidence of significant cognitive decline from a previous level of performance in one or more of cognitive domains (complex attention, executive function, learning and memory, language, perceptual-motor, or social cognition) based on:
   1. Concern of the individual, a knowledgeable informant, or the clinician that there has been a significant decline in cognitive function
   2. A substantial impairment in cognitive performance, preferably documented by standardized neuropsychological testing or, in its absence, another quantified clinical assessment

B. Cognitive deficits interfere with independence in everyday activities

C. Deficits do not occur exclusively in the context of a delirium

D. Cognitive deficits are not better explained by another mental disorder

DSM 5 – Mild Neurocognitive Disorder

A. Evidence of modest cognitive decline from a previous level of performance in one or more of cognitive domains (complex attention, executive function, learning and memory, language, perceptual-motor, or social cognition) based on:
   1. Concern of the individual, a knowledgeable informant, or the clinician that there has been mild decline in cognitive function
   2. A modest impairment in cognitive performance, preferably documented by standardized neuropsychological testing or, in its absence, another quantified clinical assessment

B. Cognitive deficits do not interfere with capacity for independence in everyday activities

C. Deficits do not occur exclusively in the context of a delirium

D. Cognitive deficits are not better explained by another mental disorder

Major or Mild Neurocognitive Disorder Due to Alzheimer's Disease

A. Criteria are met for major or mild neurocognitive disorder

B. There is insidious onset and gradual progression of impairment in one or more cognitive domains

C. Criteria are met for either probable or possible Alzheimer's disease (probable if one is met, possible if none met)
   - **Major:**
   1. Evidence of a causative Alzheimer's disease genetic mutation from family history or genetic testing
   2. All three of following:
      a) Clear evidence of decline in memory, learning and one other cognitive domain
      b) Steadily progressive, gradual decline in cognition, without extended plateaus
      c) No evidence of mixed etiology (other medical findings)
   - **Minor:**
   - **Probable** is diagnosed if there is evidence of causative Alzheimer's by genetic testing or family history
   - **Possible** is diagnosed with all three of following:
      a) Clear evidence of decline in memory, learning and one other cognitive domain
      b) Steadily progressive, gradual decline in cognition, without extended plateaus
      c) No evidence of mixed etiology (other medical findings)

D. Disturbance is not better explained by another mental, neurologic, or systemic disorder.

The rest have a similar pattern

Personality Disorders

Major Changes

- New diagnosis for Personality Change Due to General Medical Condition
- After much discussion, no changes to specific criteria, though a new proposed system in section III
- No separate Axis
- Of note, language in chapter remains that individuals < 18 must have symptoms for > 1 year.
  - Antisocial PD still cannot be diagnosed below age 18

Personality Change Due to Another Medical Condition

A. A persistent personality disturbance that represents a change from the individual's previous characteristic personality pattern.
   - Note: in children involves a marked deviation from normal development or change in behavior lasting longer than 1 year

B. Evidence of another medical condition

C. Not explained by a mental disorder

D. Not during course of delirium

E. Causes impairment in social, occupational or other functioning

Personality Change Due to Another Medical Condition

A. Subtypes include

- A. Labile type
- B. Disinhibited type
- C. Aggressive type
- D. Apathetic type
- E. Paranoid type
- F. Other type
- G. Combined type
- H. Unspecified type

Section III Alternative

- Introduction of a new approach to “address numerous shortcomings of the current approach to personality disorders”
  - Patients may meet criteria for several personality disorders
  - Many times the best diagnosis is other or unspecified personality disorder
- Personality disorders in the new model are defined by
  - Impairments in personality functioning
    - defined more specifically by a table (must be at least moderately impaired)
  - Pathological personality traits
    - Defined as 25 traits in 5 domains (Negative affectivity, Detachment, Antagonism, Disinhibition, Psychoticism)

Section III Alternative

- There are then criteria based on traits for:
  - Antisocial, avoidant, borderline, narcissistic, obsessive-compulsive, and schizotypal
- If these criteria are not met but the patient does have impaired functioning, pervasive symptoms, and no other explanation, the patient can be diagnosed as Personality Disorder – Trait Specified
- Other traits can also be added to a criteria based diagnosis (e.g. Borderline Personality Disorder – with psychoticism – severely impaired)

Paraphilic Disorders

Major Changes

- Addition of Specifiers
- Change of name from paraphilia to paraphilic disorder
  - Seems minor but is thoughtful
  - Paraphilia - qualitative nature of sexual thoughts
  - Paraphilic disorder - requires negative consequences
  - Does not label “nonnormative sexual behavior” as a disorder.
- No significant criteria changes

Other Mental Disorders

- Essentially a “catch all” for psychiatric symptoms that cause impairment but do not meet criteria for a specific disorder
- Include:
  - Other Specified Mental Disorder Due to Another Medical Condition (example - dissociation in seizures)
  - Unspecified Mental Disorder Due to Another Medical Condition
  - Other Specified Mental Disorder
  - Unspecified Mental Disorder

Medication-Induced Movement Disorders and Other Adverse Effects of Medication

Major Changes

- Seperated from “Other Conditions That May Be a Focus of Clinical Attention”
  - Importance in medication management
  - Differential diagnosis of mental disorders
- Term neuroleptic retained over antipsychotic because of dopamine receptor blocking agents used for other indications (nausea)

Diagnostic changes

- Other Medication-Induced Parkinsonism added
  - Neuroleptic induced parkinsonism remains a diagnosis
  - Not limited to neuroleptics
- Dystonia, Akathisia, and Tardive Dyskinesia were generalized to medication induced
  - Not specific for neuroleptics
- Antidepressant Discontinuation Syndrome added

Other Conditions That May Be a Focus of Clinical Attention

Other Conditions That May Be a Focus of Clinical Attention

- Problems that may be a focus of clinical attention or affect a patient’s mental disorder
- Coded as “V codes” which may allow insurance to cover tests or treatments
- Changes include many more specific issues

Relational Problems

- New Conditions
  - Upbringing Away From Parents
  - Child Affected by Parental Relationship Distress
  - Disruption of Family by Separation or Divorce
  - High Expressed Emotion Within Family
- Uncomplicated Bereavement
  - Normal reaction to death that individual seeks professional help for

Child Maltreatment and Neglect Problems

- Specifiers for Confirmed and Suspected Abuse
- Child Psychological Abuse
  - New listed Condition
  - Includes:
    - berating, disparaging, or humiliating the child
    - threatening to harm or abandon the child
    - Confining the child (tying or small room)

Adult Maltreatment and Neglect

- Specific Condition of Spouse or Partner Violence
  - Physical, Sexual, Neglect, and Psychological
    - Neglect requires a care role or cultural limitations (inability to communicate with others)
    - Again suspected and confirmed
- Adult abuse by Nonspouse or Nonpartner
  - Divided into confirmed, suspected and physical, psychological, and sexual

Other Conditions

- Educational and Occupational Problems
  - Includes "Problem Related to Current Military Deployment Status"
- Housing and Economic Problems
  - Interestingly ranges from homelessness to "discord with neighbor, lodger, or landlord"
  - Also includes "Problem Related to Living in a Residential Institution"
- Specific counseling codes
  - Sex counseling
  - Other counseling

Other Conditions

- Adult antisocial behavior
  - Antisocial acts without meeting personality disorder ("thieves, racketeers, or dealers in illegal substances")
- Child or Adolescent Antisocial Behavior
  - Isolated acts (not a pattern of behavior)
- Non adherence to medical treatment
  - Discomfort, expense, religious beliefs, mental disorder
- Malingering
  - Intentional production of false or grossly exaggerated physical or psychological symptoms motivated by external incentives
  - Can be adaptive (Avoid abuse)
- Wandering associated with a mental disorder
  - Most often with neurocognitive disorder
- Borderline Intellectual Functioning
  - Vague, refers back to intellectual disability section

What will these changes bring?

Welcome to
The Future

Section III of the DSM 5

- Section III of DSM-5 lists conditions warranting more research before inclusion in the main book as formal disorders.
- Non-Suicidal Self-Injury defines self-harm without the intention of suicide.
- Internet Gaming Disorder is the compulsive preoccupation with online games, often to the exclusion of other needs and interests

Potential Implications of DSM 5 CAP Changes

- The new DMDD diagnosis is significant, and causes us to look contextually, (contrasted with the pediatric bipolar diagnosis)
- A developmental look at PTSD symptoms will identify more kids with the disorder, and recognize trauma
- Further development of RAD and attachment will enhance the understanding of the importance of security of relationships in early childhood

Potential Implications of DSM 5 Changes

- ASD-better reliability
- Intellectual Disability-less perjorative word
- Learning Disability-simplified categories, no age, and intervention
- ADHD- more inclusive- up to age 12, and for adults
- Gender Dysphoria-language change, and took it out of paraphilias
- ODD/Conduct-can coexist, and added specifiers
- Substance Use Disorders-removed distinction between abuse and dependence
- Neurocognitive Disorders-recognize mild, early symptoms, and subtypes

Potential Implications of DSM 5 Changes

- Improve clarity of diagnoses
- Draw relationships where helpful
- Enhance effective treatments and supports
- Drive research
- Help us better help children

How do school psychologists use this info?

- Be aware of major diagnoses for children and teens
- Be aware of trends in the field
- Big changes in the areas of ASD, DMDD, PTSD, RAD
- Be aware of the role of trauma in kids' behavior
- School psychologists provide education, modeling, sources of information, screening, triage services
- Keep up the important work supporting kids, families, teachers and staff

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The positive ions are deflected by both the electric field and the magnetic field of the setup. When the ions that have passed through the electric and magnetic fields are made to fall on a screen, they described parabolic curves. For substances with more than one isotopes more than one parabolas were obtained demonstrating the existence of isotopes. The fact that different parabolas would be obtained for different mass numbers can be predicted theoretically as follows. When an ion is moving in the electric field it would experience a constant force qE actin on it. At the same time, because the ion is moving in a magnetic field it would experience a constant force qvH acting on it.

When the nuclear model of the atom was advanced the composition of the nucleus became a crucial problem of nuclear physics. An answer to this question could only be given after the discovery of various properties of the nucleus, notably nuclear charge Z, nuclear mass, and nuclear spin. The nuclear charge was found to be defined by the sum of the positive charges it contains. Since an elementary positive charge is associated with the proton, the presence of protions in the nucleus appeared to be beyond any double from the outset.

The electron proton model nicely fits with the second possibility mentioned above. Further the nucleus might contain electrons seemed to follow from the fact that natural beta-decay is accompanied by the emission of electrons. The proton-electron model also explained the fact why the isotopic atomic weights were nearly integers. According to this model, the mass of the nucleolus should be partially equal to the masses of the protons that make it up, because the electronic mass is about 1/2000th that of the proton.

Practical Strategies for School Psychologists Presenting Systems-Level Data

2014 WSPA Spring Convention
March 27, 2014

Dan Hyson, Ph.D., NCSP
Data Management Coordinator
Hiawatha Valley Education District
Winona, MN

Agenda

1. What questions were you hoping I would address?
2. What roles can school psychologists play in presenting systems-level data?
3. How can technology tools help school psychologists in fulfilling these roles?
   a. Microsoft Excel, Power Point and Word
   b. Data management systems and data warehouses
4. What key issues should school psychologists consider in creating systems-level data presentations?
5. How may effective use of systems-level data contribute to a decrease in the number of students identified with learning disabilities?
6. Questions?

Objectives

Attendees will come away from this presentation:

1. Being able to use Microsoft Excel, Word and Power Point, and data management and warehouse systems, to more quickly and easily create systems-level data presentations that they can share with teachers, other Specialized Instructional Support Personnel (SISP), administrators and school board members.
2. Understanding key issues they should consider in creating these presentations so that they are user-friendly, build the capacity of users to be able to access and use data more independently in the future, can best be understood within the context of systems-level initiatives and school improvement goals currently in place within a school or district, and can contribute to meaningful change in instruction.

1. What questions were you hoping I would address?

2. What roles can school psychologists play in presenting systems-level data?

- Integrated within several domains of NASP Practice Model
- 2 primary roles
  - Facilitation of systems-level problem solving
    - Data displays should tell story
    - Problem solving model provides story-telling framework (Tilly, 2002)
      - Can be used just as effectively at systems level as at individual student level
  - Assessment role within RtI system

Integrated within several domains of NASP Practice Model

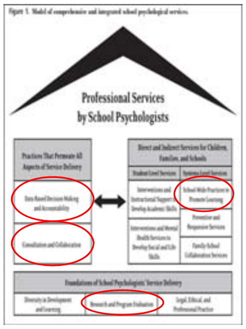
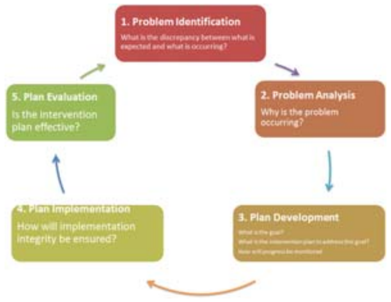


Figure 1. Model of comprehensive and integrated school psychological services.
Professional Services by School Psychologists
Practices That Permeate All Aspects of Service Delivery
Data-Based Decision Making and Accountability
Consultation and Collaboration
Direct and Indirect Services for Children, Families, and Schools
Student-Level Services
Systems-Level Services
Interventions and Instructional Support to Develop Academic Skills
Interventions and Mental Health Services to Develop Social and Life Skills
School-Wide Practices to Promote Learning
Preventive and Responsive Services
Family-School Collaboration Services
Foundations of School Psychologists' Service Delivery
Diversity in Development and Learning
Research and Program Evaluation
Legal, Ethical, and Professional Practice

Facilitation of systems-level problem-solving


1. Problem Identification
What is the discrepancy between what is expected and what is occurring?
2. Problem Analysis
Why is the problem occurring?
3. Plan Development
4. Plan Implementation
How will implementation integrity be ensured?
5. Plan Evaluation
Is the intervention plan effective?

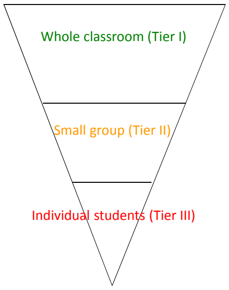
Assessment role within RtI system

Assessment

- Screen all students at least 2-3 times/year
- If Tier I curriculum meeting needs of most students, use results of screenings to identify students not responding to Tier I curriculum

- Monitor progress of those students not responding more frequently (at least 1x/month)
- Using the results of this strategic monitoring, identify students still not responding to Tier II interventions

- Monitor progress of students not responding more frequently (at least 1x/week)
- Using the results of this progress monitoring, identify students still not responding to Tier III interventions


Whole classroom (Tier I)
Small group (Tier II)
Individual students (Tier III)

Intervention

- Ensure that Tier I curriculum meeting needs of most students (ideally 80-90%)
- Monitor integrity of implementation of Tier I curriculum

- Implement Tier II interventions with students not responding to Tier I curriculum
- Monitor integrity of implementation of Tier II interventions

- Implement Tier III interventions with students not responding to Tier II interventions
- Monitor integrity of implementation of Tier III interventions

3. How can technology tools help school psychologists in fulfilling these roles?

a. Microsoft Excel, Power Point and Word
b. Data management systems and data warehouses

Sample file

- Download from conference handouts webpage
- De-identified AIMSweb Winter screening data

NOTE

- I will be demonstrating the use of features in the Office 2010 for PC version of Microsoft Excel.
- If you use either Office 2007 or the beta version of Office 2013 for PC, the features should be very similar.
- If you use Office 2011 for mac, below is a link that explains some of the features I will be discussing and how to access them using that version of Microsoft Excel: http://www.microsoft.com/mac/excel/whats-new

Microsoft Excel

- Simple features that will ***make your systems-level data management life easier***
  - Re-orienting column headers
  - Freezing panes
  - Filtering
  - Sorting
  - Formulas
  - Conditional Formatting
- Another feature that will ***change your life*** (!)---at least in terms of systems-level data management ☺
  - Pivot tables and charts

Pivot tables and charts

- Selecting data
- Adding fields to table
- Creating a chart
- Pivoting
- Formatting the chart

Inserting pivot charts and graphs from other sources into Microsoft Word or Power Point documents

- Copying
- Pasting
- Resizing
- Cropping

---

4. What key issues should school psychologists consider in creating systems-level data presentations?

- One example of a systems-level data presentation: Hiawatha Valley Education District's (MN) yearly ***"Data Book Power Points"***

---

4. What key issues should school psychologists consider in creating systems-level data presentations?

Effective presentations should:

- Be ***user-friendly*** for school psychologists to create and for consumers to understand and use
- ***Build capacity*** of consumers to access and interpret the data themselves in the future
- Include ***key questions and systems-level goals*** to guide interpretation
- Highlight ***connections among assessment, intervention and problem-solving and system organization***

User-friendly

- Create in Power Point so can easily present to staff, school board, community
- Include hyperlinks within Table of Contents so can easily locate section addressing specific question

---

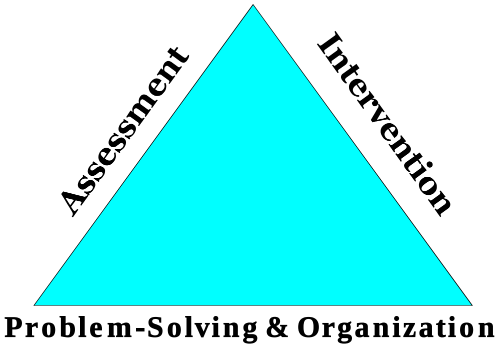
Build capacity

- Primarily include data displays users have access to themselves
- Add links to directions, recorded webinars
- Don't interpret data for them

Key questions and systems-level goals

- Frame data with guiding questions
- Review functions of assessment within comprehensive assessment system
- Include activity to help review own assessment system
- Insert RtI-related 80% proficiency goal line in graphs

Connections among assessment, intervention and problem-solving and system organization (Bollman et al., 2007)



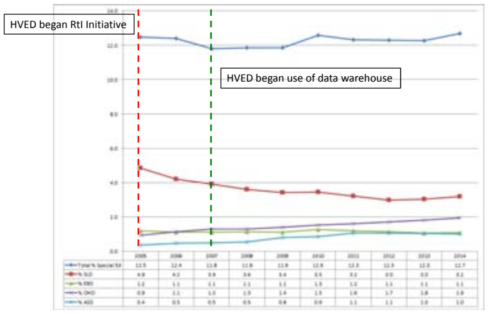
Connections among assessment, intervention and problem-solving and system organization

- Share recommendations for data teaming, link to recorded webinar
- Include links to intervention resources connected with assessment data
- Suggest key questions to ask in interpreting data, identifying appropriate interventions

5. How may effective use of systems-level data contribute to a decrease in the number of students identified with learning disabilities?

- Special Education child count in HVED member districts since implementation of RtI and increase in use of technology tools for systems-level data driven-decision-making

HVED percent of students identified with learning disabilities 2005-2014



UNANSWERED QUESTIONS: How might data on the problem solving process help us explain this trend?

- How many students were referred to problem solving teams?
- How many demonstrated significant progress in response to Tier 2 or Tier 3 interventions?
- How long did students receive Tier 2 or Tier 3 interventions?
- How many students were eventually referred for Special Education evaluation?
- How many students were identified as eligible for Special Education services?

6. Questions?

Contact information

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Data Management section of HVED website: *www.hved.org/index.php/programs-services/data-management*

Q-interactive
Assessment, evolved.

Assessment Evolving:
An Overview of Q-Interactive

John A. Hanson, Ph.D. LP
Q Interactive Assessment Consultant
Pearson Clinical Assessment

Disclosure

John A. Hanson, Ph.D. LP works for Pearson Clinical Assessment, which developed and sells Q-interactive the digital assessment system

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Agenda

1. Trends in Technology
2. Introduction to Q-interactive
3. Product Development
4. Demonstration
5. Psychometric Studies (including Equivalency)
6. Security
7. Pricing
8. Hardware Requirements
9. Your Turn!

A Brief History

- First Psychological Test

Historians note that rudimentary forms of testing date back to at least 2200 B.C. when the Chinese emperor had his officials examined every third year to determine their fitness for office

---

A Brief History

- First Psychological Test Battery

Psychological testing in its modern form originated more than one hundred fifty years ago in laboratory studies of sensory discrimination, motor skills, and reaction time. The British genius Francis Galton (1822–1911) invented the first battery of tests, a peculiar assortment of sensory and motor measures,

---

Trends in Technology

Adopting Technology

Q: How long did it take for 80% of Americans
to adopt the telephone?
A: 62 years

Q: How long did it take for 80% of Americans
to adopt the cell phone?
A: 15 – 20 years

Q: How long did it take for 80% of Americans
to adopt the smartphone?
A: <15 years

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Adopting Technology

- 1951 – Release of first commercially available computer
  - By 2010 (~60 years), ~77% of households had one or more
- 1996 – First commercially available text messaging
  - By 2007 (11 years), 74% of all mobile phone users texted
- 2010 - Apple announces first iPad, starts tablet PC race
  - By 2011 (1 year), >10% of households had one or more
  - By 2012 (2 years), 30% of internet users accessed it via tablet

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Adopting Technology

Facebook launched in Feb 2004

Growth in users:

- End of 2004 – 1 million
- End of 2006 – 5.5 million
- End of 2008 – 100 million
- End of 2010 – 608 million
- End of 2012 – 1,000 million (1 billion)

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Minneapolis Airport

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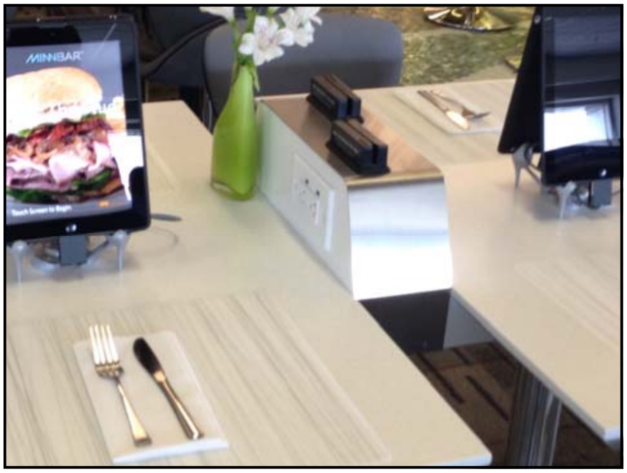
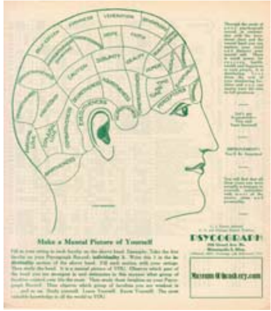


Technology in Psychology *Hardware*

©MuseumOfQuackery.com


Make a Mental Picture of Yourself
PSYCOGRAPH
Museum of Quackery.com

Technology in Psychology *Hardware*

Technology in Psychology *Software*

Technology in Psychology *Practices*

- July 2012 - APA releases draft *Guidelines for the Practice of Telepsychology*

  Two primary principles from Guidelines *apply to technology we'll discuss today:*

  - Psychologists strive to achieve competence in the technologies they use
  - Psychologists make every effort to protect and maintain client information

Changing Times

The Paper/Pencil World

vs.

The Digital World

What is Q-interactive?

(and why should I care)

Q-interactive is a . . .

- Comprehensive digital assessment system
  - Where you can create client-centric batteries at both the instrument and subtest level
- Time-saving tool that provides:
  - Computer-adaptive testing
  - Real time scoring
  - Administration accuracy and speed
- Game-changer in individually-administered clinical assessments

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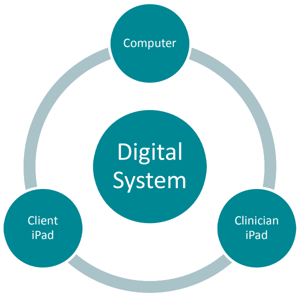
Q-interactive is a Platform

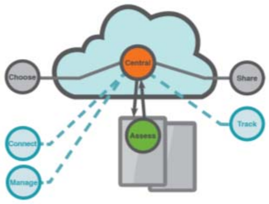


Q-interactive

Digital platform with two primary components

Q-i CENTRAL

Browser-based function for generating client profiles, building test batteries, creating assessment sessions, and sharing results



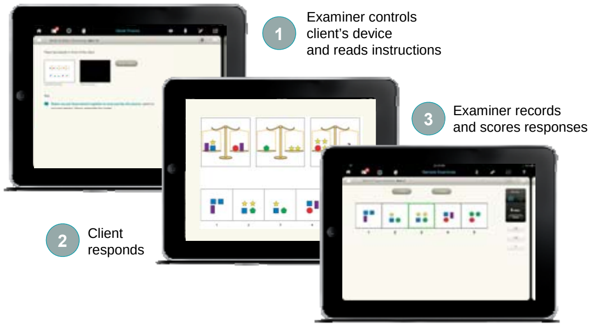
Q-i ASSESS

Application that lets an examiner administer a test via two tablets connected by Bluetooth

---

Q-interactive

Q-i Assess Process



1 Examiner controls client's device and reads instructions

2 Client responds

3 Examiner records and scores responses

How Does it Work?

1

Access iTunes App Store to download free Q-interactive Assess app

2

Log into app using Q-interactive ID

3

Test content is delivered to the device upon authentication by the Q-interactive web application

System retrieves content based on user ID and corresponding qualifications

4

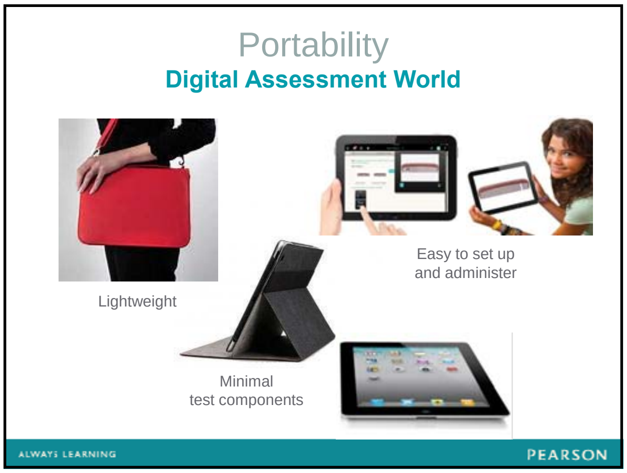
Data are stored securely using encryption on the iOS file system

---

Q-interactive is Ready When You Are

Portability
Traditional Assessment World

MEMORY & LEARNING
ALWAYS LEARNING
PEARSON



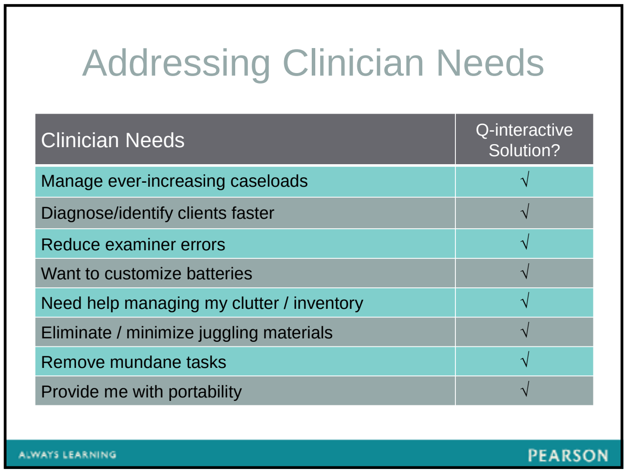
Portability
Digital Assessment World

Lightweight

Easy to set up
and administer

Minimal
test components

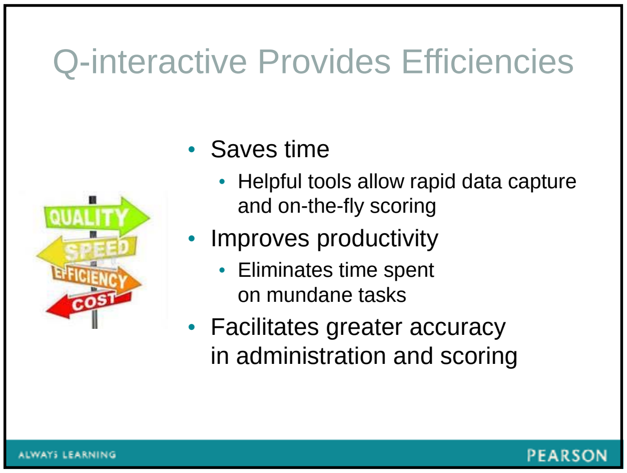
ALWAYS LEARNING
PEARSON



Addressing Clinician Needs

Clinician Needs	Q-interactive Solution?
Manage ever-increasing caseloads	√
Diagnose/identify clients faster	√
Reduce examiner errors	√
Want to customize batteries	√
Need help managing my clutter / inventory	√
Eliminate / minimize juggling materials	√
Remove mundane tasks	√
Provide me with portability	√

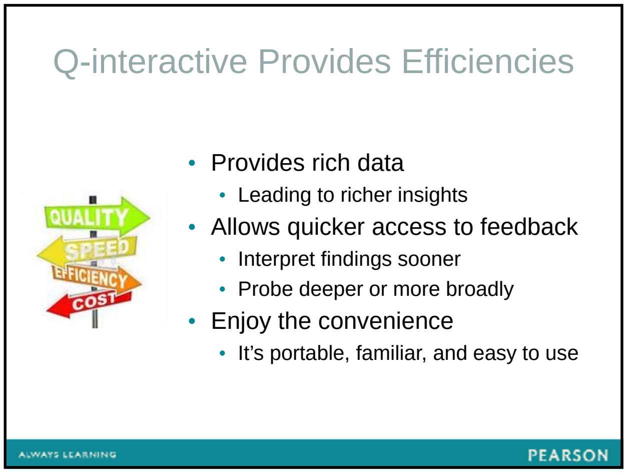
ALWAYS LEARNING
PEARSON



Q-interactive Provides Efficiencies

- Saves time
  - Helpful tools allow rapid data capture and on-the-fly scoring
- Improves productivity
  - Eliminates time spent on mundane tasks
- Facilitates greater accuracy in administration and scoring

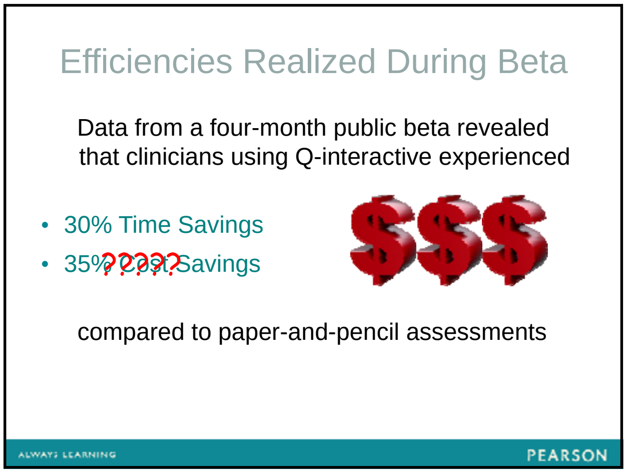
QUALITY
SPEED
EFFICIENCY
COST
ALWAYS LEARNING
PEARSON



Q-interactive Provides Efficiencies

- Provides rich data
  - Leading to richer insights
- Allows quicker access to feedback
  - Interpret findings sooner
  - Probe deeper or more broadly
- Enjoy the convenience
  - It's portable, familiar, and easy to use

QUALITY
SPEED
EFFICIENCY
COST
ALWAYS LEARNING
PEARSON



Efficiencies Realized During Beta

Data from a four-month public beta revealed that clinicians using Q-interactive experienced

- 30% Time Savings
- 35% ????? Cost Savings

compared to paper-and-pencil assessments

$$$
ALWAYS LEARNING
PEARSON

Development of Q-interactive

Goal

Dramatically improve the assessment experience
by incorporating innovative technology
and a user interface
that deliver on core values:

- Efficiency
- Access
- Clinical Utility
- Accuracy
- Ease of Use
- Portability

And result in:

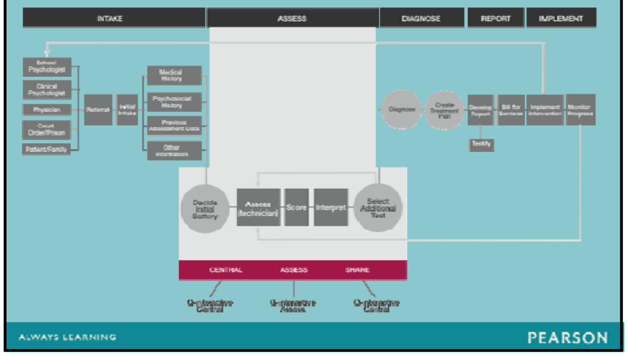
A digital assessment platform that is intuitive, innovative, and enables clinicians to be clinicians

Customers Have Been Involved Throughout Development

Development Overview

- Gain a deep understanding of clinician workflow
- Design iterations involving:
  - Clinicians
  - User interface experts
  - Psychologists
  - Test authors
- Equivalency testing
- Beta testing

Workflow of the Assessment Process


INTAKE
ASSESS
DIAGNOSE
REPORT
IMPLEMENT
School Psychologist
Clinical Psychologist
Physician
Court Order/Prison
Patient/Family
Referral
Initial Intake
Medical History
Psychosocial History
Previous Assessment Data
Other Information
Diagnose
Create Treatment Plan
Develop Report
Bill for Services
Implement Intervention
Monitor Progress
Testify
Decide Initial Battery
Assess (technician)
Score
Interpret
Select Additional Test
CENTRAL
ASSESS
SHARE
Q-interactive Central
Q-interactive Assess
Q-interactive Central

Guiding Principles

- Keep me (clinician) in control
- Let me focus on my client
  - Don't allow technology to become a barrier
- Save me time
- Assist with proper administration
- Needs to feel familiar, but make it better
  - Capture flexibility is key
- Keep it simple
- Equivalency matters
  - When migrating existing content

Development and Design
Overview of Current Goals

- Ultimate goal is to provide tests that:
  - Are designed for the digital system
  - Utilize the full potential of digital devices to deliver new scores, constructs, etc.
- However, all tests in initial release are pre-existing paper products
- Thus, initial design is intentionally conservative to preserve current response processes and enable use of existing paper-pencil norms
  - E.g., manipulatives (such as blocks) and response booklets are retained

---

Development and Design
Two Primary Steps in Current Development Process

1. Design tests in a way that minimizes digital effects
   - Group tests based on common features
   - Identify how particular features might impact raw scores
   - Develop interfaces for each ‘group’ that minimize those impacts
2. Conduct studies to establish raw score equivalency between paper and digital versions
   - Verify that goals in Step 1 are being realized
   - Allow for use of pre-existing norms, as well as reliability and validity information

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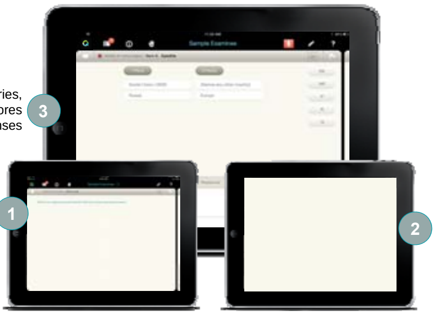
Q-interactive Screen Types
Verbal Picklist (e.g., WAIS-IV Information)

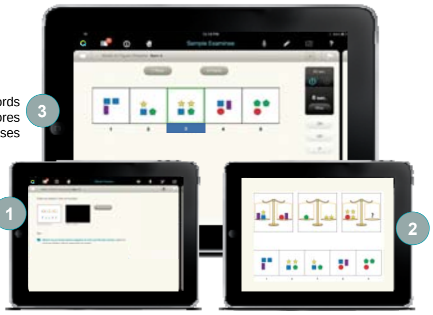


3 Examiner queries, records and scores responses

1 Examiner reads the item

2 Client screen blank

Q-interactive Screen Types
Select Images (e.g., WAIS-IV Figure Weights)

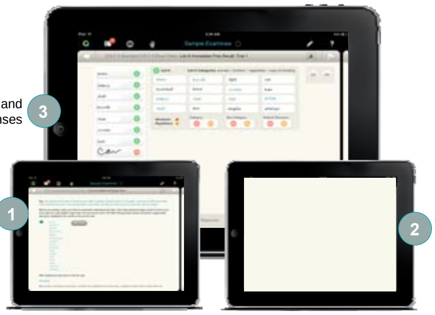


3 Examiner records and scores responses

1 Examiner controls client’s device and reads instructions

2 Client responds

Q-interactive Screen Types
Word List Generation (e.g., CVLT-II)



3 Examiner records and scores responses

1 Examiner reads the instructions and list of words

2 Client screen blank

Test Design
Why is it important to group tests based on features?

- Consistent interface design provides continuity for test user
  - Reduces learning curve
- Helps focus equivalency study design on areas of concern

  Study designs depend in part on:
  - Extent to which digital interface alters interactions with test content
  - Whether changes are primarily seen on examiner or examinee device
- Provides opportunity to generalize equivalency results to future tests in the same design ‘group’

Test Design

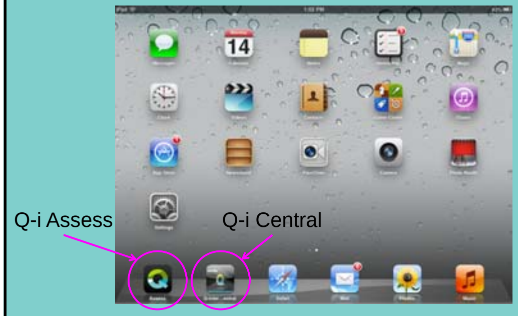
What are the potential causes of digital effects?

- Examinee interaction with the tablet
  - E.g., viewing stimuli, selecting responses, etc.
- Examiner interaction with the tablet
  - E.g., recording or scoring responses, accessing information for instructions, prompts, etc.
- Interactions of the first two
  - In early prototype, keyboard used for verbal response capture
    - Examinees would truncate responses to “help” slower examiners

Assessments Now Available

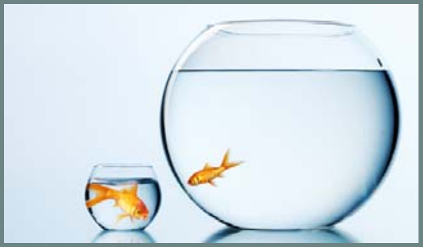
WISC-IV	Full Battery	WMS-IV	Full Battery
WAIS-IV	Full Battery		
WIAT-III	Full Battery		
NEPSY-II	7 Subtests: Animal Sorting, Inhibition, Word Generation, Memory for Design, Fingertip Tapping, Design Copying, Picture Puzzles		
D-KEFS	4 Subtests: Trail Making Test, Verbal Fluency, Design Fluency, Color Word Interference Test		
CMS	2 Subtests: Dot Locations, Picture Locations		
CVLT-C	Full Battery		
CVLT-II	Full Battery		

Let’s go live!



Going live!

Psychometric Studies



Psychometric Support

> *“If a test is designed so that more than one method can be used for administration or for recording responses…then the manual should clearly document the extent to which scores arising from these methods are interchangeable. If the results are not interchangeable, this fact should be reported, and guidance should be given for the interpretation of scores obtained under the various conditions or methods of administration.”*

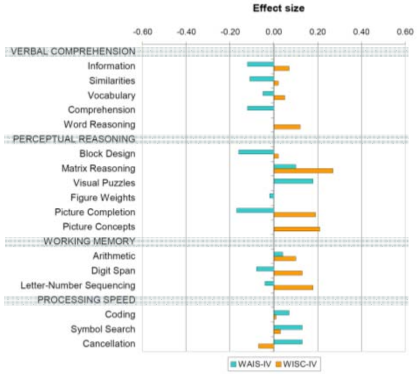
Standard 6.11, *Standards for Educational and Psychological Testing (1999).*

Equivalency Studies

Process

- Develop efficient study designs
  - Choice dependent on interface, test constructs, etc.
- Set a standard for equivalence:
  - Effect size < .20
    - Slightly more than ½ scaled score point on Wechsler subtests
- Extensive training of examiners
- Video recording of data collection
- Investigations of any observed format effects:
  - Deeper dive into data
  - Review videos for changes in examinee or examiner behavior
  - Analyze user interface for potential problems

WAIS-IV & WISC-IV



Summary of Equivalency

Implications of Results

- In general, digital presentation did not affect performance of nonclinical examinees on these tests
- Small benefit of digital presentation for children on WISC-IV Matrix Reasoning and Picture Concepts
- These effects should be kept in mind when interpreting results, but no score adjustment recommended
  - Overall effects on subtests very low
    - .5 - .75 scaled score points
  - Impact on index scores and FSIQ minimal
    - 0.1 point lower on WAIS-IV
    - 1.5 points higher on WISC-IV

Summary of Equivalency

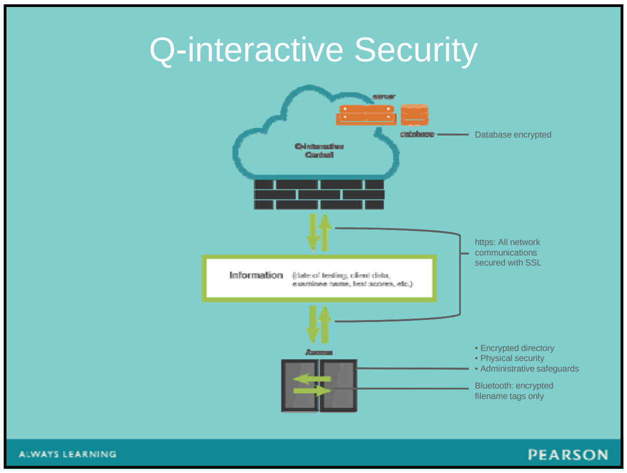
Lessons Learned and Future Directions

- Training is important
  - Examiners found digital format easy to learn, but needed multiple practice administrations to become proficient
- Once proficient, digital administrations were efficient and accurate
  - Supports hypothesized benefits of computer-assisted administration
- Study methodology was robust across samples and designs
  - Suggests that in the future, these findings can be generalized to tests that share common design features

Lessons from Beta

- Practice, practice, practice!
  - System user-friendly and intuitive, but . . .
  - No replacement for hands-on experience
- Individuals vary in:
  - Level of comfort with technology
  - Training needs
- Institutions often have specialized technical requirements that are important to understand

Security



Q-interactive Security

server
database
Q-interactive Central
Information (date of testing, client data, examinee name, test scores, etc.)
Assess

Database encrypted

https: All network communications secured with SSL

- Encrypted directory
- Physical security
- Administrative safeguards

Bluetooth: encrypted filename tags only

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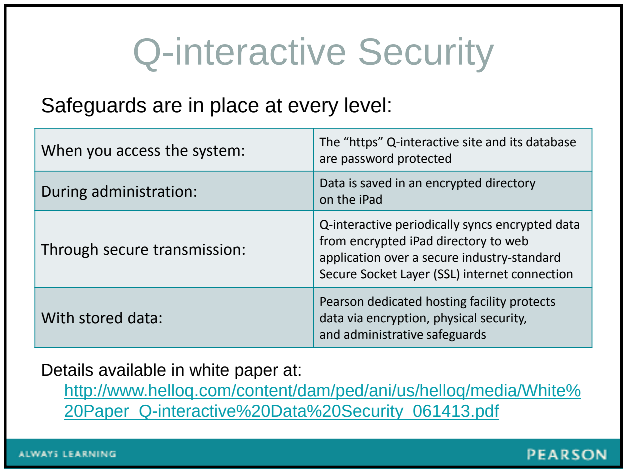

Q-interactive Security

Safeguards are in place at every level:

When you access the system:	The "https" Q-interactive site and its database are password protected
During administration:	Data is saved in an encrypted directory on the iPad
Through secure transmission:	Q-interactive periodically syncs encrypted data from encrypted iPad directory to web application over a secure industry-standard Secure Socket Layer (SSL) internet connection
With stored data:	Pearson dedicated hosting facility protects data via encryption, physical security, and administrative safeguards

Details available in white paper at:
http://www.helloq.com/content/dam/ped/ani/us/helloq/media/White%20Paper_Q-interactive%20Data%20Security_061413.pdf

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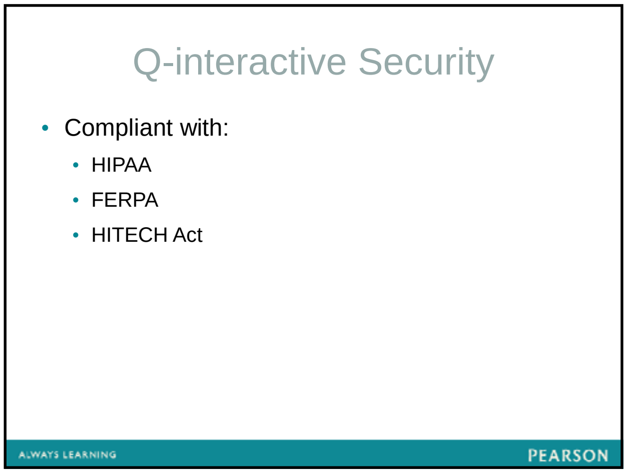

Q-interactive Security

- Compliant with:
  - HIPAA
  - FERPA
  - HITECH Act

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New Content Schedule

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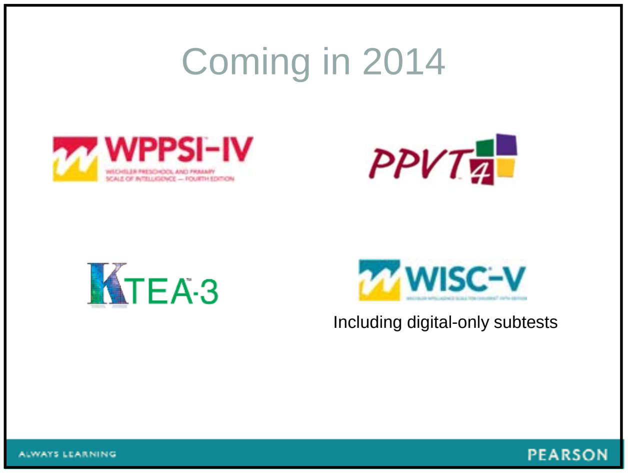

Coming in 2014

WPPSI-IV
WECHSLER PRESCHOOL AND PRIMARY SCALE OF INTELLIGENCE — FOURTH EDITION

PPVT 4

KTEA-3

WISC-V

Including digital-only subtests

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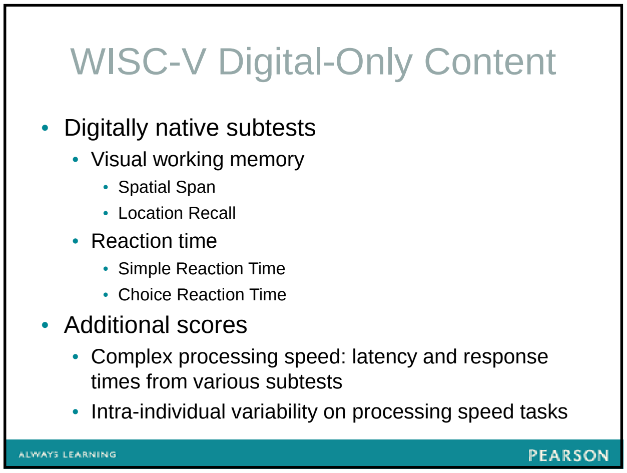

WISC-V Digital-Only Content

- Digitally native subtests
  - Visual working memory
    - Spatial Span
    - Location Recall
  - Reaction time
    - Simple Reaction Time
    - Choice Reaction Time
- Additional scores
  - Complex processing speed: latency and response times from various subtests
  - Intra-individual variability on processing speed tasks

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Speech and Language Measures (2014)

CELF 5
Clinical Evaluation of Language Fundamentals

PPVT 4

Goldman Fristoe 2
Test of Articulation

EVT 2
Expressive Vocabulary Test, Second Edition

Hardware Requirements

What You Need

- Two (2) Apple® full-size iPads® (iPad 2 or newer)
- One (1) capacitive-enabled stylus

Recommended for an optimal experience:

- Computer with internet access (for Q-i Central)
- Antiglare screen covers
- Durable protective cases
- Home button cover for client iPad

Pricing

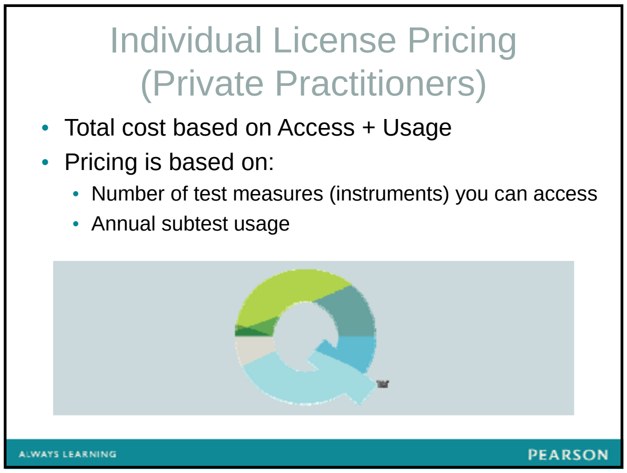
Q-interactive Pricing

Two Components to Price

Platform Access (License)	**Content Usage**
-Digital delivery of assessment -On-the-fly scoring -Platform features -Data storage	-Assessment/subtest administrations -Scores and normative data -Administration and scoring information

Annual License Includes . . .

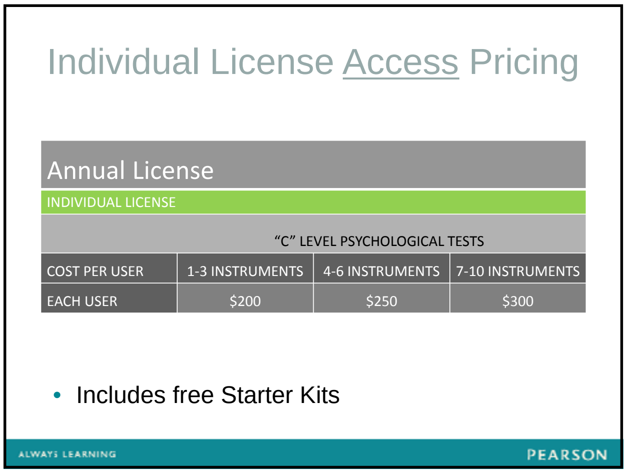
- Free Starter Kits
  - Contain all of consumables necessary to administer subtests
- Unlimited usage for 30 days
  - Initiated with sending of Q-i Welcome Email
- Free access to new assessments for first 30 days they are available on Q-i
- Access to NEPSY-II and Children's Memory Scale
  - Charged only for subtest administration
- Training
  - Including webinars, videos, and helpful tips
- Unlimited access to Tech Support
- Data storage within Pearson's secure Q-i environment



Individual License Pricing (Private Practitioners)

- Total cost based on Access + Usage
- Pricing is based on:
  - Number of test measures (instruments) you can access
  - Annual subtest usage

ALWAYS LEARNING PEARSON



Individual License Access Pricing

Annual License

INDIVIDUAL LICENSE			
	“C” LEVEL PSYCHOLOGICAL TESTS		
COST PER USER	1-3 INSTRUMENTS	4-6 INSTRUMENTS	7-10 INSTRUMENTS
EACH USER	$200	$250	$300

- Includes free Starter Kits

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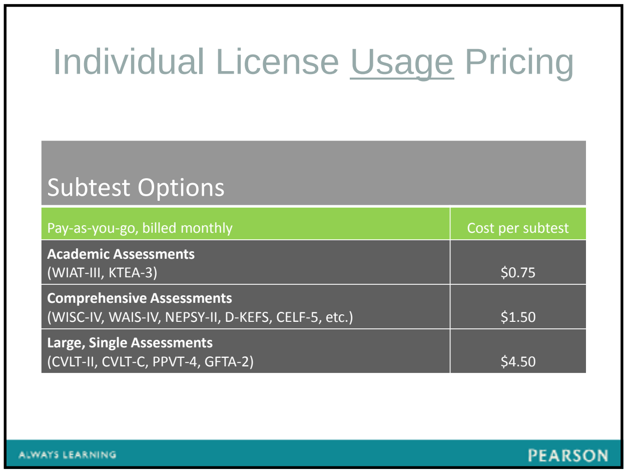

Individual License Usage Pricing

Subtest Options

Pay-as-you-go, billed monthly	Cost per subtest
Academic Assessments (WIAT-III, KTEA-3)	$0.75
Comprehensive Assessments (WISC-IV, WAIS-IV, NEPSY-II, D-KEFS, CELF-5, etc.)	$1.50
Large, Single Assessments (CVLT-II, CVLT-C, PPVT-4, GFTA-2)	$4.50

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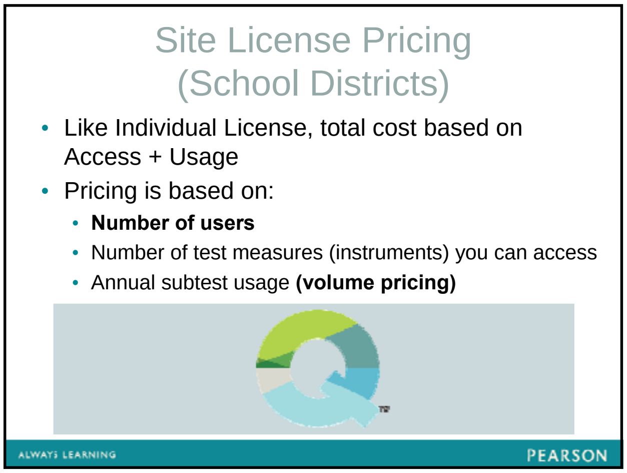
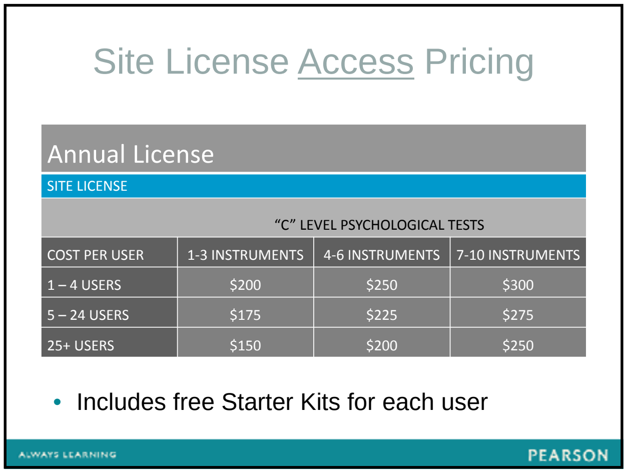


Site License Pricing (School Districts)

- Like Individual License, total cost based on Access + Usage
- Pricing is based on:
  - **Number of users**
  - Number of test measures (instruments) you can access
  - Annual subtest usage **(volume pricing)**

ALWAYS LEARNING PEARSON



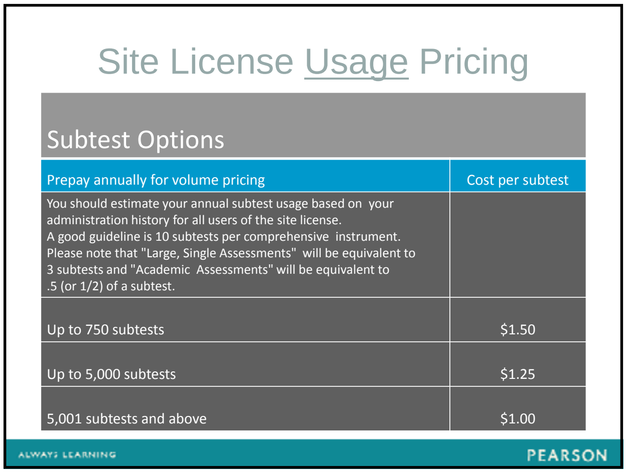
Site License Access Pricing

Annual License

SITE LICENSE			
	“C” LEVEL PSYCHOLOGICAL TESTS		
COST PER USER	1-3 INSTRUMENTS	4-6 INSTRUMENTS	7-10 INSTRUMENTS
1 – 4 USERS	$200	$250	$300
5 – 24 USERS	$175	$225	$275
25+ USERS	$150	$200	$250

- Includes free Starter Kits for each user

ALWAYS LEARNING PEARSON

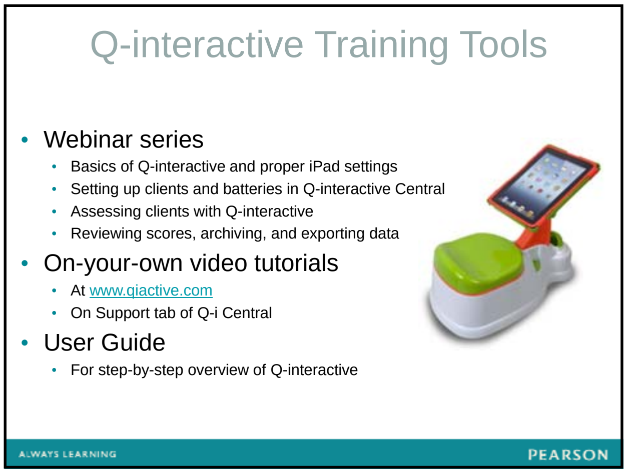


Site License Usage Pricing

Subtest Options

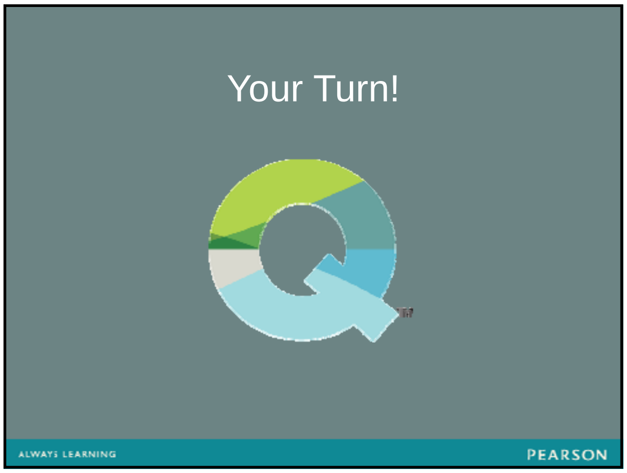
Prepay annually for volume pricing	Cost per subtest
You should estimate your annual subtest usage based on your administration history for all users of the site license. A good guideline is 10 subtests per comprehensive instrument. Please note that "Large, Single Assessments" will be equivalent to 3 subtests and "Academic Assessments" will be equivalent to .5 (or 1/2) of a subtest.	
Up to 750 subtests	$1.50
Up to 5,000 subtests	$1.25
5,001 subtests and above	$1.00

ALWAYS LEARNING PEARSON

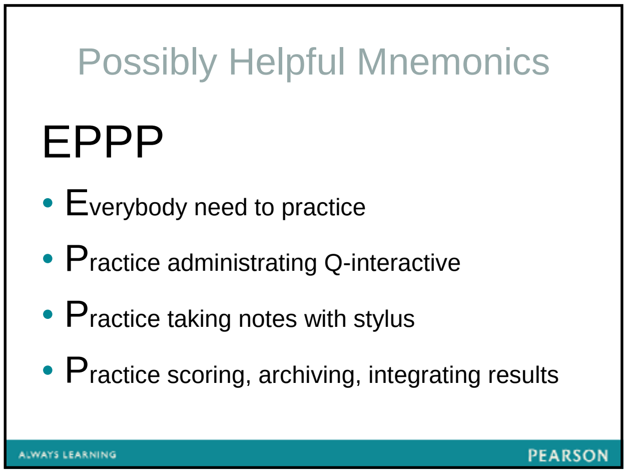


Q-interactive Training Tools

- Webinar series
  - Basics of Q-interactive and proper iPad settings
  - Setting up clients and batteries in Q-interactive Central
  - Assessing clients with Q-interactive
  - Reviewing scores, archiving, and exporting data
- On-your-own video tutorials
  - At www.qiactive.com
  - On Support tab of Q-i Central
- User Guide
  - For step-by-step overview of Q-interactive



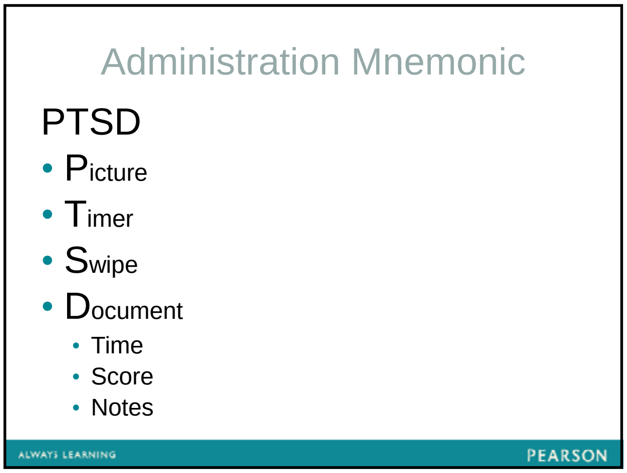
Your Turn!



Possibly Helpful Mnemonics

EPPP

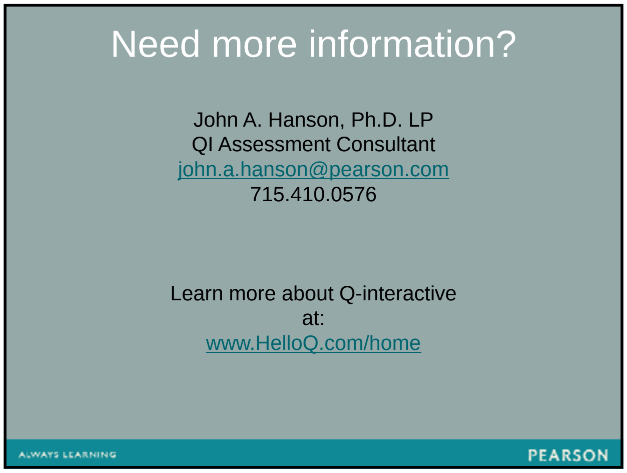
- Everybody need to practice
- Practice administrating Q-interactive
- Practice taking notes with stylus
- Practice scoring, archiving, integrating results



Administration Mnemonic

PTSD

- Picture
- Timer
- Swipe
- Document
  - Time
  - Score
  - Notes



Need more information?

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715.410.0576

Learn more about Q-interactive
at:
www.HelloQ.com/home

AWStudentID	Grade	GOM	SchoolYear	Winter_JanuaryDateGiven	Winter_January	Winter_January2	Winter_JanuaryNationalPercentileRank
41489496	4	R-CBM	2014	1/16/2014	254	0	99
36648535	6	R-CBM	2014	1/20/2014	246	4	99
53859394	6	R-CBM	2014	1/17/2014	239	0	99
18873330	6	R-CBM	2014	1/20/2014	237	1	99
32092112	6	R-CBM	2014	1/17/2014	236	0	98
18873420	6	R-CBM	2014	1/17/2014	232	0	98
41500937	5	R-CBM	2014	1/20/2014	231	2	99
18873248	6	R-CBM	2014	1/20/2014	229	0	98
18873322	6	R-CBM	2014	1/21/2014	229	0	98
18873267	6	R-CBM	2014	1/20/2014	226	1	97
18873286	6	R-CBM	2014	1/17/2014	225	0	97
46788259	5	R-CBM	2014	1/16/2014	224	1	98
32091962	5	R-CBM	2014	1/20/2014	219	3	98
18873314	6	R-CBM	2014	1/17/2014	217	3	94
32092103	6	R-CBM	2014	1/20/2014	216	0	94
18873350	6	R-CBM	2014	1/17/2014	215	1	94
55149435	4	R-CBM	2014	1/16/2014	213	0	98
18873302	6	R-CBM	2014	1/20/2014	210	0	92
41489938	4	R-CBM	2014	1/16/2014	209	0	98
18873423	6	R-CBM	2014	1/17/2014	209	0	92
23673988	6	R-CBM	2014	1/17/2014	208	1	92
41489428	4	R-CBM	2014	1/16/2014	208	0	98
32091910	5	R-CBM	2014	1/20/2014	208	0	96
18873398	6	R-CBM	2014	1/17/2014	206	2	91
32092026	5	R-CBM	2014	1/21/2014	206	1	95
32092037	5	R-CBM	2014	1/20/2014	205	1	95
32092101	6	R-CBM	2014	1/17/2014	205	0	91
18873239	6	R-CBM	2014	1/20/2014	204	0	90
32091931	5	R-CBM	2014	1/16/2014	202	1	94
32091981	5	R-CBM	2014	1/20/2014	202	1	94
18873424	6	R-CBM	2014	1/20/2014	202	0	89
18873308	6	R-CBM	2014	1/17/2014	202	5	89
41489453	4	R-CBM	2014	1/16/2014	202	0	97
32091958	5	R-CBM	2014	1/16/2014	202	1	94
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18873461	6	R-CBM	2014	1/20/2014	201	1	88
32092021	5	R-CBM	2014	1/20/2014	200	1	94
18873456	6	R-CBM	2014	1/20/2014	200	2	88
18873244	6	R-CBM	2014	1/20/2014	199	3	87
41489517	4	R-CBM	2014	1/16/2014	198	3	96
32092061	5	R-CBM	2014	1/16/2014	198	2	93
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18873277	6	R-CBM	2014	1/20/2014	196	3	85
45623396	4	R-CBM	2014	1/16/2014	195	0	95
18873404	6	R-CBM	2014	1/24/2014	195	0	85
50653370	2	R-CBM	2014	1/16/2014	194	2	99
18873402	6	R-CBM	2014	1/17/2014	193	1	84
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41499145	4	R-CBM	2014	1/16/2014	193	0	95
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18873439	6	R-CBM	2014	1/20/2014	191	3	83
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18873246	6	R-CBM	2014	1/20/2014	189	1	82
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32092016	5	R-CBM	2014	1/16/2014	188	1	89
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32092032	5	R-CBM	2014	1/16/2014	186	0	88
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18873451	6	R-CBM	2014	1/17/2014	177	4	73
48722289	3	R-CBM	2014	1/16/2014	177	4	95
32091959	5	R-CBM	2014	1/20/2014	176	1	81
41489446	4	R-CBM	2014	1/16/2014	176	1	89
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27409095	6	R-CBM	2014	1/17/2014	175	1	72
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32091901	5	R-CBM	2014	1/20/2014	172	1	79
18873401	6	R-CBM	2014	1/17/2014	172	5	69
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32091943	5	R-CBM	2014	1/16/2014	166	1	74
41497713	4	R-CBM	2014	1/16/2014	166	5	84
32091949	5	R-CBM	2014	1/17/2014	165	0	74
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41496293	4	R-CBM	2014	1/16/2014	141	4	66
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32092022	5	R-CBM	2014	1/20/2014	140	1	51
41489514	4	R-CBM	2014	1/16/2014	140	6	65
45623524	4	R-CBM	2014	1/16/2014	139	0	64
32092079	5	R-CBM	2014	1/16/2014	139	5	50
18873295	6	R-CBM	2014	1/20/2014	139	2	33
48832087	3	R-CBM	2014	1/16/2014	138	2	74
32092064	5	R-CBM	2014	1/20/2014	138	1	49
9211831	6	R-CBM	2014	1/17/2014	138	8	33
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48740347	3	R-CBM	2014	1/16/2014	128	1	65
53887678	3	R-CBM	2014	1/16/2014	127	2	65
41489414	4	R-CBM	2014	1/16/2014	126	1	51
49503789	5	R-CBM	2014	1/16/2014	126	0	38
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41489499	4	R-CBM	2014	1/16/2014	124	0	49
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18873325	6	R-CBM	2014	1/17/2014	124	2	20
53859495	6	R-CBM	2014	1/17/2014	124	1	20
32091960	5	R-CBM	2014	1/20/2014	123	2	35
51643525	4	R-CBM	2014	1/16/2014	123	1	48
50652490	2	R-CBM	2014	1/16/2014	123	2	81
50653870	2	R-CBM	2014	1/16/2014	123	0	81
50653449	2	R-CBM	2014	1/20/2014	123	1	81
54178284	1	R-CBM	2014	1/16/2014	123	2	96
18873462	6	R-CBM	2014	1/17/2014	123	1	19
56708072	5	R-CBM	2014	1/16/2014	122	3	35
56192731	2	R-CBM	2014	1/16/2014	122	1	80
50655420	2	R-CBM	2014	1/16/2014	122	1	80
41489511	3	R-CBM	2014	1/16/2014	122	2	61
41496291	4	R-CBM	2014	1/16/2014	122	2	47
32091942	5	R-CBM	2014	1/16/2014	121	1	34
50654768	2	R-CBM	2014	1/16/2014	121	1	80

48722172	3	R-CBM	2014	1/16/2014	120	0	59
32092007	5	R-CBM	2014	1/16/2014	120	3	33
32092122	6	R-CBM	2014	1/17/2014	120	1	18
50652890	2	R-CBM	2014	1/20/2014	120	1	79
41489491	4	R-CBM	2014	1/16/2014	120	1	45
45623494	4	R-CBM	2014	1/16/2014	119	1	44
41489507	4	R-CBM	2014	1/16/2014	119	1	44
48833493	3	R-CBM	2014	1/21/2014	118	2	57
48722197	3	R-CBM	2014	1/16/2014	117	1	56
18873311	6	R-CBM	2014	1/17/2014	117	3	16
41489437	4	R-CBM	2014	1/16/2014	117	1	42
56319664	5	R-CBM	2014	1/20/2014	116	5	30
50654454	2	R-CBM	2014	1/20/2014	116	1	76
32091968	5	R-CBM	2014	1/20/2014	116	0	30
48739711	3	R-CBM	2014	1/16/2014	116	1	55
41496280	4	R-CBM	2014	1/16/2014	116	4	41
50653022	2	R-CBM	2014	1/20/2014	116	1	76
32092117	6	R-CBM	2014	1/17/2014	115	2	15
18873394	6	R-CBM	2014	1/20/2014	114	2	15
32092062	5	R-CBM	2014	1/16/2014	114	1	28
48722252	3	R-CBM	2014	1/21/2014	114	1	53
41489478	4	R-CBM	2014	1/16/2014	114	0	39
41496270	4	R-CBM	2014	1/17/2014	113	1	38
50653300	2	R-CBM	2014	1/16/2014	113	0	74
48831141	3	R-CBM	2014	1/16/2014	113	2	52
54177292	1	NWF	2014	1/16/2014	113		92
54178185	1	R-CBM	2014	1/16/2014	113	2	94
48833445	3	R-CBM	2014	1/16/2014	113	1	52
50653919	2	R-CBM	2014	1/16/2014	113	2	74
50654430	2	R-CBM	2014	1/16/2014	112	1	73
50653784	2	R-CBM	2014	1/20/2014	112	1	73
54178158	1	NWF	2014	1/23/2014	112		92
54991549	4	R-CBM	2014	1/16/2014	112	1	37
50652227	2	R-CBM	2014	1/16/2014	111	1	72
50654471	2	R-CBM	2014	1/20/2014	111	1	72
32091937	5	R-CBM	2014	1/20/2014	111	2	25
48739577	3	R-CBM	2014	1/16/2014	111	0	50
48740329	3	R-CBM	2014	1/16/2014	111	2	50
41489455	4	R-CBM	2014	1/16/2014	110	2	35
41489468	4	R-CBM	2014	1/16/2014	110	3	35
41496278	4	R-CBM	2014	1/16/2014	110	7	35
41489420	4	R-CBM	2014	1/16/2014	110	2	35
41489482	4	R-CBM	2014	1/16/2014	110	0	35
48615521	4	R-CBM	2014	1/16/2014	110	1	35
50654306	2	R-CBM	2014	1/16/2014	109	1	70
54740686	5	R-CBM	2014	1/17/2014	109	1	24
50653327	2	R-CBM	2014	1/20/2014	109	1	70
48722319	3	R-CBM	2014	1/16/2014	109	1	48
50652505	2	R-CBM	2014	1/16/2014	109	1	70
18873455	6	R-CBM	2014	1/17/2014	109	3	12
50653152	2	R-CBM	2014	1/20/2014	109	1	70
48831827	3	R-CBM	2014	1/16/2014	109	1	48
50653339	2	R-CBM	2014	1/16/2014	108	3	69
48739636	3	R-CBM	2014	1/17/2014	108	1	47
54390690	4	R-CBM	2014	1/16/2014	108	0	33
56318511	4	R-CBM	2014	1/16/2014	108	1	33
54180450	1	NWF	2014	1/17/2014	107		91
48832232	3	R-CBM	2014	1/16/2014	107	3	46
54178185	1	NWF	2014	1/16/2014	107		91
54178284	1	NWF	2014	1/16/2014	107		91
41489412	4	R-CBM	2014	1/16/2014	106	2	31
50653433	2	R-CBM	2014	1/16/2014	106	0	67
50653080	2	R-CBM	2014	1/16/2014	106	3	67
48831348	3	R-CBM	2014	1/16/2014	105	3	44
41496258	4	R-CBM	2014	1/16/2014	105	2	29
50654328	2	R-CBM	2014	1/16/2014	104	7	65
41489474	4	R-CBM	2014	1/16/2014	104	0	28
32092066	5	R-CBM	2014	1/16/2014	104	2	20

48831800	3	R-CBM	2014	1/16/2014	104	11	43
54001742	1	NWF	2014	1/16/2014	104		90
48831332	3	R-CBM	2014	1/16/2014	103	3	42
32092042	4	R-CBM	2014	1/16/2014	103	0	27
50655702	2	R-CBM	2014	1/16/2014	103	3	65
54001769	1	R-CBM	2014	1/16/2014	103	1	91
32092056	5	R-CBM	2014	1/16/2014	102	3	19
52546791	2	R-CBM	2014	1/20/2014	102	0	64
50656710	3	R-CBM	2014	1/16/2014	102	3	41
50655399	2	R-CBM	2014	1/16/2014	102	3	64
41489505	4	R-CBM	2014	1/16/2014	102	2	26
50652550	2	R-CBM	2014	1/20/2014	102	1	64
41499148	4	R-CBM	2014	1/16/2014	102	1	26
32091891	5	R-CBM	2014	1/16/2014	101	2	18
52104042	2	R-CBM	2014	1/16/2014	101	2	63
32092051	5	R-CBM	2014	1/20/2014	100	4	18
48833433	3	R-CBM	2014	1/16/2014	100	1	39
54001912	1	R-CBM	2014	1/16/2014	99	1	90
49225943	3	R-CBM	2014	1/16/2014	99	1	39
48739654	3	R-CBM	2014	1/16/2014	99	3	39
50655508	2	R-CBM	2014	1/20/2014	99	7	61
32092106	6	R-CBM	2014	1/20/2014	98	3	8
50654674	2	R-CBM	2014	1/16/2014	98	1	60
52083755	2	R-CBM	2014	1/20/2014	98	4	60
32092024	5	R-CBM	2014	1/20/2014	97	1	16
41489510	4	R-CBM	2014	1/16/2014	97	2	21
56708075	3	R-CBM	2014	1/16/2014	96	2	36
32092049	5	R-CBM	2014	1/20/2014	96	1	15
54177292	1	R-CBM	2014	1/16/2014	96	0	89
41489516	4	R-CBM	2014	1/16/2014	95	2	19
48831203	3	R-CBM	2014	1/16/2014	95	0	35
54178158	1	R-CBM	2014	1/23/2014	95	1	88
50656943	3	R-CBM	2014	1/16/2014	95	0	35
50652934	2	R-CBM	2014	1/20/2014	95	1	57
54001912	1	NWF	2014	1/16/2014	94		87
50653316	2	R-CBM	2014	1/20/2014	94	3	56
18873278	6	R-CBM	2014	1/20/2014	94	4	7
48831302	3	R-CBM	2014	1/16/2014	94	3	34
50653400	2	R-CBM	2014	1/20/2014	94	6	56
55212322	2	R-CBM	2014	1/16/2014	94	1	56
50653828	2	R-CBM	2014	1/21/2014	94	1	56
41489512	4	R-CBM	2014	1/16/2014	94	0	19
54179445	1	R-CBM	2014	1/16/2014	93	2	88
50655444	2	R-CBM	2014	1/16/2014	93	6	55
48830972	3	R-CBM	2014	1/16/2014	93	1	33
41499012	4	R-CBM	2014	1/16/2014	93	0	18
50653290	2	R-CBM	2014	1/16/2014	92	1	54
18873282	6	R-CBM	2014	1/17/2014	92	1	6
54125054	1	NWF	2014	1/16/2014	92		86
48832270	3	R-CBM	2014	1/16/2014	92	4	32
45675643	5	R-CBM	2014	1/20/2014	91	3	12
50655599	2	R-CBM	2014	1/16/2014	90	0	52
48831758	3	R-CBM	2014	1/16/2014	90	2	30
32091936	5	R-CBM	2014	1/20/2014	89	4	11
50655620	2	R-CBM	2014	1/16/2014	89	3	51
55025150	3	R-CBM	2014	1/16/2014	88	2	29
54180358	1	R-CBM	2014	1/16/2014	88	2	85
32091863	5	R-CBM	2014	1/16/2014	87	1	10
50653699	2	R-CBM	2014	1/20/2014	87	2	48
48722343	3	R-CBM	2014	1/16/2014	87	6	28
48832251	3	R-CBM	2014	1/16/2014	86	2	27
54001613	1	R-CBM	2014	1/16/2014	86	0	85
50653312	2	R-CBM	2014	1/20/2014	85	2	46
46885883	4	R-CBM	2014	1/16/2014	85	1	13
48831499	3	R-CBM	2014	1/16/2014	85	3	26
56139562	1	NWF	2014	1/16/2014	85		83
41496276	4	R-CBM	2014	1/16/2014	84	1	13
48722321	3	R-CBM	2014	1/16/2014	84	3	25

56271606	3	R-CBM	2014	1/16/2014	84	5	25
41489471	4	R-CBM	2014	1/16/2014	83	1	12
54178114	1	NWF	2014	1/16/2014	83		82
41496289	4	R-CBM	2014	1/16/2014	83	0	12
56194223	K	LNF	2014	1/14/2014	81	0	99
50654265	2	R-CBM	2014	1/16/2014	81	3	41
18873265	6	R-CBM	2014	1/20/2014	81	5	4
56139562	1	R-CBM	2014	1/16/2014	81	7	82
53859444	6	R-CBM	2014	1/20/2014	81	6	4
48722297	3	R-CBM	2014	1/16/2014	81	5	23
54001742	1	R-CBM	2014	1/16/2014	81	5	82
56140370	1	R-CBM	2014	1/16/2014	80	1	82
54180450	1	R-CBM	2014	1/17/2014	80	0	82
56192051	2	R-CBM	2014	1/20/2014	80	9	40
48722345	3	R-CBM	2014	1/16/2014	80	1	22
54177184	1	R-CBM	2014	1/16/2014	80	1	82
50655731	2	R-CBM	2014	1/16/2014	80	3	40
48722317	3	R-CBM	2014	1/16/2014	79	1	21
50652349	2	R-CBM	2014	1/20/2014	79	5	39
56195001	K	NWF	2014	1/14/2014	79		98
48831364	3	R-CBM	2014	1/16/2014	79	2	21
50653854	2	R-CBM	2014	1/20/2014	79	1	39
18873352	6	R-CBM	2014	1/20/2014	79	3	4
54178726	1	NWF	2014	1/16/2014	78		79
50655383	2	R-CBM	2014	1/20/2014	78	0	39
54001505	1	NWF	2014	1/16/2014	78		79
50653583	2	R-CBM	2014	1/17/2014	78	2	39
54001613	1	NWF	2014	1/16/2014	78		79
54177176	1	NWF	2014	1/16/2014	78		79
50652259	2	R-CBM	2014	1/16/2014	77	1	38
55149424	4	R-CBM	2014	1/16/2014	77	0	10
41496277	4	R-CBM	2014	1/16/2014	77	4	10
56195001	K	LNF	2014	1/14/2014	77	1	98
41494837	4	R-CBM	2014	1/16/2014	77	3	10
41489481	4	R-CBM	2014	1/16/2014	77	1	10
54001528	1	R-CBM	2014	1/16/2014	76	2	80
32091939	5	R-CBM	2014	1/20/2014	76	4	6
54178715	1	NWF	2014	1/16/2014	75		77
56140370	1	NWF	2014	1/16/2014	75		77
54178715	1	R-CBM	2014	1/16/2014	74	0	79
56140178	1	NWF	2014	1/16/2014	74		76
54179077	1	NWF	2014	1/16/2014	74		76
56264667	K	LNF	2014	1/15/2014	74	0	97
54180358	1	NWF	2014	1/16/2014	74		76
50655646	2	R-CBM	2014	1/16/2014	74	3	35
54177176	1	R-CBM	2014	1/16/2014	74	1	79
41496261	4	R-CBM	2014	1/16/2014	74	1	9
54001528	1	NWF	2014	1/16/2014	73		75
48832189	3	R-CBM	2014	1/16/2014	73	5	17
54179706	1	NWF	2014	1/16/2014	73		75
41494836	4	R-CBM	2014	1/16/2014	73	1	8
41489477	4	R-CBM	2014	1/16/2014	73	4	8
56270487	K	LSF	2014	1/14/2014	73	0	99
48830905	3	R-CBM	2014	1/17/2014	73	1	17
48830937	3	R-CBM	2014	1/16/2014	73	6	17
56270487	K	LNF	2014	1/14/2014	72	0	96
41489440	4	R-CBM	2014	1/16/2014	72	7	8
53887690	3	R-CBM	2014	1/16/2014	71	3	17
54125025	1	NWF	2014	1/16/2014	71		73
54180250	1	NWF	2014	1/16/2014	71		73
54180479	1	NWF	2014	1/16/2014	71		73
54001659	1	NWF	2014	1/16/2014	71		73
48831237	3	R-CBM	2014	1/16/2014	70	2	16
48832213	3	R-CBM	2014	1/16/2014	70	4	16
54179749	1	NWF	2014	1/16/2014	70		72
50652964	2	R-CBM	2014	1/16/2014	70	2	30
56198013	K	LNF	2014	1/14/2014	70	1	94
56269458	K	LNF	2014	1/14/2014	69	1	94

54178134	1	NWF	2014	1/16/2014	69		71
50655681	2	R-CBM	2014	1/20/2014	69	0	29
56140139	1	R-CBM	2014	1/16/2014	68	3	75
56140178	1	R-CBM	2014	1/16/2014	68	3	75
56269867	K	NWF	2014	1/14/2014	68		97
54001488	1	NWF	2014	1/16/2014	68		70
54177964	1	NWF	2014	1/16/2014	68		70
54125061	1	NWF	2014	1/16/2014	68		70
50655576	2	R-CBM	2014	1/20/2014	68	5	28
50654758	2	R-CBM	2014	1/17/2014	68	1	28
48722162	3	R-CBM	2014	1/16/2014	67	1	15
50653571	2	R-CBM	2014	1/16/2014	67	4	27
56200119	K	LNF	2014	1/14/2014	67	0	92
50652908	2	R-CBM	2014	1/16/2014	67	2	27
32091888	5	R-CBM	2014	1/16/2014	66	6	4
54177951	1	NWF	2014	1/16/2014	66		67
50654658	2	R-CBM	2014	1/16/2014	66	2	27
48722270	3	R-CBM	2014	1/16/2014	66	5	14
50653884	2	R-CBM	2014	1/16/2014	66	4	27
54001387	1	NWF	2014	1/16/2014	65		66
54177280	1	NWF	2014	1/16/2014	65		66
54177007	1	NWF	2014	1/16/2014	65		66
56196677	K	NWF	2014	1/14/2014	65		97
54001930	1	NWF	2014	1/16/2014	64		65
56269867	K	LNF	2014	1/14/2014	64	0	89
41493153	4	R-CBM	2014	1/17/2014	64	3	6
56195001	K	LSF	2014	1/14/2014	64	6	98
54178114	1	R-CBM	2014	1/16/2014	64	1	73
54001629	1	NWF	2014	1/16/2014	64		65
54178621	1	NWF	2014	1/16/2014	63		64
48739434	3	R-CBM	2014	1/16/2014	63	4	13
54180393	1	NWF	2014	1/16/2014	63		64
54001544	1	R-CBM	2014	1/16/2014	63	4	72
56198962	K	LNF	2014	1/14/2014	63	0	88
54176996	1	NWF	2014	1/16/2014	63		64
18873288	6	R-CBM	2014	1/20/2014	63	6	2
56269458	K	NWF	2014	1/14/2014	62		96
53904182	2	R-CBM	2014	1/16/2014	62	1	23
56192534	2	R-CBM	2014	1/16/2014	62	5	23
56270183	K	LNF	2014	1/14/2014	62	0	87
54179445	1	NWF	2014	1/16/2014	62		63
56196434	K	LNF	2014	1/14/2014	62	2	87
54176988	1	NWF	2014	1/16/2014	62		63
54179726	1	NWF	2014	1/16/2014	62		63
54179782	1	NWF	2014	1/16/2014	62		63
54177964	1	R-CBM	2014	1/16/2014	61	3	71
54178212	1	R-CBM	2014	1/16/2014	61	3	71
48722256	3	R-CBM	2014	1/16/2014	61	4	12
54177115	1	NWF	2014	1/16/2014	61		62
56200685	K	LNF	2014	1/14/2014	61	0	86
56269274	K	LNF	2014	1/14/2014	61	0	86
56140430	1	NWF	2014	1/16/2014	61		62
54125037	1	NWF	2014	1/21/2014	60		60
48831220	3	R-CBM	2014	1/16/2014	60	2	12
56199003	K	LNF	2014	1/14/2014	60	0	84
56195827	K	LNF	2014	1/14/2014	60	0	84
56269081	K	LSF	2014	1/14/2014	59	6	97
50653201	2	R-CBM	2014	1/20/2014	59	1	20
55212318	1	NWF	2014	1/16/2014	59		59
50655554	2	R-CBM	2014	1/21/2014	59	2	20
54001629	1	R-CBM	2014	1/16/2014	59	5	70
50653418	2	R-CBM	2014	1/20/2014	59	3	20
54179726	1	R-CBM	2014	1/16/2014	59	3	70
56269259	K	LSF	2014	1/14/2014	59	1	97
56197680	K	LNF	2014	1/14/2014	59	1	83
54177184	1	NWF	2014	1/16/2014	59		59
54178349	1	NWF	2014	1/16/2014	59		59
56195795	K	LNF	2014	1/14/2014	59	1	83

32091922	5	R-CBM	2014	1/20/2014	59	2	3
52289844	3	R-CBM	2014	1/16/2014	58	4	11
56269259	K	LNF	2014	1/14/2014	58	0	81
54125054	1	R-CBM	2014	1/16/2014	57	5	68
54179682	1	R-CBM	2014	1/16/2014	57	2	68
54176990	1	NWF	2014	1/17/2014	57		56
56196677	K	LNF	2014	1/14/2014	57	0	80
54177231	1	NWF	2014	1/16/2014	57		56
54180211	1	NWF	2014	1/16/2014	56		54
56198674	K	LNF	2014	1/14/2014	56	1	78
56270068	K	LNF	2014	1/14/2014	56	0	78
54001468	1	NWF	2014	1/16/2014	56		54
56264944	K	LSF	2014	1/14/2014	56	1	95
54177000	1	NWF	2014	1/16/2014	56		54
54528606	1	NWF	2014	1/16/2014	55		53
54180437	1	NWF	2014	1/16/2014	55		53
56196434	K	NWF	2014	1/14/2014	55		93
56195066	K	LNF	2014	1/14/2014	55	1	76
50655460	2	R-CBM	2014	1/16/2014	55	15	17
56195827	K	LSF	2014	1/14/2014	55	0	95
56269458	K	LSF	2014	1/14/2014	54	2	94
54001517	1	NWF	2014	1/16/2014	54		51
48722372	3	R-CBM	2014	1/16/2014	54	6	9
56195066	K	NWF	2014	1/14/2014	54		93
50653769	2	R-CBM	2014	1/17/2014	54	6	17
54178212	1	NWF	2014	1/16/2014	54		51
56270898	K	LNF	2014	1/14/2014	54	0	74
56271174	K	LNF	2014	1/14/2014	54	0	74
56264667	K	LSF	2014	1/15/2014	53	3	94
56270068	K	NWF	2014	1/14/2014	53		92
54001544	1	NWF	2014	1/16/2014	53		49
56196434	K	LSF	2014	1/14/2014	53	3	94
54001569	1	R-CBM	2014	1/16/2014	53	2	65
56195313	K	LNF	2014	1/14/2014	53	0	72
54001671	1	NWF	2014	1/16/2014	53		49
54182969	1	NWF	2014	1/16/2014	53		49
56198013	K	LSF	2014	1/14/2014	53	0	94
54178726	1	R-CBM	2014	1/16/2014	52	3	64
54178742	1	NWF	2014	1/16/2014	52		47
54179077	1	R-CBM	2014	1/16/2014	52	1	64
54180250	1	R-CBM	2014	1/16/2014	52	4	64
54001596	1	NWF	2014	1/16/2014	52		47
56269230	K	LNF	2014	1/14/2014	52	0	70
54182950	1	NWF	2014	1/16/2014	52		47
56195392	K	LNF	2014	1/14/2014	52	1	70
56194726	K	LNF	2014	1/14/2014	51	0	68
56194910	K	LNF	2014	1/14/2014	51	1	68
54179693	1	NWF	2014	1/16/2014	51		46
56270487	K	NWF	2014	1/14/2014	51		91
50655590	2	R-CBM	2014	1/16/2014	51	1	15
54182950	1	R-CBM	2014	1/16/2014	51	2	63
54182978	1	NWF	2014	1/16/2014	51		46
56194223	K	NWF	2014	1/14/2014	50		90
48832010	3	R-CBM	2014	1/16/2014	50	1	8
54125025	1	R-CBM	2014	1/16/2014	50	3	63
56270183	K	NWF	2014	1/14/2014	50		90
56264944	K	LNF	2014	1/14/2014	50	2	66
54180406	1	NWF	2014	1/16/2014	50		44
56196372	K	LNF	2014	1/14/2014	50	2	66
56198885	K	LNF	2014	1/14/2014	50	0	66
56196490	K	LNF	2014	1/14/2014	50	0	66
54179765	1	NWF	2014	1/16/2014	50		44
56270898	K	LSF	2014	1/14/2014	50	2	91
56140139	1	NWF	2014	1/16/2014	49		42
56270068	K	LSF	2014	1/14/2014	49	0	90
54177273	1	NWF	2014	1/16/2014	49		42
54177280	1	R-CBM	2014	1/16/2014	49	3	62
50654408	2	R-CBM	2014	1/20/2014	49	1	14

56196397	K	LNF	2014	1/14/2014	49	5	63
56200078	K	LNF	2014	1/14/2014	49	4	63
54182917	1	NWF	2014	1/16/2014	49		42
56269246	K	LNF	2014	1/14/2014	49	11	63
54178759	1	NWF	2014	1/16/2014	48		40
56264786	K	LNF	2014	1/14/2014	48	1	61
56269081	K	NWF	2014	1/14/2014	48		89
54177305	1	NWF	2014	1/16/2014	48		40
54179656	1	NWF	2014	1/16/2014	48		40
50654568	2	R-CBM	2014	1/20/2014	48	9	14
56270463	K	LNF	2014	1/14/2014	48	0	61
56269274	K	LSF	2014	1/14/2014	48	0	89
56270992	K	LNF	2014	1/14/2014	48	0	61
54180265	1	NWF	2014	1/16/2014	47		38
54001488	1	R-CBM	2014	1/16/2014	47	7	60
56269081	K	LNF	2014	1/14/2014	47	2	59
54180464	1	NWF	2014	1/16/2014	47		38
56198962	K	LSF	2014	1/14/2014	47	0	87
56269111	K	LNF	2014	1/14/2014	47	6	59
54180479	1	R-CBM	2014	1/16/2014	47	4	60
56200078	K	NWF	2014	1/14/2014	47		88
56196536	K	LNF	2014	1/14/2014	47	1	59
56196677	K	LSF	2014	1/14/2014	47	0	87
54001725	1	NWF	2014	1/16/2014	47		38
56194649	K	LNF	2014	1/14/2014	46	3	57
56196181	K	NWF	2014	1/14/2014	46		87
54178025	1	NWF	2014	1/21/2014	46		36
56200474	K	LNF	2014	1/14/2014	46	2	57
54177007	1	R-CBM	2014	1/16/2014	46	5	59
54182941	1	NWF	2014	1/16/2014	46		36
54179782	1	R-CBM	2014	1/16/2014	46	4	59
56271174	K	LSF	2014	1/14/2014	46	3	86
54001984	1	NWF	2014	1/16/2014	45		35
56196200	K	LNF	2014	1/14/2014	45	1	54
56200119	K	LSF	2014	1/14/2014	45	5	85
56271197	K	LSF	2014	1/14/2014	45	2	85
56198714	K	LNF	2014	1/14/2014	44	1	52
56194864	K	LNF	2014	1/14/2014	44	1	52
54179639	1	R-CBM	2014	1/16/2014	44	13	58
54179672	1	R-CBM	2014	1/16/2014	44	4	58
56199003	K	LSF	2014	1/14/2014	44	0	84
56200667	K	LNF	2014	1/14/2014	44	2	52
56198674	K	LSF	2014	1/14/2014	43	1	82
54125037	1	R-CBM	2014	1/21/2014	43	5	57
54001505	1	R-CBM	2014	1/16/2014	43	1	57
56198758	K	LNF	2014	1/14/2014	43	0	49
54785161	1	NWF	2014	1/16/2014	43		31
56270463	K	LSF	2014	1/14/2014	43	0	82
54001654	1	NWF	2014	1/16/2014	43		31
56270875	K	LNF	2014	1/16/2014	43	0	49
56200685	K	LSF	2014	1/14/2014	42	1	81
56200685	K	NWF	2014	1/14/2014	42		82
56271197	K	NWF	2014	1/14/2014	42		82
56194223	K	LSF	2014	1/14/2014	41	8	79
56198674	K	NWF	2014	1/14/2014	41		81
56269867	K	LSF	2014	1/14/2014	41	0	79
56196181	K	LSF	2014	1/14/2014	41	4	79
54177305	1	R-CBM	2014	1/16/2014	41	10	55
48831463	3	R-CBM	2014	1/16/2014	41	9	5
56195145	K	LNF	2014	1/14/2014	41	2	44
54001647	1	NWF	2014	1/16/2014	41		27
56197620	K	LNF	2014	1/14/2014	41	3	44
56195392	K	NWF	2014	1/14/2014	41		81
56271174	K	NWF	2014	1/14/2014	41		81
54177267	1	NWF	2014	1/16/2014	40		25
56270210	K	LNF	2014	1/14/2014	40	2	42
56194934	K	LNF	2014	1/14/2014	40	0	42
56198885	K	LSF	2014	1/14/2014	40	0	77

54125061	1	R-CBM	2014	1/16/2014	40	17	54
57151079	1	NWF	2014	1/16/2014	40		25
56195066	K	LSF	2014	1/14/2014	40	0	77
48831384	3	R-CBM	2014	1/16/2014	40	11	5
49869911	3	R-CBM	2014	1/16/2014	40	9	5
50652611	2	R-CBM	2014	1/16/2014	40	5	11
56200667	K	NWF	2014	1/14/2014	40		80
56269287	K	LSF	2014	1/14/2014	40	3	77
54001517	1	R-CBM	2014	1/16/2014	39	2	53
56270398	K	LNF	2014	1/14/2014	39	2	39
56200119	K	NWF	2014	1/14/2014	39		78
54177011	1	NWF	2014	1/29/2014	39		23
56270463	K	NWF	2014	1/14/2014	39		78
54177018	1	NWF	2014	1/16/2014	39		23
56195760	K	LNF	2014	1/14/2014	39	1	39
56269287	K	LNF	2014	1/14/2014	39	1	39
56195827	K	NWF	2014	1/14/2014	39		78
56198013	K	NWF	2014	1/14/2014	39		78
56271197	K	LNF	2014	1/14/2014	39	2	39
56270183	K	LSF	2014	1/14/2014	38	0	73
56195034	K	LNF	2014	1/14/2014	38	1	36
54179682	1	NWF	2014	1/16/2014	38		21
54176988	1	R-CBM	2014	1/16/2014	38	7	52
54179693	1	R-CBM	2014	1/16/2014	38	5	52
56196596	K	LNF	2014	1/14/2014	38	5	36
56197912	K	LNF	2014	1/14/2014	38	2	36
56194603	K	LNF	2014	1/14/2014	37	3	34
56269496	K	LSF	2014	1/14/2014	37	1	71
56264786	K	NWF	2014	1/14/2014	37		75
56196181	K	LNF	2014	1/14/2014	37	6	34
54179672	1	NWF	2014	1/16/2014	37		20
56200474	K	NWF	2014	1/14/2014	37		75
56200667	K	LSF	2014	1/14/2014	37	1	71
56195392	K	LSF	2014	1/14/2014	37	2	71
56196200	K	LSF	2014	1/14/2014	36	2	69
54179639	1	NWF	2014	1/16/2014	36		18
54177951	1	R-CBM	2014	1/16/2014	36	3	50
56200068	K	LNF	2014	1/14/2014	36	6	32
54178134	1	R-CBM	2014	1/16/2014	36	6	50
56196536	K	LSF	2014	1/14/2014	36	0	69
56196554	K	LNF	2014	1/14/2014	36	1	32
56269217	K	LNF	2014	1/14/2014	36	3	32
56270973	K	LNF	2014	1/14/2014	36	2	32
56197912	K	LSF	2014	1/14/2014	36	5	69
56263996	K	LNF	2014	1/14/2014	35	13	30
56269496	K	LNF	2014	1/14/2014	35	5	30
56194689	K	LNF	2014	1/14/2014	35	7	30
56194726	K	LSF	2014	1/14/2014	35	2	67
41489503	4	R-CBM	2014	1/16/2014	35	7	2
54001569	1	NWF	2014	1/16/2014	35		17
56269230	K	LSF	2014	1/14/2014	35	2	67
56196573	K	LNF	2014	1/14/2014	35	3	30
54179765	1	R-CBM	2014	1/16/2014	35	5	49
56270898	K	NWF	2014	1/14/2014	35		72
56195351	K	NWF	2014	1/14/2014	35		72
54001659	1	R-CBM	2014	1/16/2014	35	5	49
54182969	1	R-CBM	2014	1/16/2014	35	4	49
56264029	K	LNF	2014	1/14/2014	34	3	29
56264786	K	LSF	2014	1/14/2014	34	3	65
56264944	K	NWF	2014	1/14/2014	34		70
55212318	1	R-CBM	2014	1/16/2014	34	6	48
56198962	K	NWF	2014	1/14/2014	34		70
56196516	K	LNF	2014	1/14/2014	34	0	29
56200689	K	LNF	2014	1/14/2014	34	4	29
56195795	K	LSF	2014	1/14/2014	34	3	65
54178370	1	NWF	2014	1/16/2014	34		15
56194649	K	NWF	2014	1/14/2014	33		68
56264667	K	NWF	2014	1/15/2014	33		68

56198714	K	NWF	2014	1/14/2014	33		68
54180437	1	R-CBM	2014	1/16/2014	33	8	47
56269139	K	LNF	2014	1/14/2014	33	3	27
56200474	K	LSF	2014	1/14/2014	33	4	63
56195160	K	LNF	2014	1/14/2014	33	1	27
54178238	1	NWF	2014	1/16/2014	33		14
54178271	1	NWF	2014	1/16/2014	33		14
54179867	1	NWF	2014	1/16/2014	33		14
56196372	K	LSF	2014	1/14/2014	32	6	61
56196397	K	NWF	2014	1/14/2014	32		66
56200078	K	LSF	2014	1/14/2014	32	4	61
54180514	1	R-CBM	2014	1/16/2014	32	13	46
54179749	1	R-CBM	2014	1/16/2014	32	7	46
56195351	K	LNF	2014	1/14/2014	32	4	25
56270915	K	LNF	2014	1/14/2014	32	6	25
56270992	K	NWF	2014	1/14/2014	32		66
56601929	K	LSF	2014	1/14/2014	32	8	61
56269335	K	LNF	2014	1/14/2014	32	0	25
56194910	K	LSF	2014	1/14/2014	31	6	59
50654540	2	R-CBM	2014	1/20/2014	31	3	7
54177011	1	R-CBM	2014	1/29/2014	31	4	45
54177115	1	R-CBM	2014	1/16/2014	31	8	45
56269259	K	NWF	2014	1/14/2014	31		64
56269274	K	NWF	2014	1/14/2014	31		64
54177147	1	NWF	2014	1/16/2014	31		11
56195795	K	NWF	2014	1/14/2014	31		64
54001930	1	R-CBM	2014	1/16/2014	30	7	44
56264029	K	LSF	2014	1/14/2014	30	1	57
54001468	1	R-CBM	2014	1/16/2014	30	4	44
56198758	K	LSF	2014	1/14/2014	30	3	57
56198922	K	LNF	2014	1/14/2014	30	3	22
54180514	1	NWF	2014	1/16/2014	30		10
50652535	2	R-CBM	2014	1/16/2014	30	2	7
56200509	K	LNF	2014	1/14/2014	30	2	22
56197620	K	LSF	2014	1/14/2014	30	5	57
56270875	K	LSF	2014	1/16/2014	30	1	57
56264356	K	LNF	2014	1/14/2014	29	5	21
56198758	K	NWF	2014	1/14/2014	29		59
56196397	K	LSF	2014	1/14/2014	29	2	55
56269139	K	NWF	2014	1/14/2014	29		59
54182941	1	R-CBM	2014	1/16/2014	29	4	42
56270992	K	LSF	2014	1/14/2014	29	4	55
54180211	1	R-CBM	2014	1/16/2014	28	7	41
54180265	1	R-CBM	2014	1/16/2014	28	4	41
56196372	K	NWF	2014	1/14/2014	28		57
54180422	1	NWF	2014	1/16/2014	28		8
54180464	1	R-CBM	2014	1/16/2014	28	4	41
56195160	K	LSF	2014	1/14/2014	28	1	53
54182929	1	NWF	2014	1/16/2014	28		8
56197655	K	LNF	2014	1/14/2014	28	1	19
54001725	1	R-CBM	2014	1/16/2014	28	1	41
56197912	K	NWF	2014	1/14/2014	28		57
56263996	K	NWF	2014	1/14/2014	27		55
56270210	K	NWF	2014	1/14/2014	27		55
32091985	5	R-CBM	2014	1/16/2014	27	7	1
56200484	K	LNF	2014	1/14/2014	27	3	18
48722261	3	R-CBM	2014	1/16/2014	27	7	2
56270875	K	NWF	2014	1/16/2014	27		55
56270973	K	LSF	2014	1/14/2014	27	3	50
54182958	1	NWF	2014	1/16/2014	27		7
56200689	K	NWF	2014	1/14/2014	27		55
50654715	2	R-CBM	2014	1/16/2014	27	8	6
54178621	1	R-CBM	2014	1/16/2014	26	4	38
56194649	K	LSF	2014	1/14/2014	26	3	48
54177267	1	R-CBM	2014	1/16/2014	26	6	38
56194726	K	NWF	2014	1/14/2014	26		52
54180393	1	R-CBM	2014	1/16/2014	26	8	38
56270210	K	LSF	2014	1/14/2014	26	2	48

56196536	K	NWF	2014	1/14/2014	26		52
56195351	K	LSF	2014	1/14/2014	26	2	48
56270973	K	NWF	2014	1/14/2014	26		52
56140430	1	R-CBM	2014	1/16/2014	26	6	38
54179867	1	R-CBM	2014	1/16/2014	26	8	38
56269496	K	NWF	2014	1/14/2014	25		50
56194689	K	NWF	2014	1/14/2014	25		50
56269246	K	LSF	2014	1/14/2014	25	5	46
56197680	K	LSF	2014	1/14/2014	25	4	46
54178271	1	R-CBM	2014	1/16/2014	25	8	37
54001671	1	R-CBM	2014	1/16/2014	25	7	37
54528606	1	R-CBM	2014	1/16/2014	24	7	35
54001387	1	R-CBM	2014	1/16/2014	24	7	35
56198714	K	LSF	2014	1/14/2014	24	3	44
56195034	K	LSF	2014	1/14/2014	24	5	44
56199003	K	NWF	2014	1/14/2014	24		47
56270398	K	LSF	2014	1/14/2014	24	7	44
56200484	K	NWF	2014	1/14/2014	24		47
56270398	K	NWF	2014	1/14/2014	23		45
56195145	K	LSF	2014	1/14/2014	23	5	42
54179719	1	R-CBM	2014	1/16/2014	23	5	34
56269246	K	NWF	2014	1/14/2014	23		45
54182929	1	R-CBM	2014	1/16/2014	23	4	34
54177018	1	R-CBM	2014	1/16/2014	23	5	34
56263996	K	LSF	2014	1/14/2014	22	7	40
54177273	1	R-CBM	2014	1/16/2014	22	7	32
56269139	K	LSF	2014	1/14/2014	22	8	40
56196490	K	LSF	2014	1/14/2014	22	8	40
54179719	1	NWF	2014	1/16/2014	22		4
54182917	1	R-CBM	2014	1/16/2014	22	6	32
56200484	K	LSF	2014	1/14/2014	22	7	40
56195160	K	NWF	2014	1/14/2014	22		43
50653895	2	R-CBM	2014	1/20/2014	22	8	5
56195760	K	NWF	2014	1/14/2014	22		43
56601929	K	LNF	2014	1/14/2014	22	4	13
56264029	K	NWF	2014	1/14/2014	21		40
56196200	K	NWF	2014	1/14/2014	21		40
56194934	K	LSF	2014	1/14/2014	21	11	37
56195034	K	NWF	2014	1/14/2014	21		40
56196464	K	NWF	2014	1/14/2014	21		40
56196516	K	LSF	2014	1/14/2014	21	6	37
56196554	K	LSF	2014	1/14/2014	21	2	37
56269217	K	NWF	2014	1/14/2014	21		40
56269287	K	NWF	2014	1/14/2014	21		40
56200689	K	LSF	2014	1/14/2014	21	5	37
56194603	K	NWF	2014	1/14/2014	20		38
54178759	1	R-CBM	2014	1/16/2014	20	6	28
56196516	K	NWF	2014	1/14/2014	20		38
55085771	1	NWF	2014	1/16/2014	20		3
56140282	1	NWF	2014	1/16/2014	20		3
56197960	K	LNF	2014	1/14/2014	20	4	11
56269335	K	LSF	2014	1/14/2014	20	1	35
56269335	K	NWF	2014	1/14/2014	20		38
56269111	K	NWF	2014	1/14/2014	19		35
54176990	1	R-CBM	2014	1/17/2014	19	8	26
56195145	K	NWF	2014	1/14/2014	19		35
54179706	1	R-CBM	2014	1/16/2014	19	4	26
56270915	K	NWF	2014	1/14/2014	19		35
56198885	K	NWF	2014	1/14/2014	18		33
54179656	1	R-CBM	2014	1/16/2014	18	6	24
56200068	K	LSF	2014	1/14/2014	18	10	31
57151079	1	R-CBM	2014	1/16/2014	18	8	24
56269230	K	NWF	2014	1/14/2014	18		33
56270915	K	LSF	2014	1/14/2014	18	7	31
54177147	1	R-CBM	2014	1/16/2014	18	9	24
54178349	1	R-CBM	2014	1/16/2014	18	6	24
56269472	K	LSF	2014	1/14/2014	17	7	29
54001984	1	R-CBM	2014	1/16/2014	17	4	22

56194910	K	NWF	2014	1/14/2014	17		31
56198794	K	LNF	2014	1/14/2014	17	2	9
56270366	K	LNF	2014	1/14/2014	17	8	9
50653661	2	R-CBM	2014	1/16/2014	17	10	3
56196464	K	LNF	2014	1/14/2014	17	10	9
56269217	K	LSF	2014	1/14/2014	17	6	29
54178238	1	R-CBM	2014	1/16/2014	17	7	22
54182978	1	R-CBM	2014	1/16/2014	17	10	22
56194864	K	NWF	2014	1/14/2014	16		29
54178025	1	R-CBM	2014	1/21/2014	16	4	20
56196554	K	NWF	2014	1/14/2014	16		29
56200681	K	NWF	2014	1/14/2014	16		29
56195760	K	LSF	2014	1/14/2014	16	7	27
54178370	1	R-CBM	2014	1/16/2014	16	7	20
56269472	K	NWF	2014	1/14/2014	15		26
56194689	K	LSF	2014	1/14/2014	15	9	25
54176996	1	R-CBM	2014	1/16/2014	15	8	18
54178323	1	NWF	2014	1/16/2014	15		2
56194603	K	LSF	2014	1/14/2014	14	7	24
54178742	1	R-CBM	2014	1/16/2014	14	5	16
56764019	2	R-CBM	2014	1/20/2014	14	8	2
56269111	K	LSF	2014	1/14/2014	14	10	24
55290858	3	R-CBM	2014	1/16/2014	14	9	1
54177000	1	R-CBM	2014	1/16/2014	14	7	16
56270847	K	LNF	2014	1/14/2014	14	8	7
56196596	K	LSF	2014	1/14/2014	14	13	24
56197620	K	NWF	2014	1/14/2014	14		24
56200681	K	LNF	2014	1/14/2014	14	6	7
56269472	K	LNF	2014	1/14/2014	13	9	6
54785161	1	R-CBM	2014	1/16/2014	13	7	14
56270366	K	NWF	2014	1/14/2014	13		23
56197680	K	NWF	2014	1/14/2014	13		23
54182958	1	R-CBM	2014	1/16/2014	13	5	14
54177231	1	R-CBM	2014	1/16/2014	13	3	14
54180406	1	R-CBM	2014	1/16/2014	12	20	13
56198922	K	LSF	2014	1/14/2014	12	5	20
54001647	1	R-CBM	2014	1/16/2014	12	3	13
56195313	K	LSF	2014	1/14/2014	12	6	20
56200509	K	NWF	2014	1/14/2014	12		21
56197655	K	LSF	2014	1/14/2014	12	9	20
56200068	K	NWF	2014	1/14/2014	11		19
56196573	K	NWF	2014	1/14/2014	11		19
56200509	K	LSF	2014	1/14/2014	11	9	18
56196596	K	NWF	2014	1/14/2014	11		19
56601929	K	NWF	2014	1/14/2014	11		19
56195897	K	LNF	2014	1/14/2014	10	8	5
56264356	K	LSF	2014	1/14/2014	10	6	17
56270423	K	LNF	2014	1/14/2014	10	12	5
56270423	K	NWF	2014	1/14/2014	10		18
48722340	3	R-CBM	2014	1/16/2014	10	10	1
56269304	K	LNF	2014	1/14/2014	10	6	5
56194864	K	LSF	2014	1/14/2014	9	9	15
56198794	K	NWF	2014	1/14/2014	9		16
56194934	K	NWF	2014	1/14/2014	9		16
56196464	K	LSF	2014	1/14/2014	9	11	15
50655483	2	R-CBM	2014	1/20/2014	9	8	1
56196573	K	LSF	2014	1/14/2014	9	8	15
56270847	K	NWF	2014	1/14/2014	9		16
54001654	1	R-CBM	2014	1/16/2014	9	5	8
56264356	K	NWF	2014	1/14/2014	8		15
56264488	K	LNF	2014	1/14/2014	8	7	4
56270366	K	LSF	2014	1/14/2014	8	15	13
54001596	1	R-CBM	2014	1/16/2014	8	13	7
56198794	K	LSF	2014	1/14/2014	7	5	12
56270423	K	LSF	2014	1/14/2014	7	14	12
56200681	K	LSF	2014	1/14/2014	7	9	12
56197655	K	NWF	2014	1/14/2014	7		14
54178323	1	R-CBM	2014	1/16/2014	7	9	6

56197960	K	LSF	2014	1/14/2014	7	7	12
56269304	K	LSF	2014	1/14/2014	7	8	12
56195897	K	NWF	2014	1/14/2014	6		12
54180422	1	R-CBM	2014	1/16/2014	6	10	5
56196490	K	NWF	2014	1/14/2014	6		12
56270847	K	LSF	2014	1/14/2014	6	12	10
56197960	K	NWF	2014	1/14/2014	6		12
56195897	K	LSF	2014	1/14/2014	4	10	7
56264488	K	NWF	2014	1/14/2014	4		10
56198846	K	LNF	2014	1/14/2014	4	10	2
56269199	K	LNF	2014	1/14/2014	4	5	2
56269199	K	NWF	2014	1/14/2014	4		10
55085771	1	R-CBM	2014	1/16/2014	4	9	3
56264488	K	LSF	2014	1/14/2014	3	10	6
56269199	K	LSF	2014	1/14/2014	1	9	3
56269304	K	NWF	2014	1/14/2014	1		7
56198846	K	LSF	2014	1/14/2014	0		1
56198846	K	NWF	2014	1/14/2014	0		3
56198922	K	NWF	2014	1/14/2014	0		3
56195313	K	NWF	2014	1/14/2014	0		3
56140282	1	R-CBM	2014	1/16/2014	0	0	1

What to do about Tier 3? The importance of a hybrid model of RTI

Dr. Edward S. Shapiro
Director, Center for Promoting Research to Practice
Lehigh University
University Consultant, Response to Instruction and Intervention in Pennsylvania

Presented to Wisconsin School Psychologists Association,
March 28, 2014

Acknowledgments

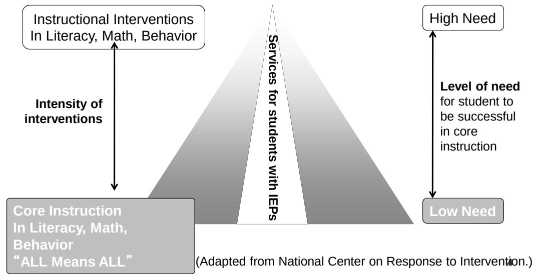
- Pennsylvania Training and Technical Assistance Network
- Center on Instruction at RMC, Portsmouth, NH
- Iris Center, Peabody College, Vanderbilt University
- Renaissance Learning

Agenda

- Definition of Tier 3
- Conceptual Basis of Students with Tier 3 Needs
- Instructional Strategies for Students with Tier 3 Needs
- Tier 3 and Special Education

A Conceptual Framework for RTI

Students may receive services from all areas of the framework at any one point in time.



Instructional Interventions
In Literacy, Math, Behavior

Intensity of interventions

Services for students with IEPs

High Need

Level of need for student to be successful in core instruction

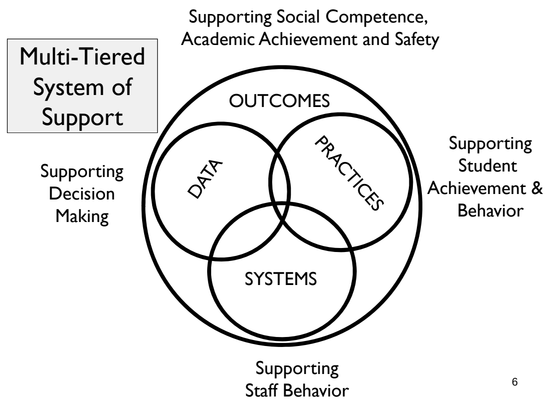
Low Need

**Core Instruction
In Literacy, Math, Behavior
"ALL Means ALL"**

(Adapted from National Center on Response to Intervention.)

MTSS Rationale

A Multi-Tiered System of Support is designed so that schools can provide the appropriate level of instruction and intervention for their students. Using performance data and monitoring learning rates through MTSS, educators can make important instructional decisions to meet the needs of students from different backgrounds, learning styles, and levels of attainment.



Supporting Social Competence,
Academic Achievement and Safety

Multi-Tiered System of Support

OUTCOMES

DATA

PRACTICES

SYSTEMS

Supporting Decision Making

Supporting Student Achievement & Behavior

Supporting Staff Behavior

Key Concept to Understanding RTI (MTSS)

❑Instructional Triage

- ✓ Prevention at Tier 1
- ✓ Common and predictable instructional problems among a certain percentage of the general populous at Tier 2
- ✓ Less common and harder to prevent/treat instructional problems among a certain percentage of the general populous at Tier 3

Tier 3 Can Look Like….

- Group size is 1-3 students
- Time per week can be 150-300 minutes
- Duration will vary
- Progress monitoring is conducted at least twice a week
- Level of intensity generally requires a full period of instruction held outside a general education classroom
- Educator responsible for intervention sessions requires specialized training

---

Tier 3 Instruction Needs:

- Systematic and explicit instruction that includes modeling and direct teaching using several examples
- Specialized programming focusing on a few key skills at a time
- Continuous corrective feedback
- Mirroring of skills being taught in the general education classroom, and attention paid to filling in the gap areas that are causing difficulty in the general education classroom
- A variety of practice opportunities coordinated across tiers

---

How Would You Rate Your Tier 3?

1= minimal evidence;2 = some evidence;3 = substantial evidence

1. Intensive, individualized intervention
2. Daily and usually longer-term than Tier 2
3. Provides high level of instructional expertise
4. Evidenced-based
5. Progress-monitoring with frequent analysis of "What worked and why?"
6. Customized assessment process
7. More sophisticated decisions and team members
8. Highly accurate data interpretation and instructional matching skills (high stakes decisions)

Research Base for Tier 3

- Sharon Vaughn, Ph.D.

H.E. Hartfelder/Southland Corporation Regents Chair

Executive Director, Measows Center for Preventing Educational Risk

University of Texas at Austin

Cognitive Processing and Students with Intensive Instructional Needs

Intervention Considerations

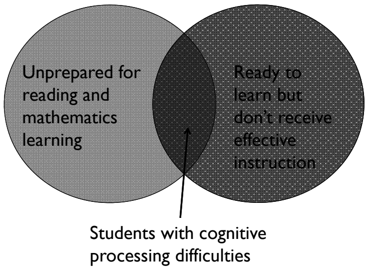
Responsiveness to cognitive processing

Instructional delivery

Instructional Time

Instructional group size

Instruction Responsive to Cognitive Processing Difficulties



Unprepared for reading and mathematics learning

Ready to learn but don't receive effective instruction

Students with cognitive processing difficulties

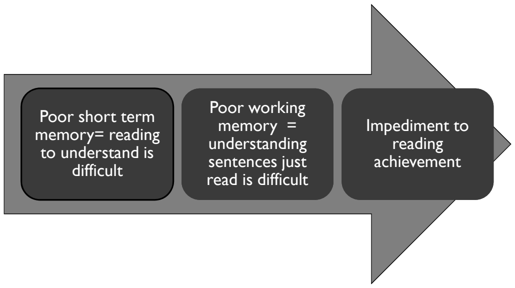
Cognitive Processing Difficulties

1. Executive Functioning
2. Self-regulation
3. Memory
4. Attention
5. Learning strategies

Intersection with Other Skills

- Processing Speed
- Language
- Non verbal reasoning
- Short term memory

Impact of Memory Difficulties

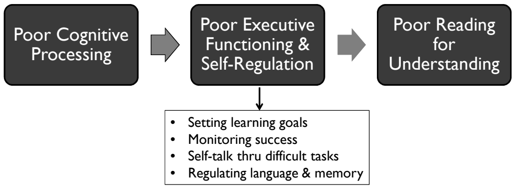


Poor short term memory= reading to understand is difficult

Poor working memory = understanding sentences just read is difficult

Impediment to reading achievement

Impact of Executive Functioning and Self-Regulation



Poor Cognitive Processing

Poor Executive Functioning & Self-Regulation

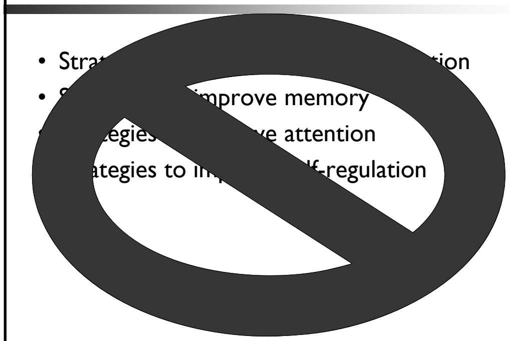
Poor Reading for Understanding

- Setting learning goals
- Monitoring success
- Self-talk thru difficult tasks
- Regulating language & memory

ABSOLUTELY IMPORTANT

- RESEARCH DOES NOT SUPPORT IDENTIFICATION AND TREATMENT OF COGNITIVE PROCESSING DISORDER AND TREAT IN ISOLATION
- TREATMENTS INDEPENDENT OF ACADEMIC LEARNING (I.E., TEACHING IMPROVED EXECUTIVE FUNCTION) HAVE **NOT** IMPROVED ACADEMIC OUTCOMES

Interventions for Cognitive Processes



- Stra … ion
- S … improve memory
- … tegies … ve attention
- … ategies to im … lf-regulation

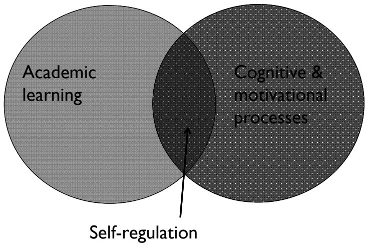
Implications for Assessment

- Assessment of cognitive processes is unreliable
- Assessment of cognitive processes does not lead to better intervention
- Assessment of cognitive processes is “interesting”
- Efficiency in assessment = don’t spend time doing this

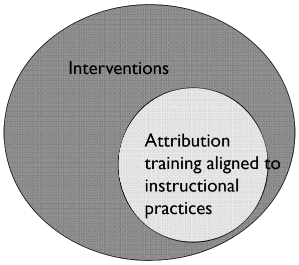
The Research: What DOES work

- Effective, systematic, and explicit instruction
- Identify and address weak or missing academic skills
- Instructional routines
- Word problem problems? Instruction in word problem resolution

Integrating Self-Regulation Instruction


Academic learning
Cognitive & motivational processes
Self-regulation

Integrating Attributional Training


Interventions
Attribution training aligned to instructional practices

Integrating Executive Functioning

What to do

- Teach self-regulation strategies
- Regularly monitor student use of self-regulation strategies

How to do it

- Use think alouds
- Model problem resolution or reading while implementing strategies

HOW?

Integrate Cognitive Strategies with Instruction

1. Make your thinking "visible" to students.

2. Use "think-alouds" to demonstrate how you approach problems, reflect on text, answer questions, or give yourself feedback.

http://www.learner.org/workshops/teachreading35/classrooms/cv7.html

(3:00 – 4:30)

Support Self-regulation Strategies Fun

What to do	How to do it
• Regularly monitor student use of self-regulation strategies	• Model problem resolution or reading while implementing strategies

Help Students Self-Monitor

One way to integrate self-monitoring into academic learning is by teaching students to ask themselves questions to determine if they are working well and making progress.

"Am I working well and making progress? Why or why not? How do I know?"

Support Self-monitoring

What to do	How to do it
• Teach students to be metacognitive by identifying breakdowns in their understanding and applying repair strategies • Teach students to monitor their academic gains	• Ask students to stop and think about words or ideas they don't understand • Ask students to make inferences as they read • Ask students to read and think aloud about author's intent • Have students track their answers or log assignment

Strengthen Memory

What to do	How to do it
• Explicit instruction in memory-enhancement techniques	• Teach students to take notes • Teach students to reheard out loud • Teach students to use mnemonic devices and graphic organizers

Memory Strategies

1. ONE universal note-taking system
2. Active rehearsal
3. Mnemonic devices
4. Graphic organizers and text organizers

Feedback

What to do	How to do it
• Provide feedback specific to a task or process	• Highlight behaviors that lead to improved work • Highlight the libnk between behavior and effort to performance

Provide Opportunities for Student Response & *Process-Directed* Feedback

- Feedback is one of the top three influences on student learning.
- Has to be tied to student goals and help students complete tasks more effectively
- Lower effects when feedback involves only praise, rewards or punishment

What Constitutes Effective Feedback?

- When you provide it during the task or immediately after a student completes it
- When it is immediate for discrete tasks
- When it is briefly delayed for complex tasks
- When you do not delay feedback for students with significant learning difficulties beyond the instructional session

YOUR Feedback is Critical

Effective feedback?

1. You are a good writer.
2. You organized your written response well with that advance organizer in the beginning. That was helpful to me as I read your report.
3. You spent 30 minutes reading and re-reading the text with the questions in mind. Did you notice how well you answered the questions?

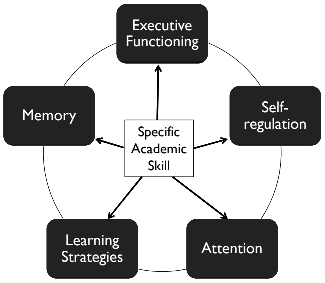
Resources

Cognitive Strategy Instruction Website
http://cehs.unl.edu/csi/
Star Legacy Modules from The IRIS Center for Training Enhancements
http://iris.peabody.vanderbilt
Project Write website
http://kc.vanderbilt.edu/projectwrite/

Laser Focus

- Deep seated problems require laser focus

Backward Impact on Cognitive Processes



Executive Functioning

Memory

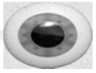
Self-regulation

Specific Academic Skill

Learning Strategies

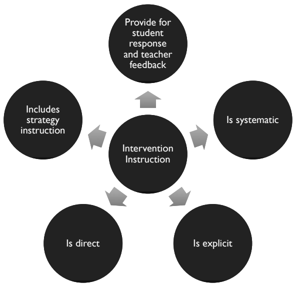
Attention

PRIMARY Foci of Tier 3



1. Support COGNITIVE PROCESSES
2. INTENSIFY & CUSTOMIZE instructional design and delivery
3. INCREASE instructional time
4. REDUCE group size

Intensifying Instructional Delivery



Provide for student response and teacher feedback

Is systematic

Is explicit

Is direct

Includes strategy instruction

Intervention Instruction

Explicit Instruction

- Explicit instruction = improved outcomes
  - Basic skills
  - Higher-level concepts
- New content instruction
- Generalizing known content

Systematic Instruction

- Breaking down complex skills
  - Small chunks (Vocabulary Instruction)
  - Teach discrete parts
- Sequence learning chunks
  - From easier to more difficult
- Scaffold
  - Temporary supports

Learning Progressions

- Sequence of learning
  - Right order of skill development
  - Focus on which skills are “keystones” to impacting subsequent skills

STAR Learning Progressions

- http://www.renaissance.com/Resources/Videos

Dynamic Learning Maps

- http://dynamiclearningmaps.org/news/vids.html

Student Response & Feedback

- Frequent opportunities to respond
- Increase student engagement’
- Assist teacher in monitoring student understanding
- Powerful tool for refining and mastering new skills

The Research

- Over 500 studies – one of top 3 influences on student feedback
- Most effective when related to goals
- Most effective when related to task completion
- Praise alone, not tied to specific and explicit instruction is not as effective

How can we intensify instructional delivery?

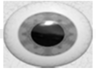
More student experiences with success
More practice and feedback
More modeling
More manipulatives
More steps

How do I know when my students are ready for Independent Practice?

Are we doing enough “We Do’s” in Tier 3?
Are we doing too many “We Do’s” in Tier 3?

- What happens when you ask a student to complete a task for which he or she has not yet mastered the requisite skills?

PRIMARY Foci of Tier 3



1. Support COGNITIVE PROCESSES
2. INTENSIFY & CUSTOMIZE instructional design and delivery
3. INCREASE instructional time
4. REDUCE group size

Increase Instructional Time

Increase intervention

- Frequency
  - K-1st graders received shorter duration several times/day
- Length
  - 1st-3rd graders received 1-2 hours per day for 8-16 weeks
  - 3rd - 5th graders, received two 50-minute sessions per day for 8 weeks
- Duration
  - Elementary students up to 20 weeks (100 sessions)
  - Secondary students significant improvement after 3 year

How much instructional time is enough?

Early Elementary Students (10-20 weeks)

Middle School Students made minimal gains years 1 and 2 and better gains year 3 (need more time)

Instructional Time: Recommendations

- Intensive interventions vary in time (30 to 120 minutes) and frequency (3x per week to 2x per day).
- If scheduling or student engagement is a concern, a teacher might increase intervention time with 2 shorter sessions per day (rather than one long session).

Tier 3 Services

1. Support cognitive processes
2. Intensify & customize instructional delivery and design
3. Increase instructional time
4. Reduce group size

Reduce Group Size

Smaller group instruction improves student outcomes

- Elementary
  - Groups of 3-4 outperformed groups 8-10
  - 1:1 larger gains than groups of 10 but similar to groups of 3
- Secondary
  - No differences but general trend favors group size 3-5 over10-15

Research: Group Size at Elementary

- Group of 3 or 4 > Group of 8-10
- 1 on 1 > Group of 10
- 1 on 1 SAME AS Group of 3

Research: Middle School

- Group 3 to 5 NOT DIFF Group of 10 to 15
- More research needed

Reduce Group Size: Recommendations

- Small groups of 2-4 students or 1:1 instruction may provide the most intensive intervention
- Some students make sufficient progress in larger groups.
- Monitor progress when changing group size
- Provide
  - Individualized instruction
  - More opportunities to respond and practice
  - Timely teacher feedback

Challenges to Group Size

- Interventionists
- Instructional specialists
- Space
- Materials

Where do I find “Evidence-Based” Methodologies?

- National Center for Intensive Interventions
- Center on Instruction
- IRIS Center
- Best Evidence Encyclopedia
- What Works Clearinghouse
- Florida Center for Reading Research

Challenges

- Tier 3 and Special Ed?
- Promising practices VS evidence based practice?
- Assessment measures?

Tier 3 and Special Ed

- Where does Tier 3 end and Special Ed begin?
- Depends on who you ask
- Always has been and will be a team based decision
- Can we sustain within general education resources?
- Can we obtain gains that will result in outcomes that sustain future success?

Promising VS Evidence Based Practice

- Links to cognitive processes are promising, not evidence based
- What if there is NOT a strong connection between cognitive processes and instruction?
- Research will change the future directions

Assessment Measures & Issues

- The word "Probe"
- Objectives of assessment?
- Can our measures meet the need of sensitivity to change?
- How fine grained do we need to get?
- Big picture vs tiny picture?

Final Words

- Tough kids require tough solutions
- Persistence
- Belief in success
- Need for special education
- Chronicity
- Avoiding further decline

Thanks

- Dr. Edward S. Shapiro
- ed.shapiro@lehigh.edu

Microsoft Excel

Simple features that will make your systems-level data management life easier

2010 Version

I. Re-orienting column headers

A. Allows you to adjust all the column headers at once. This is useful when you are unable to read the entire header, or it is taking up too much space on the data sheet.
   - (a) Highlight entire header row.
   - (b) Click on Home tab.
   - (c) Click Format.
   - (d) Click Format Cells in the dropdown menu.
   - (e) Choose Alignment.
   - (f) Click and drag horizontal line to right of word “text” until word “text” is aligned the way you want headers aligned (e.g., diagonal, vertical).
   - (g) Click in the “unlabeled” cell in the top left corner (in between the 1 & A cells). This should highlight everything on the spread sheet.
   - (h) Next, go in between column “A” & “B” and hover over the divider line until you get a symbol which looks like a double sided arrow with a line between it.
   - (i) Finally, double click on that symbol. This will adjust all the column headers so that the cells fit tight around the word(s) inside.

II. Freezing panes

A. Freeze panes locks columns or rows so that they are constantly visible to the user on screen. This tool is especially useful when dealing with large data sets.

B. Freezing first column/top row:
   - (a) Go to the tab labeled VIEW and in the center there is a button labeled “freeze panes,” click on it.
     1. To freeze the first column, click on the bottom option, labeled as such.
     2. If you wish to freeze the top row, click on the center option.

C. Freezing other columns/rows:
   - (a) Highlight the entire column to the RIGHT of the column you wish to freeze or highlight the entire row BELOW the row you wish to freeze.
   - (b) Click on the VIEW tab. Then, click on the button labeled “freeze panes” and select the first option-freeze panes. This will freeze everything to the right or above the column or row that you selected.

D. Simultaneously freeze rows and columns:
   - (a) Select the cell below the row you wish to freeze and to the right of the column you wish to freeze. Do NOT select an entire row or column, only a single cell.
   - (b) Then, go to the tab labeled VIEW, select the button labeled “freeze panes,” and then click freeze panes. Now, a column and row are frozen.

E. To “unfreeze” columns or rows:
   - (a) Make sure you are still in the VIEW tool bar, select freeze panes again. Then, click “unfreeze panes.” This will unfreeze the panes that you had frozen.

III. Filtering

A. Allows you to view or create different subsets of your original data quickly. It also allows you to sort by ascending, descending, and/or color.

   (a) Go to the DATA tab, click on filter and then click Filter. Now, in the header of each column you should see a drop down arrow.
   (b) Clicking on the drop down arrow will allow you to see every value within that column. By un-checking the boxes next to any of the values, you can temporarily hide rows with those values within the data set.
   (c) This also allows you to check your data to see if you have any unexpected out-of-range values or missing data.
   (d) To remove filtering, click Filter again.

IV. Sorting

A. This allows you to change the order of your data set so that it is easier for you to find a particular student's name or score.

   (a) First, highlight all of the data by clicking in the cell in the top lefthand corner of the workbook, between the A and 1 cells.
   (b) Then, go to DATA and click on "Sort".
   (c) Using the drop down menus in the new window that appears, chose which column(s) you would like to sort by.
   (d) Next, chose whether you would like to sort the column ascending/A to Z or descending/Z to A.
   (e) Finally click "OK" and the data will sort.

WSPA Student Poster Session
Wisconsin Dells, WI
March 27, 2014

Name: Margaret R. Altschaefl
Program: University of Wisconsin- Madison
Faculty Advisor: Dr. Thomas R. Kratochwill
Contact Information: altschaefl@wisc.edu

Title: **Promoting Treatment Integrity of Parent- and Teacher-delivered Math Fluency Interventions: An Adult Behavior Change Intervention**

Treatment integrity is the extent to which an intervention is implemented as planned. Research with teachers has shown decreasing trends in treatment integrity within days of initiating interventions, and limited data show similar trends with parent tutoring interventions. Accurate implementation and meaningful parent involvement increase the likelihood of student academic success. Implementation Planning, an adult behavior change intervention from the health psychology literature, is currently being used to support teacher and parent implementation of a math fluency intervention in the context of Conjoint Problem-Solving Consultation and evaluated with a multiple baseline single-case design. Implications for evidence-based intervention implementation are discussed.

……………………..

Name: Danica Ashbeck
Program: University of Wisconsin- Whitewater
Faculty Advisor: Dr. Christine Neddenriep
Contact Information: joostenDF26@uww.edu

Title: **Early Literacy and the Connection to Spelling: Using Sound Partners to Improve Reading and Spelling**

Literacy is a concern across the United States as more children are failing to meet the goal of being able to read at a proficient reading level or higher. This study will use 3 first-grade students who were found to be at-risk based on screening. Sound Partners will then be implemented and progress will be monitored through the use of AIMSweb Test of Early Literacy and a Spelling Curriculum-Based Measure. My hypothesis is that the use of Sound Partners will not only improve the early literacy ability of first-grade students who are struggling, but will also improve their spelling ability.

……………………..

Name: Nina Bild
Program: University of Wisconsin- Whitewater
Faculty Advisor: Dr. Tracey Scherr
Contact Information: Bildnc07@uww.edu

Title: **The Relationship Between Immigration and Bullying in a Midwestern School**

Children who are bullied due to targets of prejudice such as race, religion, gender, disability, or sexual orientation are often at higher risk for mental health and substance abuse issues compared to other bullied children. One group that has been largely ignored in bullying research, however, is students of immigrant status. Through a survey, the present study seeks to better understand the relationship between student immigrant status and bullying. Participants will be 4th-8th grade students in an urban Midwestern school with a significant population of students of immigrant status.

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Name: Rosie Bliss
Program: University of Wisconsin- Whitewater
Faculty Advisor: Dr. Christine Neddenriep
Contact Information: blissm02@uww.edu

Title: **Video Modeling as an Intervention for Children with Autism Spectrum Disorders**

Research shows that video modeling is an evidence-based intervention for individuals with autism spectrum disorders. Video modeling effectively helps individuals with autism to learn functional life skills, as well as conversation and social skills. Video modeling is cost-effective, time-effective, and is generally easy to implement. This research uses a single-case, multiple-baseline across behaviors design to evaluate the effectiveness of The Model Me Kids video series as a commercially-made video modeling intervention. Participants will be evaluated on the frequencies in which they use the skills that were modeled in the video clips.

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Name:	Leah M. Bortz
Program:	University of Wisconsin- Whitewater
Faculty Advisor:	Dr. Kimberly Knesting-Lund
Contact Information:	bortzlm18@uww.edu

Title: **Student and Teacher Perceptions of Social Support for LGBTQ Students**

Lack of support and understanding is linked to higher rates of bullying and discrimination toward lesbian, gay, bisexual, transgender, and questioning (LGBTQ) students propagated by students and teachers. The mismatch of perceptions could result in less effective educational strategies, lower rapport between staff and students, and lower levels of comfort in schools. This research will address the possible mismatch of perceptions between these groups in a single school district. Results of this study could increase understanding of how the perceptions of teachers and students relate in order educate and add support programs for LGBTQ students and staff in the school.

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Name:	Megan Galdes
Program:	University of Wisconsin- La Crosse
Faculty Advisor:	Dr. Jocelyn H. Newton
Contact Information:	galdes.mega@uwlax.edu

Title: **Consultation Skills of School Psychologists: Impacting Teacher RtI Practices**

As the RtI model of service delivery becomes widely used, it is critical that School Psychologists adapt to meet the changing demands of their role. This study examined the predictive relationship between school psychologists’ consultation skills and teacher RtI beliefs. This study aimed to increase knowledge about teacher buy-in for the RtI process by highlighting effective consultation strategies. Results will help school psychologists gain knowledge about how to best provide support within a RtI framework.

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Name:	Lucas Gerber
Program:	University of Wisconsin- La Crosse
Faculty Advisor:	Dr. Robert Dixon
Contact Information:	gerber.luca@uwlax.edu

Title: **An examination of teachers' acceptance to consultation with school psychologists**

There is a considerable need to identify and implement interventions to help students succeed within the classroom. The effectiveness of these interventions often depends greatly on the consultation relationships between the school psychologists and teachers within the schools. This study examines the characteristics that teachers find most effective in school psychology consultation in order to better meet the problem solving needs of the teachers. Implications for educators and school psychologists will be discussed.

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Name:	Katie Goulet
Program:	University of Wisconsin- La Crosse
Faculty Advisor:	Dr. Jocelyn Newton
Contact Information:	goulet.kati@uwlax.edu

Title: **The Reading Gender Gap: Influences of Parent Gender-Role Stereotypes**

Early literacy skill development is critical to later academic outcomes. One factor that may impact early literacy development is the endorsement of parent gender-role stereotypes. This study will examine whether children's early literacy skills differ significantly as a function of their gender and/or parent's gender-role stereotypes. Study results will provide implications for School Psychologists working with parents and their children.

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Name: Brittany Harn
Program: University of Wisconsin- La Crosse
Faculty Advisor: Dr. Robert J. Dixon
Contact Information: harn.brit@uwlax.edu

Title: **Homework Completion: Student Perspectives in a Standards-Based Era**

The debate among educators and parents on homework lies within the intended role and purpose to a student’s academic learning and/or the development of responsibility, autonomy and time management. It is important to gain the students’ voice on the reasons they complete homework. This study examines middle school student’s perspectives on homework and will determine which factors contribute to homework completion in order to provide implications for educators on how to accomplish this important goal.

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Name: Sarah Jacobson
Program: University of Wisconsin- La Crosse
Faculty Advisor: Dr. Betty DeBoer
Contact Information: jacobson.sara@uwlax.edu

Title: **Burnout: Predicting Job Satisfaction Among School Psychologists**

Expectations of school psychologists are expanding quickly. New demands can lead to burnout and may negatively impact professional performance by increasing absenteeism and decreasing work quality, motivation, and the quality of services school psychologists provide. This study builds on previous research that examines mental health providers and extends it to predictors of job satisfaction for school psychologists. Results will be used to make recommendations on how school psychologists can avoid burnout and increase job satisfaction.

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Name: Kristin Mariano
Program: University of Wisconsin- Whitewater
Faculty Advisor: Dr. Tracey Scherr
Contact Information: marianoKA24@uww.edu

Title: **Check In-Check Out as a Targeted Positive Behavioral Intervention and Support**

In the push to have “no child left behind,” schools must address the educational, emotional, and behavioral needs of their students. The Check In-Check Out (CICO) intervention is for students who require more intensive strategies to address their behavioral needs. The purpose of this study is to replicate past research conducted in the rural Pacific Northwest and investigate whether the positive outcomes of CICO will occur in a midwestern suburban elementary school. Using a multiple baseline across students design, the student researcher will investigate whether the implementation of CICO is linked to a decrease in problem behaviors.

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Name: Katelyn Oellerich
Program: University of Wisconsin- Whitewater
Faculty Advisor: Dr. Knesting-Lund
Contact Information: johnsonkj02@uww.edu

Title: **A School Based Intervention for a Child with Attention and Organizational Concerns**

This study examined the effects of an organizational skills training program on a fourth grade student with attention and organizational concerns. The Homework Organization and Planning Skills (HOPS) training created by Langberg et al. (2011) was used to teach materials organizational and self-management techniques. A review of organizational skills data indicated that the HOPS program was related to an increase in organizational skills. However academic performance data indicated that there was no noticeable change between pre and post performance. Further research should consider maintenance of student organizational skills across time.

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Name:	Alissa Otto
Program:	University of Wisconsin- La Crosse
Faculty Advisor:	Dr. Betty DeBoer
Contact Information:	otto.alis@uwlax.edu

Title: **Autism Stressors and Reliefs: A qualitative study of parents' perspectives**

Parents of children with Autism Spectrum Disorder (ASD) have been identified as having elevated stress, which can negatively impact a child's functioning. Schools can serve as a source of support, making collaboration critical. Results examine the daily stressors associated with parenting a child with ASD and how schools can play a role in providing support to parents. Information will assist educators by allowing them to better understand this population's needs to collaborate more effectively.

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Name:	Amanda Palmer
Program:	University of Wisconsin- Whitewater
Faculty Advisor:	Dr. Kimberly Knesting-Lund
Contact Information:	palmera08@uww.edu

Title: **Perceived Support from Significant Relationships in Adolescence and the Impact on Academic Success**

Previous research has indicated that the perceived support from important relationships in a child's life can have a noticeable impact on students' level of academic achievement. The Child and Adolescent Social Support Survey (CASSS) will be distributed to 10th grade students at an urban Midwestern high school to determine if differences exist in students' perceptions of the frequency and importance of support from parents, teachers, and classmates. The researchers expect to find that the more support a student perceives, from more sources, the higher their academic success will be. Gender differences will also be investigated to determine if males and females differ in how much support they perceive as well as how important they rate support from each group.

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Name: Katy Riederer
Program: University of Wisconsin- Whitewater
Faculty Advisor: Dr. Christine Neddenriep
Contact Information: nowickikl23@uww.edu

Title: **Video Modeling and Reducing Social Anxiety**

Social anxiety is prevalent among individuals with Autism. Levels of social anxiety were examined during a video modeling intervention. Social skills including: starting a conversation, maintaining a conversation, and ending a conversation, were taught to one elementary school participant with Autism. The participant completed six weeks of the intervention with a new skill being taught every two weeks. Twice a week the participant was observed and given a social anxiety measure (LSAS-CA, Liebowitz, 2003) once per week. Data was collected to establish baseline and progress monitoring data. The participant showed progress by learning the social skills, while also reducing the level of social anxiety.

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Name: Nick Wasmund
Program: University of Wisconsin- Whitewater
Faculty Advisor: Dr. Kimberly Knesting-Lund
Contact Information: wasmundnl20@uww.edu

Title: **Teacher Time & Support for Students At-Risk for Dropping Out**

Research has illustrated the protective factors of positive teacher-student relationships for students who are at-risk of dropping out, such as increased academic performance, school belongingness, and motivation. However, few studies have investigated a teacher's perspective on supporting these students and obstacles they may face. Using a survey, the present study seeks to better understand the relationship between teachers' perceptions of what their role is in dropout prevention, their beliefs about how important dropout prevention is to their school, and if they see themselves engaging in dropout prevention practices within their classrooms.

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WISCONSIN SCHOOL PSYCHOLOGISTS ASSOCIATION

WSPA Student Session"You're hired!": Tips to a Successful First Year as a School Psychologist

Student Session

C. Neddenriep

2014

SPRING CONVENTION; Baraboo, WI

I. Planning for Your Internship Year

A. Question: How did you prepare to enter the job market?

B. Question: Who did you ask to write letters of recommendation for you?

II. Finding an Internship

A. Question: What strategies did you use to find an internship? Which were most effective?

B. Question: What things might an applicant want to consider in choosing to apply to various districts?

C. Question: When are jobs typically posted?

D. Question: What were some of the challenges you encountered when applying for internships/jobs?

E. *Question: What do you wish you had known when you were applying for internships?*

III. The Interview:

A. *Question: When you think of a successful interview that you had, what contributed to your success?*

B. *Question: What are employers looking for in the candidates they interview?*

C. *Question: What questions should I be prepared to answer? (See potential interview questions at the end of this handout.)*

D. *Question: What can I do to make myself stand out from other applicants?*

E. *Question: What types of experiences should I be sure to highlight in the interview?*

F. *Question: What kind of reports should I include in an interview portfolio?*

G. *Question: What are some questions you asked of the employer (or wished you would have asked) at the interview? (See potential questions to ask employer at the end of this handout.)*

IV. Accepting an Offer

A. *Question: What considerations should enter into my decision making with regard to an offer of employment?*

B. *Question: What contributed to your success on the job as an intern?*

V. Additional Questions:

A. *What did you feel unprepared to do when you started your internship?*

B. *What were you most surprised about during your internship?*

C. *How have you overcome teacher resistance to changes in education (RtI)?*

D. *When did you feel confident in your position as a school psychologist?*

Potential Interview Questions: School Psychology

1. What aspects of this position are most attractive to you?
2. What do you personally see as the most challenging aspects of this position?
3. What skills do you have (both personally and professionally) that would contribute to our school district?
4. Why should we hire you over other equally qualified candidates?
5. What strategies/techniques are you familiar with to assist a student who has difficulty reading? Writing? Completing math problems?
6. Describe your approach to consultation.
7. How would you handle a parent request for testing that you believe is unnecessary or inappropriate?
8. With what kind of student do you like to work the most?
9. With what kind of student do you like to work the least?
10. Think about a problem you experienced during practicum. How did you resolve it?
11. Describe your role with regard to assessment of mental health.
12. Describe your role with regard to curriculum development.
13. Our teachers are expressing reservations about the RtI process. How do you view the role of the school psychologist within an RtI model? How would you explain your role to staff?
14. How do you view your role as a counselor? How would you negotiate your role with the counselors in your buildings?
15. Describe your experience working with diverse cultural groups.

Potential Questions to Ask of Potential Employers?

1. What opportunities are there to participate in professional development activities?
2. What is the typical number of schools (or students) served by each psychologist?
3. Describe the working relationship among school psychologists in the district.
4. How are the school psychologists typically viewed in the school?
5. What resources are available to support my work (e.g., staff, computers, office)? What allowances are provided for supplies and materials?
6. What are some of the initiatives the district is working toward?
7. What advancement opportunities are available to me as a school psychologist?
8. What would a typical day look like in your district as a school psychologist?
9. What are the opportunities for future growth in this community and its schools?
10. How are parents involved in your school?

Assessment and Intervention for Students with Specific Reading Disabilities

Nancy Mather, Ph.D.
March 26, 2014
WSPA Spring Convention

Topics

- What is Specific Reading Disability?
- History
- Factors that Contribute to Dyslexia
- Development of Decoding and Encoding
- Instructional Strategies and Accommodations

"We do not understand why the term "dyslexia" is often viewed as if it were a four-letter word, not to be uttered in polite company" (p. 187).

Siegel, L. S., & Mazabel, S. (2013). Basic cognitive processes and reading disabilities. In H. L. Swanson, K. R. Harris, & S. Graham (Eds.), *Handbook of learning disabilities* (2nd ed.) (pp. 186-213). New York, NY: Guilford Press.

The Term Dyslexia

"In the first half of this century the story of dyslexia has been one of decline and fall; in the second half it has culminated in a spectacular rise. From being a rather dubious term, dyslexia has blossomed into a glamorous topic; and rightly so, for with a prevalence of around 5% the condition is remarkably common" (Frith, 1999, p. 192).

Labels

"…without a label we have no way of talking about a problem."

Source: Johns, B. H., & Kauffman, J. M. (2009). Caution: Response to intervention (Rtl). *Learning Disabilities: A Multidisciplinary Journal, 15*, 157-160.

"Every child would read if it were in his power to do so"
(Betts, 1936, p.5).

Source: Betts, E. A. (1936). *The prevention and correction of reading difficulties.* Evanston, IL: Row, Peterson and Company.

The Simple View of Reading

RC = D x LC

Reading Comprehension (RC) = the product of decoding (D) times listening comprehension (LC)

Gough & Tunmer, 1986

Four Types of Readers

- Impaired decoding, but typical listening comprehension (specific reading disability/dyslexia)
- Impaired listening comprehension, but typical decoding (language impairment)
- Impaired decoding and listening comprehension
- Typical decoding and listening comprehension

International Dyslexia Association (2003) defines dyslexia as:

[A] specific learning disability that is neurobiological in origin. It is characterized by difficulties with accurate and/or fluent word recognition and by poor spelling and decoding abilities. These difficulties typically result from a deficit in the phonological component of language that is often unexpected in relation to other cognitive abilities and the provision of effective classroom instruction. Secondary consequences may include problems in reading comprehension and reduced reading experience that can impede growth of vocabulary and background knowledge.

Health Council of the Netherlands. Dyslexia. Definition and treatment. The Hague: Health Council of the Netherlands, 1995.

Dyslexia is present when the automatization of word identification (reading) and/or word spelling does not develop or does so very incompletely or with great difficulty. The term ‘automatization’ refers to the establishment of an automatic process. A process of this kind is characterized by a high level of speed and accuracy. It is carried out unconsciously, makes minimal demands on attention and is difficult to suppress, ignore or influence…

…dyslexia is characterized in practice by a severe retardation in reading and spelling which is persistent and resists the usual teaching methods and remedial efforts… it will be accompanied by very slow and/or inaccurate and easily disturbed word identification and/or word spelling.

“It was as if he were driving in a NASCAR race in first gear while everyone else was cruising along in fifth gear” (Lindstedt & Zaccariello, 2008) (pp 195-196).

Source: Lindstedt, K., & Zaccariello, M. J. (2008). A tale of two assessments: Reading Fluency. In J. N. Apps, R. F. Newby, & L. W. Roberts (Ed)., *Pediatric neuropsychology case studies: From the exceptional to the commonplace* (pp. 191-199). New York: Springer.

National Institute of Neurological Disorders and Stroke

Dyslexia is a brain-based type of learning disability that specifically impairs a person's ability to read. These individuals typically read at levels significantly lower than expected despite having normal intelligence. Although the disorder varies from person to person, common characteristics among people with dyslexia are difficulty with spelling, phonological processing (the manipulation of sounds), and/or rapid visual-verbal responding… It can also be inherited in some families, and recent studies have identified a number of genes that may predispose an individual to developing dyslexia.

British Dyslexia Association

The word 'dyslexia' comes from the Greek and means 'difficulty with words'.

Definition: Dyslexia is a specific learning difficulty which mainly affects the development of literacy and language related skills. It is likely to be present at birth and to be lifelong in its effects. It is characterised by difficulties with phonological processing, rapid naming, working memory, processing speed, and the automatic development of skills that may not match up to an individual's other cognitive abilities.

The phonological deficit view that has dominated the field for years is inadequate for explaining all cases of reading disorder (Peterson & Pennington, 2012; Snowling & Hulme, 2012 and its importance has been overstated (Swanson, Trainin, Necoechea, & Hammill, 2003).

Peterson, R. L., & Pennington, B. F. (2012). Developmental dyslexia. *The Lancet, 379*(9830), 1997–2007.

Snowling, M. J., & Hulme, C. (2012). Annual research review: The nature and classification of reading disorders—a commentary for proposals on DSM-5. *Journal of Child Psychology and Psychiatry, 53*, 593–607.

Swanson, H. L., Trainin, G., Necoechea, D. M., & Hammill, D. D. (2003). Rapid naming, phonological awareness, and reading. A meta analysis of the correlational evidence. *Review of Educational Research, 73,* 407–444.

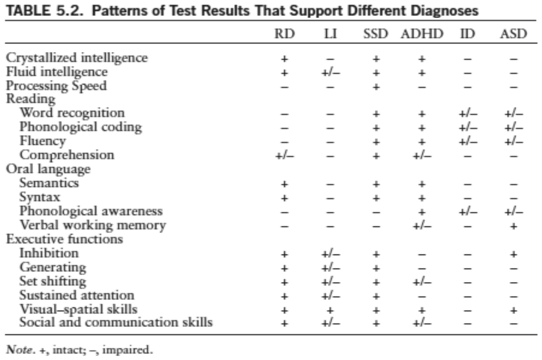


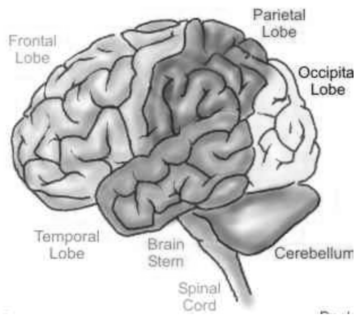
TABLE 5.2. Patterns of Test Results That Support Different Diagnoses

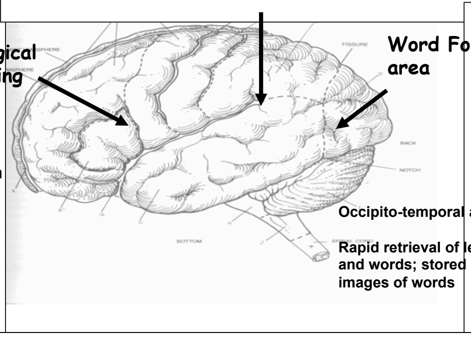
	RD	LI	SSD	ADHD	ID	ASD
Crystallized intelligence	+	–	+	+	–	–
Fluid intelligence	+	+/–	+	+	–	–
Processing Speed	–	–	+	–	–	–
Reading						
Word recognition	–	–	+	+	+/–	+/–
Phonological coding	–	–	+	+	+/–	+/–
Fluency	–	–	+	+	+/–	+/–
Comprehension	+/–	–	+	+/–	–	–
Oral language						
Semantics	+	–	+	+	–	–
Syntax	+	–	+	+	–	–
Phonological awareness	–	–	–	+	+/–	+/–
Verbal working memory	–	–	–	+/–	–	+
Executive functions						
Inhibition	+	+/–	+	–	–	+
Generating	+	+/–	+	–	–	–
Set shifting	+	+/–	+	+/–	–	–
Sustained attention	+	+/–	+	–	–	–
Visual–spatial skills	+	+	+	+	–	+
Social and communication skills	+	+/–	+	+/–	–	–

Note. +, intact; –, impaired.

Pennington , B. F. (2009). *Diagnosing learning disorders: A neuropsychological framework* (2nd ed.). New York, NY: Guilford Press.

What is going on in the brain?





Left Hemisphere

Sound-symbol connection

Parieto-temporal area: integration of sounds with symbols (phoneme-grapheme connections)

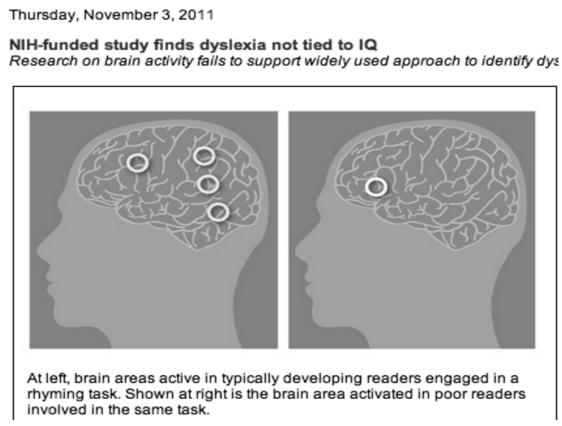
Phonological processing

Broca's area: Hearing sounds in words.

Word Form area

Occipito-temporal area

Rapid retrieval of letters and words; stored images of words



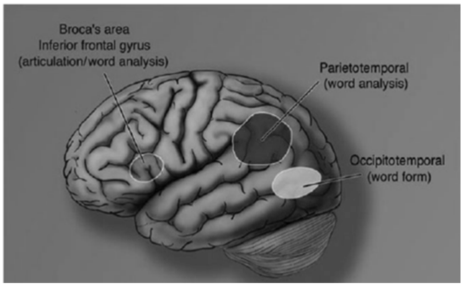
Thursday, November 3, 2011

NIH-funded study finds dyslexia not tied to IQ

Research on brain activity fails to support widely used approach to identify dys

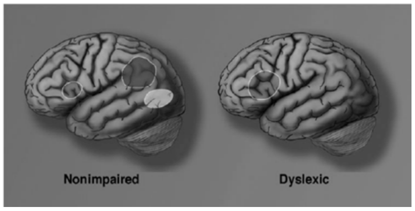
At left, brain areas active in typically developing readers engaged in a rhyming task. Shown at right is the brain area activated in poor readers involved in the same task.

Neural Systems for Reading


Broca's area
Inferior frontal gyrus
(articulation/word analysis)
Parietotemporal
(word analysis)
Occipitotemporal
(word form)

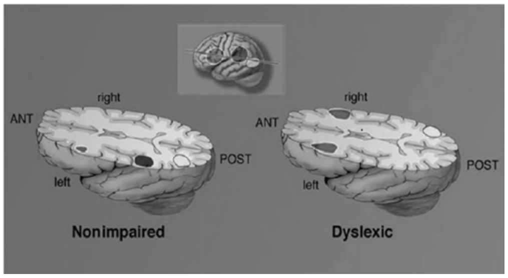
Source: Shaywitz, S. (2003). *Overcoming Dyslexia.* New York: Knopf.

The Neural Signature for Dyslexia (Shaywitz, 2003)


Nonimpaired
Dyslexic

The anterior system is overactivated and the posterior system is underactivated (the neural signature).

Compensate: over-active left and right anterior systems and the right visual word form area


right
ANT
POST
left
Nonimpaired
right
ANT
POST
left
Dyslexic

Shaywitz, S. (2003). *Overcoming Dyslexia.* New York: Knopf.

Consensus on the Definition

- Neurobiological disorder that affects the development of basic reading skills, spelling, and automaticity with sound-symbol connections
- It is often accompanied by specific weaknesses in cognitive factors that predict poor reading and spelling
- It is a lifelong condition but effective interventions reduce the impact
- Many other abilities are often intact and can even be advanced

In describing an intelligent 14-year old boy:

“He seems to have no power of preserving and storing up the visual impression produced by words - hence the words, though seen, have no significance for him. His visual memory for words is defective or absent; which is equivalent to saying that he is what Kussmaul has termed “word blind.” I may add that the boy is bright and of average intelligence in conversation…The schoolmaster who has taught him for some years says that he would be the smartest lad in the school if the instruction were entirely oral” (p. 94). Pringle Morgan (1896)

Central Themes from Dr. James Hinshelwood (1902)

- the children do not learn to read with the same rapidity as other children
- the earlier the problem is identified, the better so as not to waste valuable instructional time
- the children must be taught by special methods adapted to help them overcome their difficulties
- the sense of touch can help children retain visual impressions
- persistent and persevering attempts will often help children improve their reading.

Source: Hinshelwood, J. (1902). *Congenital word-blindness with reports of two cases.* London: John Bale, Sons & Danielsson, Ltd.

The Importance of Early Intervention Hinshelwood (1902)

> "It is evident that it is a matter of the highest importance to recognise as early as possible the true nature of this defect, when it is met with in a child. It may prevent much waste of valuable time and may save the child from suffering and cruel treatment…The sooner the true nature of the defect is recognised, the better are the chances of the child's improvement" (p. 10).

Source:

Hinshelwood, J. (1902). *Congenital word-blindness with reports of two cases.* London: John Bale, Sons & Danielsson, Ltd.

"The diagnosis of dyslexia is as precise and scientifically informed as almost any diagnosis in medicine" (p. 165).

Source:

Shaywitz, S. (2003). *Overcoming dyslexia: A new and complete science-based program for overcoming reading problems at any level.* New York: Alfred Knopf.

Diagnosis of Word Blindness

> "With the possession of a knowledge of the symptoms, there is little difficulty in the diagnosis of congenital word-blindness when the cases are met with, since the general picture of the condition stands out as clear-cut and distinct as that of any pathological condition in the whole range of medicine" (p. 88).

Source: Hinshelwood, J. (1917). *Congenital word-blindness.* London: H. K. Lewis.

Importance of Phonics

"… that the logical training for these children would be that of extremely thorough repetitive drill on the fundamentals of phonic associations with letter forms, both visually presented and produced in writing, until the correct associations were built up…" (Orton, 1925, p. 614).

O-G Sequence

1. The child is shown a letter and repeats its name after the teacher.
2. The teacher demonstrates how to form the letter and the child traces over the model. The child then copies the word, and then writes the word from memory.
3. Each phonic unit is present on individual cards with consonant letters on white cards and vowel letters on salmon-colored cards. The sound is introduced with a key word. The student repeats the key word before providing the sound (e.g., apple /a/).

4. The letter sounds are taught in groups as rapidly as they can be learned. The first letters are: a (short sound as in cat),b, f, h, j, k, m, p, t.
5. After the names and sounds are learned, blending is introduced. A consonant, vowel, and consonant are presented and the student provides the sounds rapidly until he or she can produce the whole word.

6. The teacher then pronounces a word slowly and separates the sounds. The teacher then asks the child to: repeat the word, name the letters, write the word while naming each letter, and then read back the word.
7. Once mastery is assured, additional sounds are introduced. The manual provides the following sequence: g (go), o, initial r and l, n, th (this), u, ch, e, s, sh, d, w, wh, y, v, z
8. Consonant blends are introduced and then the following sounds: qu, x, y, ph, s, and z.
9. The long sounds of all vowels are introduced and the vowel consonant –e spelling pattern (e.g., a-e, safe).
10. The student practices reading material with a controlled vocabulary (decodable text) to practice this alphabetic approach to words.

"Moreover, it seems probably that psychometric tests as ordinarily employed give an entirely erroneous and unfair estimate of the intellectual capacity of these children" (p. 582).

Source: Orton, S. T. (1925). Word-blindness in school children. *Archives of Neurology and Psychiatry, 14, 581-615.*

Central Themes from Dr. Samuel Orton

- disabilities can be overcome by special training
- many of the children have a high degree of intelligence
- data must be collected regarding the effects of the training
- emotional factors are of primary importance

Source: Orton, S. T. (1937). *Reading, writing, and speech problems in children.* New York: W. W. Norton.

The Reading Index

See if reading achievement is in harmony with other achievements. The other measures are administered in order to determine the child's expectation in reading and to measure the discrepancy.

1) Chronological age
2) Mental age (based on the Stanford-Binet)
3) Arithmetic computation

Monroe, M. (1932). *Children who cannot read.* Chicago: University of Chicago Press.

"It seems that we are measuring a discrepancy between reading and other accomplishments which may occur in either direction at any intellectual level" (p. 17)

"The reading defects may occur at any intellectual level from very superior to very inferior, as measured by intelligence tests" (p. 6).

Source:

Monroe, M. (1932). *Children who cannot read.* Chicago: University of Chicago Press.

"The children of superior mental capacity who fail to learn to read are, of course, spectacular examples of specific reading difficulty since they have such obvious abilities in other fields." (p. 23)

Source:
Monroe, M. (1932). *Children who cannot read.* Chicago: University of Chicago Press.

Case 3: Betty

Betty represents a case of reading retardation in a very bright little girl. She was completing the second year in school without having been able to learn to read. When examined she was seven years and four months of age, with a mental age of ten years, I. Q. 135. Arithmetic measured high second grade. Reading and spelling measured very low first grade… She had a very engaging manner and had learned many ways of diverting attention from the fact that she could not read. When the reading tests were presented she pushed them aside and said, "Let's don't do any reading. I know some arithmetic games that are lots of fun…" When finally persuaded to attempt the tests she showed considerable emotional tension, clearing her voice, saying "ah" several times before attempting each word, and flushing over her obvious errors (p. 10).

Monroe, M. (1932). *Children who cannot read.* Chicago: The University of Chicago Press.

"Individuals identified as intellectually gifted may also have LD. Although twice-exceptional individuals may appear to be functioning adequately in the classroom, their performance may be far below what they are capable of, given their intellectual ability…educators often overlook these students until late in their academic careers" (p. 238).

Source: Learning disabilities: Implications for policy regarding research and practice: A report by the National Joint Committee on Learning Disabilities March 2011. *Learning Disability Quarterly, 34,* 237-241.

"Diagnosis is one thing; treatment is another. No one diagnosis applies to all cases; no one treatment will eradicate all trouble" (p. 117).

Source: Stanger, M. A., & Donohue, E. K. (1937). *Prediction and prevention of reading difficulties.* New York: Oxford University Press.

"To be effective, remedial instruction in reading must be preceded by careful diagnosis" (Monroe & Backus, 1937).

General Conditions

- **Remedial work is most effective when given individually; small groups if the children have similar difficulties**
- **Provided at a favorable time of day:**
  30 minutes for younger children;
  40 to 60 minutes for older students

Monroe, M. (1935). Diagnosis and treatment of reading disabilities. In G. M. Whipple (Ed.), *The Thirty-fourth yearbook of the National Society for the Study of Education: Educational diagnosis* (pp. 201-228). Bloomington, IL: Public School Publishing Company.

Components of Effective Reading Instruction

- supported with a supply of books suitable to the child's reading level
- instructed by specially trained reading teachers
- progress measured frequently

Source: Monroe, M., & Backus, B. (1937). *Remedial reading: A monograph in character education.* Boston: Houghton Mifflin.

The rate of progress under remedial instruction was found to be a function of:

- the child's intelligence
- how early the intervention was provided
- number of hours of training
- severity of the reading disability
- behavior and personality difficulties
- supervision of the remedial techniques

(Source: Monroe, 1932, p. 157)

A Major Problem: Inappropriate Reading Material

- scarcity of high interest books with simple reading vocabulary
- provision of reading books for only one grade level for each grade
- inflexible programs so that teachers cannot adjust the difficulty of the texts to the achievement level of the students

Source: Monroe, M., & Backus, B. (1937). *Remedial reading.* Boston: Houghton Mifflin.

"Furthermore, workbooks should be ordered in terms of the reading levels of the pupils in the room. No one can justify ordering thirty similar third-grade workbooks for the thirty dissimilar third-grade pupils found in any classroom in the country" (p. 525).

Source: Betts, E. A. (1946). *Foundations of reading instruction.* New York: American Book Company.

Performance on Specific Intellectual Abilities

"Sometimes children of good general intelligence show retardation in some of the specific skills which compose an intelligence test" (p. 22)

Monroe, M., & Backus, B. (1937). *Remedial reading.* Boston: Houghton Mifflin.

Special Disabilities

"A child may fail to learn to read or spell or achieve satisfactorily in music and yet be of adequate intelligence. In some children there is a close relation between ability in one direction and ability in another direction. Also in some children there is a close association between ability in some given direction and general intelligence.

Source: Travis, L. E. (1935). Intellectual factors. In G. M. Whipple (Ed.), *The thirty-fourth yearbook of the National Society for the Study of Education: Educational Diagnosis* (pp. 37-47). Bloomington, IL: Public School Publishing Company.

However, in other children this is striking disparity between ability in one subject and that in another or between achievement in some subject and general intelligence. Such discrepancies may appear between rather closely related abilities, such as reading and intelligence. We find, for instance, such combinations as a child who cannot read although he can comprehend material read to him and another child who presents just the reverse condition" (p. 43).

"The clearest expression of a special disability is consistently low scores on a series of tests in a given subject conjoined with average or superior scores on tests in other subjects. Such scores can be arranged in an 'educational profile.' For example, in case of a reading disability, a child might obtain scores placing him in the ninth grade in arithmetic…and in the third grade in reading. Here we would have evidence of a striking reading disability." (p. 43).

Forms of Disabilities

- Disorders of attention
- Perceptual disabilities (quickness of perception in number of stimuli that can be perceived within a limited time period)
- Deficiencies in visual and auditory memory spans
- Alexia or word-blindness (reading and writing)
- Aphasia (speech, writing)
- Agraphia (express thoughts in writing)
- Amusia (inability to sing in tune or distinguish musical sounds)

Source: Travis, L. E. (1935).

"…the concept of dyslexia requires that the deficits displayed by such children not extend too far into other domains of cognitive functioning" (p.278).

"In short, the key deficit in dyslexia must be a vertical faculty rather than a horizontal faculty--a domain-specific process rather than a process that operates across a variety of domains" (p.279).

Source: Stanovich, K. E. (1993). The construct validity of discrepancy definitions of reading disability. In G. R. Lyon, D. B. Gray, J. F. Kavanagh, N. A. Krasnegor (Eds.),*Better understanding learning disabilities: New views from research and their implications for education and public policies* (pp. 273-307). Baltimore: Paul H. Brookes Publishing Co.

"Most students with LD have an uneven pattern of strengths and weaknesses that affect learning. The problems experienced by these students vary in severity and pervasiveness; some students experience deficits in one area of functioning, and others experience difficulties in multiple areas of functioning. Regardless students with LD require instruction and support that are differentiated in ways that address their specific learning needs" (p. 238).

Source: Learning disabilities: Implications for policy regarding research and practice: A report by the National Joint Committee on Learning Disabilities March 2011. *Learning Disability Quarterly, 34*, 237-241.

Reading Ability

"The ability to read well, both silently and orally, doubtless surpasses in importance many of the other learning skills, since it opens up all records of knowledge. For this reason the earlier that deficiency is eliminated during the school program, the more rapid will be the individual's approach to an effective education" (p. 347).

Source: Williamson, E.G. (1939). Reading disabilities. In E. G. Williamson (Ed.), *How to counsel students: A manual of techniques for clinical counselors* (pp. 327-347). New York, NY: McGraw-Hill.

Prevention Program

"A prevention program should have its inception at the earliest school age and be continued coordinately with correction through high school" (p. 343).

Source: Williamson, E.G. (1939). Reading disabilities. In E. G. Williamson (Ed.), *How to counsel students: A manual of techniques for clinical counselors* (pp. 327-347). New York, NY: McGraw-Hill.

Teacher Training

- understand the mechanics of reading
- the value of objective measurements
- how to chart and graph students' progress
- how to apply proper remedial measures dictated by diagnostic findings
- recognize individual differences

Source: Williamson, E.G. (1939). Reading disabilities. In E. G. Williamson (Ed.), *How to counsel students: A manual of techniques for clinical counselors* (pp. 327-347). New York, NY: McGraw-Hill.

The Upper Grades

"… provision for correcting reading disability in the upper grades and high school should be a major responsibility of teachers and administrators" (Williamson, 1939, p. 347)

Central Themes from Dr. Grace Fernald

- the difficulties can be partially or fully overcome with proper diagnosis and treatment
- methods have to be adapted to the child
- multisensory instruction is beneficial
- methods need to be applied before the child has failed
- reading difficulties contribute to emotional difficulties

Source: Fernald, G. M. (1943). *Remedial techniques in basic school subjects.* New York: McGraw-Hill.

Instruction

For these reasons, the reading instruction emphasizes accurate perception of words and very early attempts to make the relationship between visual and auditory perceptions a functioning one. Word study is therefore an important feature of reading for the brain-injured child. In as many ways as possible, his attention should be drawn to the components making them on cards or paper with a stamping set; he should copy them with crayons, emphasizing significant features with color, write them on the blackboard, and build them with letter cards" (Strauss & Lehtinen, 1947, p. 179).

"Children with developmental imbalances are those who reveal a developmental disparity in psychological processes related to education …" (p. 28)."The key characteristic that identifies this child to the observer is the substantial *difference* between the worst and the best of his developing intelligences, or the substantial intraindividual differences noted within the child. The children with large developmental imbalances can be counted on to cause considerable difficulties in any educational program which is based on the assumption that a child's developmental processes will be within narrow limits" (p. 29).

"The information provided by this patterning of abilities is much more important than his single mental age score or language scores. While his Binet mental level is listed as between five and six years, his internal variation from three to eight years is the more important educationally diagnostic information. It not only establishes the fact of developmental imbalance, but it locates the areas of specific disability" (p. 29).

Source: Gallagher, J. J. (1966). Children with developmental imbalances: A psychoeducational definition. In W. M. Cruickshank (Ed.), *The Teacher of Brain-Injured Children* (pp. 23-43). New York: Syracuse University Press.

"The single most important factor in planning for a child with a learning disability is an intensive diagnostic study. Without a comprehensive evaluation of his deficits and assets, the educational program may be too general, or even inappropriate. The diagnostic study should include an evaluation of sensory acuity, intelligence, language (spoken, read, written), motor function, educational achievement, emotional status, and social maturity" (p. 50).

"The implication is that it is necessary to have immediate access to all diagnostic findings because it is from these that the educational approach must be evolved. Sometimes teachers are required to begin remediation without adequate knowledge of the deficits and integrities. Although information can be obtained from personal contact with the child, precise planning is possible only when these observations are supplemented by detailed diagnostic information" (p. 51).

Source: Johnson, D. J. & Myklebust, H. R. (1967). *Learning disabilities: Educational principles and practices.* New York: Grune & Stratton.

Visual and Auditory Dyslexia (Johnson & Myklebust, 1967)

- Confuses letters and words with similar appearance
- Slow rate of perception
- Reversals in reading and writing
- Difficulty retaining visual sequences

- Difficulty hearing the differences among speech sounds
- Difficulty discriminating short vowel sounds
- Difficulty with blending and segmentation

Diagnosis

"…there is a deficit in learning in the presence of basic integrity" (p. 25).

Source: Johnson, D. J., & Myklebust, H. R. (1967). *Learning disabilities: Educational principles and practices.* New York: Grune & Stratton.

"We are coming to recognize that deficiencies in certain cognitive processes are indicators of LD that predict and, therefore, result in expected underachievement" (p. 239).

Source: Learning disabilities: Implications for policy regarding research and practice: A report by the National Joint Committee on Learning Disabilities March 2011. *Learning Disability Quarterly, 34,* 237-241.

Kirk's work, flowing directly out of the Monroe's tutelage, produced the historically important ideas that:

(1) children with disabilities (later specified as LD) have intraindividual differences, and

(2) assessment is a critical tool for guiding instruction (p. 20).

Source: Hallahan, D. P., Pullen, P. C., & Ward, D. (2013), A brief history of the field of learning disabilities. In H. L. Swanson, K. R. Harris, and S. Graham (Eds.). *Handbook of Learning Disabilities (2nd ed).* New York, NY: Guilford Press.

Steps for Diagnosis of a Reading Disability

1. Determine reading potential (verbal intelligence, vocabulary, and arithmetic computation).
2. Determine the reading level.
3. Determine the symptoms of poor reading.
4. Analyze the related factors (e.g., poor sound blending or visualization).
5. Recommend remedial methods.

Source: Kirk, S. A. (1962). *Educating exceptional children.* Boston: Houghton Mifflin Company.

"I like to define a learning disability as a psychological or neurological impediment to development of adequate perceptual or communicative behavior, which first is manifested in discrepancies among specific behaviors or between overall performance and academic achievement…" (p. 617).

Source:

Arena, J. (1978). An interview with Samuel Kirk. *Academic Therapy, 13,*617-620.

"A learning disability is like pornography… it's hard to define, but you know it when you see it."

Dr. Samuel Kirk

Lessons from History

- Certain parts of the brain are involved.
- A specific problem exists in cognitive, linguistic, or perceptual processes that affects reading and spelling development.
- Oral language and reasoning abilities are often more advanced than basic reading skills.
- Early intervention is critical.
- Reading problems can affect an individual of any level of intelligence.

Lessons from History

- Both assessments and instruction must be planned, adapted for each individual, systematic, and intensive.
- Reading disabilities affect the IQ score.
- One-to-one or small group instruction is effective.
- The teacher must receive adequate training and supervision in the implementation of methodologies.
- Reading problems affect emotional well being .

Hereditary Factors

Strong converging evidence suggests that:

1. **Reading disability is genetic.**
2. **Different regions of the brain are involved.**
3. **Family history is a key risk indicator**

Cognitive Factors Implicated in Dyslexia

- Phonological Processing
- Orthographic Processing
- Rapid Automatized Naming (RAN)
- Processing Speed
- Working Memory

High comorbidity with ADHD.

ADHD/RD

Specifically, the rate of RD in samples selected for ADHD typically falls between 25 and 40% [e.g., August and Garfinkel, 1990; Semrud-Clikeman et al., 1992], whereas 15–35% of individuals with RD also meet criteria for ADHD [Gilger et al.,1992; Shaywitz et al., 1995; Willcutt & Pennington, 2000].

Willcutt, E. G., Pennington, B. F., & DeFries, J. C. (2000). Twin study of the etiology of comorbidity between reading disability and Attention-Deficit/ Hyperactivity Disorder. *American Journal of Medical Genetics (Neuropsychiatric Genetics) 96*, 293–301.

Early Predictors of Reading

The **two** best early predictors of how well children will learn to read during the first two years of school are:

phonemic awareness

letter/sound knowledge

Ehri, L. (2000). National Reading Panel.

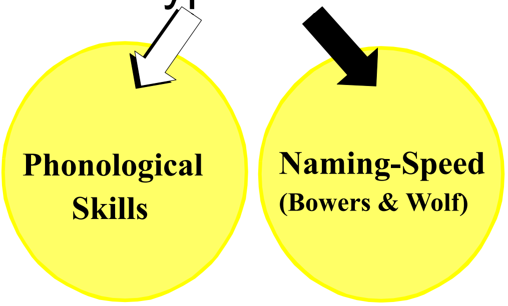
Many students with specific reading disabilities have poor phonological awareness and difficulty connecting sounds to print which results in slow word perception, a delay in developing instant word reading, and poor spelling.

Poor Phonological Processing

May have:

1. **Early articulation errors**
2. **Confusion of similar sounds (e.g., /b/,/p/ and /f/, /v/)**
3. **History of ear infections**
4. **Trouble learning letter sounds**
5. **Poor nonword repetition, reading, and spelling**

Double-Deficit Hypothesis



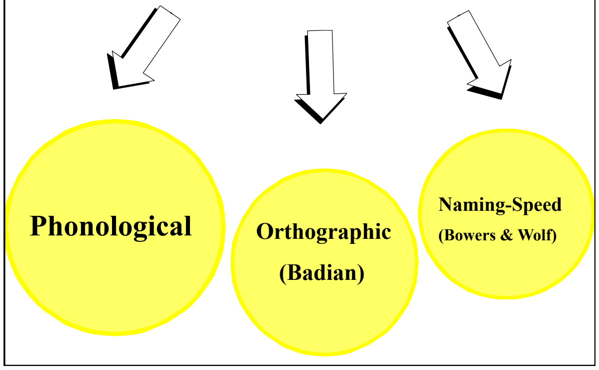
Phonological Skills

Naming-Speed (Bowers & Wolf)

"The term, double deficit, emerged as a concrete metaphor to convey at once the critical blow that the combination of both deficits represents. Just as naming-speed skills predicted word identification, and phonological skills predicted word attack, deficits in both variables would impede both aspects of reading, leaving no compensatory route easily available." (p.13)

Source: Wolf, M. (1999). What time may tell: Towards a new conceptualization of developmental dyslexia. Annals of Dyslexia, 49, 3-27.

Triple-Deficit Hypothesis



Phonological

Orthographic (Badian)

Naming-Speed (Bowers & Wolf)

Phonology and Orthography

Phonology: the sounds of a language

Orthography: the marks of a writing system, including the spelling patterns

Dyslexia can be caused by problems in phonology or orthography or both.

Definitions

Orthographic: the visual representations specific to words (not visual-spatial skills)

Orthographic coding: Representing a printed word in memory and accessing the whole word, a letter cluster, or a letter.

Orthographic image: Representation of a specific written word in memory .

Source: Berninger, V. W. (1996). *Reading and writing acquisition: A developmental neuropsychological perspective.* Boulder, CO: Westview Press.

Poor Orthographic Processing

Reverses letter and numbers
Has trouble copying
Has difficulty learning how to form letters
Has trouble remembering sight words
Confuses low-image words (e.g., of and for)
Confuses similar-looking letters and words
Spells phonetically and violates rules of English spelling
Has a slow reading rate and poor spelling into adulthood

What is Rapid Automatized Naming (RAN)?

Measures response time or rapid retrieval for a visual stimulus (objects, colors, letters, or numbers or a combination)

6 8 9 6 4 9 3 6 9 4

8 1 3 9 6 8 4 3 1 9

What Do Rapid Naming Tests Appear to Measure?

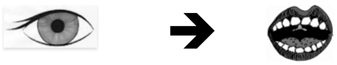
1. Ability to sustain attention to process and name the symbols.
2. Ability to name and discriminate among the symbols.
3. Ability to retrieve verbal labels rapidly.
4. Ability to articulate words rapidly.

What Do We Know about Rapid Naming?

1. Appears to be distinct from phonology.
2. Predicts word-reading accuracy and speed in many languages.
3. Predicts irregular word reading better than non-word reading.
4. Predicts poor reading across the lifespan.

Dr. Martha Denckla

The Visual-Verbal Highway



Slow word perception

See it….Say it

Slow RAN performance is more related to reading speed than reading accuracy (Georgiou et al., 2008).

In a summary regarding RAN findings, Abu-Hamour (2009) reported that:

(a) RAN letters and then numbers are the strongest predictors of both reading and spelling;

(b) RAN appears to be distinct from phonological awareness and accounts for independent variance in word reading;

Abu-Hamour, B. (2009). The relationships among cognitive ability Measures and irregular word, non-word, and word reading. Unpublished doctoral dissertation, University of Arizona, Tucson.

(c) the contribution of RAN is larger for younger readers and readers with more severe disabilities;

(d) pause time is significantly correlated with reading accuracy and fluency, whereas articulation time is not;

(e) RAN is most highly related to speeded measures of reading; and

(f) RAN is a good predictor of orthographic skills, but not non-word reading skills.

"...this new conceptualization of reading disabilities was ironically, named too quickly. To be sure, double deficit captures the phenomenon of study--that is, the importance of understanding the separate and combined effects of two core deficits--but it fails miserably in redirecting our simultaneous attention as a field to the entire profile of strengths and limitations manifest in children with reading disabilities. Only when we develop truly multi- dimensional models of deficits and strengths will our diagnostic and remedial efforts be best matched to individual children" (p.23).

Source: Wolf, M. (1999). What time may tell: Towards a new conceptualization of developmental dyslexia. *Annals of Dyslexia, 49,* 3-27.

"The history of dyslexia research, the heterogeneity of our dyslexic children, and the very complexity of the reading process argue against any single-factor, two-factor, or even three-factor explanation (p. 5)."

Source: Wolf, M. (1999). What time may tell: Towards a new conceptualization of developmental dyslexia. *Annals of Dyslexia, 49*, 3-27.

People who study the correlates of reading must distinguish between predictors and requisite abilities (i.e.,indispensable parts)

Dr. Don Hammill,1999,

personal communication

Processing Speed

Involves the serial scanning of print

Can be related to poor attention, slow RAN, poor orthography, inefficient visual tracking

Appears related to the development of automaticity with basic skills

---

Neuropsychologists place more emphasis on the measurement of neurodevelopmental functions. As such, broad global composites, such as IQ, have long been known to have little utility (Lezak, 1988). Consequently, neuropsychologists have relied more on functional deficits (e.g., phonological processing) to explain academic problems (e.g., reading) rather than IQ-achievement discrepancies. Interventions, when conducted, are targeted based on the specific functional deficits contributing to an academic problem. Such methodology provides greater specificity in constructing interventions.

Source: Decker, S. (2008). School Neuropsychology Consultation in Neurodevelopmental disorders. *Psychology in the Schools, 48.*

Working Memory

Ability to hold information in memory and rearrange it.

Related to attention and executive functioning.

Affects many aspects of academic performance.

Academic Assessment

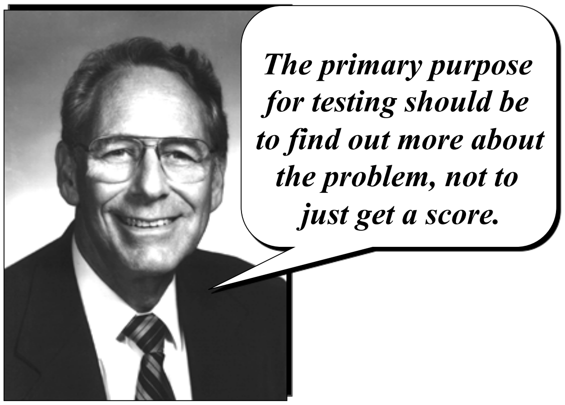
- Nonword reading and spelling
- Phonological awareness
- Reading accuracy
- Reading fluency and rate
- Spelling (regular and irregular words)
- Compare to math and oral language abilities

Dyslexia creates a breakdown in the acquisition and application of alphabetic knowledge that results in slow, labored reading development, delayed automaticity, and poor spelling. The treatment requires direct, intensive instruction in the alphabetic system, followed by methods to build rate and fluency.

Dr. Alan Kaufman

… there is a demand for the comprehensive assessment to drive intervention. This is the way it has always been, and this is the way it will always be because the referral questions for children with SLD have always asked, What is wrong? And how can we help? These questions demand differential diagnosis, a large part of which is determined by the cognitive abilities present in the individual child (p. 211).

Source: Kaufman, A. S., Lichtenberger, E. O., Fletcher-Janzen, E., & Kaufman, N. L. (2005). *Essentials of the K-ABC-II Assessment.* New York: John Wiley & Sons.


The primary purpose for testing should be to find out more about the problem, not to just get a score.

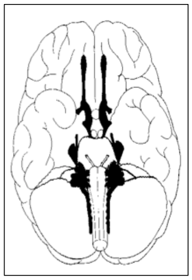
And to find more about the factors that will facilitate performance…

We shouldn't ask: How smart you are…

but instead:

How are you smart?

- H. Gardner



Sea of Strengths Model of Dyslexia

Concept formation

Comprehension

General knowledge

Reasoning

Decoding

Problem solving

Critical thinking

Vocabulary

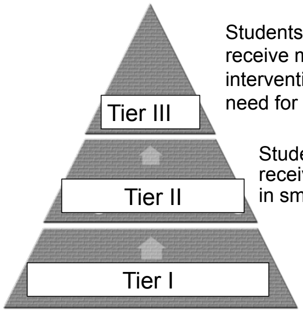
Shaywitz, S. (2003). *Overcoming dyslexia: A new and complete science-based program for reading problems at any level.* New York: Alfred A. Knopf. (p. 58)

Verbal Ability as the Estimate of Potential

"Children should be able to comprehend, or construct, the meaning of what is being read at a level consistent with their general verbal ability" (p.55).

Source: Torgesen, J. K. (2000). Individual differences in response to early interventions in reading: The lingering problem of treatment resisters. *Learning Disabilities Research & Practice, 15,* 55-64.

Three Tiers of Service Delivery



Tier III

Students who still do not respond receive more targeted, intensive interventions. Consider eligibility and need for special education.

Tier II

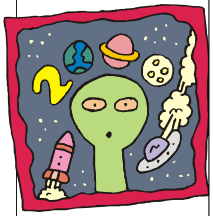
Students who do not respond may receive more intensive interventions in small groups

Tier I

All students are provided with evidence-based instruction and progress is monitored

What can be Weird, about Three Tiers?

- the different types of interventions
- the lack of flexibility in the system



"…there has been a too frequent, unexamined acceptance of untested practices, which may not represent the smartest way of implementing multilevel prevention. Examples of this uncritical acceptance include the very quick and broad adoption of one-stage screening procedures…" (p. 275).

Source: Fuchs, D., Fuchs, L. S., & Compton, D. (2012). Smart RTI: A next-generation approach to multilevel prevention. *Exceptional Children, 78,* 263-279.

One-stage screens in the early grades result in unacceptably high rates of false positives. A two-stage screen that included rapid naming, phonological processing, oral language comprehension, nonverbal reasoning, untimed and timed word identification and word attack skills, greatly improved classification accuracy.

Source: Fuchs, D., Fuchs, L. S., & Compton, D. (2012). Smart RTI: A next-generation approach to multilevel prevention. *Exceptional Children, 78,* 263-279.

"We recommend that schools practice Smart RTI by conducting multistage screening within primary prevention to avoid providing secondary prevention to students whose failure to respond to it can be predicted. These students should be fast tracked to tertiary prevention" (p. 269).

Source: Fuchs, D., Fuchs, L. S., & Compton, D. (2012). Smart RTI: A next-generation approach to multilevel prevention. *Exceptional Children, 78,* 263-279.

WJ III Stage 2 Screening: Basic Reading Skills Grades 1 and 2

Sound Blending
Visual Matching
Visual-Auditory Learning
Rapid Picture Naming
Picture Vocabulary
Letter-Word Identification
Word Attack
Reading Fluency

For additional ideas on tests appropriate for two-stage screening, see: McGrew, K. S., & Wendling, B. J. (2010). Cattell-Horn-Carroll cognitive-achievement relations: What we have learned from the past 20 years of research. *Psychology in the Schools, 47,* 651-675.

Day 5 of kindergarten and after testing her students the classroom teacher is told that a full one-third of her class are performing below expectations. As she struggled to explain to a young mother how her child needed extra help on day 5, I witnessed the most insightful response from the mother. She replied, how with only 5 days of formal schooling and his first time not home, not taking a nap, and not playing during the day can you tell he is behind? He's still adjusting to a new routine! How can this be a good thing to put children through their first week of school? The teacher replied, no one said it was a good thing.
Ann Marie

"Accuracy is FIRST, FOREMOST, and FOREVER the FOUNDATION of FLUENCY."

Source:

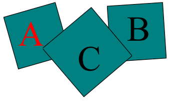
Hasbrouck, J., & Glaser, D. (2011). *Fluency: Understanding and teaching this complex skill: Training manual.* Wellesley Hills, MA: Gibson Hasbrouck & Associates.

Universal Screening

1. Test of Silent Word Reading Fluency-2 (TOSWRF-2, 2013)- group administered; 3 minutes
2. Test of Word Reading Efficiency-2 (TOWRE-2, 2012); 2 subtests, individually administered:
Sight Word Efficiency
Phonemic Decoding Efficiency; 45 seconds each
(PRO-ED)

Poor readers have difficulties...

- learning how to blend (put together) and segment (take apart) the sounds in words.
- learning sound (phoneme) and letter (grapheme) correspondences.
- blending phonemes and graphemes



Strategies for Word Identification

1. By segmenting and blending sounds.
2. By pronouncing common spelling units (e.g., syllables).
3. By recognizing sight words from memory.
4. By creating analogies to known words.
5. By using context cues to predict words.

Skilled Reading

The key to efficient text reading is automaticity (the ability to read words by sight automatically). Allows readers to process words in text quickly w/o conscious attention to words. All other cuing systems require conscious attention.

Source: **Ehri, L. C. (1998). Grapheme-phoneme knowledge is essential for learning to read words in English. In J. L. Metsala & L. C. Ehri (Eds.), Word recognition in beginning literacy (pp. 3-40). Mahwah, NJ: Lawrence Erlbaum.**

Phases of Sight Word Development

Pre-Alphabetic Phase

Partial Alphabetic Phase

Full Alphabetic Phase

Consolidated Alphabetic Phase

Ehri, L. C. (1998). Grapheme-phoneme knowledge is essential for learning to read words in English. In J. L. Metsala & L. C. Ehri (Eds.), Word recognition in beginning literacy (pp. 3-40). Mahwah, NJ: Lawrence Erlbaum.

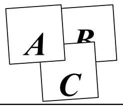
Pre-Alphabetic Phase

Makes connection between salient visual cues and word meaning

Does not use letter-sound relations to aid in word identification

Partial Alphabetic

Makes connections between some of the letters and sounds
Relies more on first and final sounds
Lacks full knowledge of alphabetic system, particularly vowels
Reads same word inconsistently and confuses words with similar letters (e.g., cap and camp)



Full Alphabetic

Has complete connections between letters and phonemes

Can decode words never read before by segmenting and blending letters

Remembers how to read sight words

Consolidated Alphabetic

Recognizes larger letters units instantly (e.g., morphemes, syllables, onset/rimes)

Has consolidated units in memory (e.g., -est, -tion, -ing, -le)

Is sensitive and recalls spelling patterns observed in words

Reads words rapidly and easily

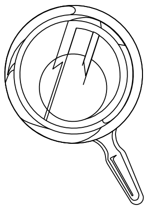
1. **What phase is Charlie in Ehri's Sight Word Development?**

   ____

2. **On what area of reading does he primarily need to work?**

   ____

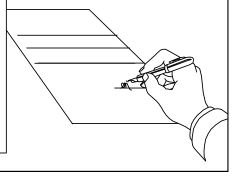
Decoding and Encoding Require Similar Processes, but Encoding is Much More Difficult



Development of Encoding Skill

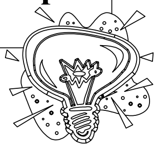
Print Awareness
Phonological Awareness
Alphabetic Principle
Increased Orthographic Awareness
- Syllables
- Visual Patterns

Automaticity



Strategy Theory of Spelling Development

Children use information from phonology, orthography, and morphology as an aid to spelling from the beginning of attempted spellings.

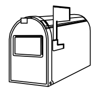


Stages of Spelling Development

- **Prephonetic:** Has no knowledge of the alphabetic principal
- **Semi-phonetic:** Uses letters to represent easy to hear speech sounds
- **Phonetic:** Represents all speech sounds
- **Transitional:** integrates some orthographic patterns
- **Conventional:** Uses sounds, patterns, and meanings

Stages of Development

Pre-phonetic or emergent: W17pt



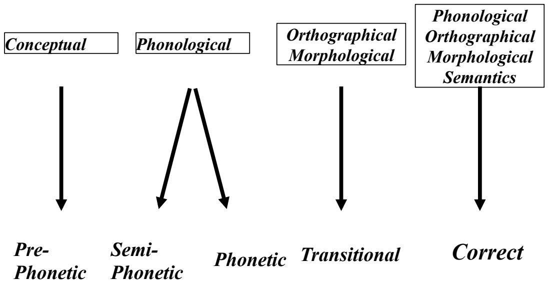
Semi-phonetic: I wk t the madk.

Phonetic: I wokt to the maylbocks.

Transitional: I waked two the malebox.

Conventional: I walked to the mailbox.

Primary Abilities for Spelling Development


Conceptual
Phonological
Orthographical Morphological
Phonological Orthographical Morphological Semantics
Pre-Phonetic
Semi-Phonetic
Phonetic
Transitional
Correct

Stages of Decoding/Encoding Development

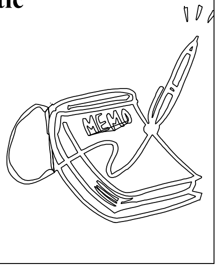
Prealphabetic: Prephonetic

Partial alphabetic: Semi-phonetic

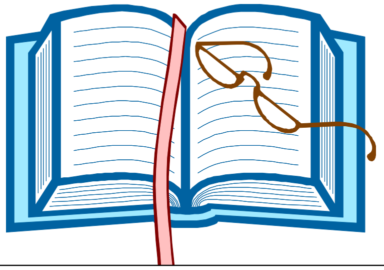
Full alphabetic: Phonetic

Consolidated: Transitional (orthography)

Fluency: Conventional



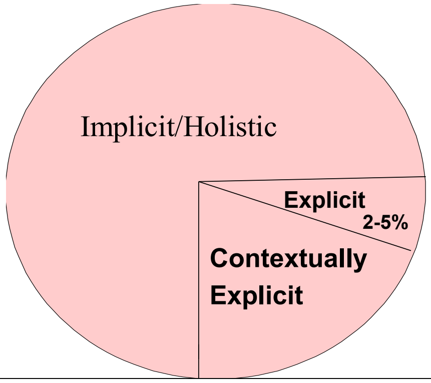
Different People require Different Approaches at Different Developmental Stages



Elements of Whole Language Methods

- Child centered and motivating
- High-interest and authentic text
- Interactive: Language-rich environment
- Emphasis on meaning and language
- Main belief :Reading develops naturally through exposure

Learning to Read

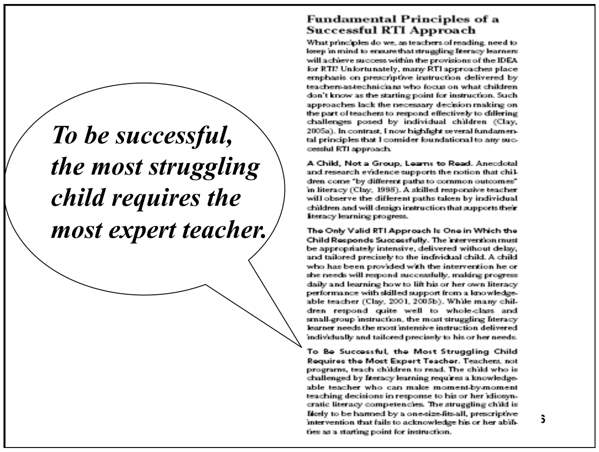


viewing reading as developing naturally will negatively affect "… perhaps 20 to 25 percent (of the children) who will not discover the point of the alphabet except as it is made apparent to them by appropriate instruction" (p. 54).

(Liberman & Liberman, 1990)

"**Decoding is at once the least and yet the most important aspect of reading...**"

-Gerald Glass, 1973



To be successful, the most struggling child requires the most expert teacher.

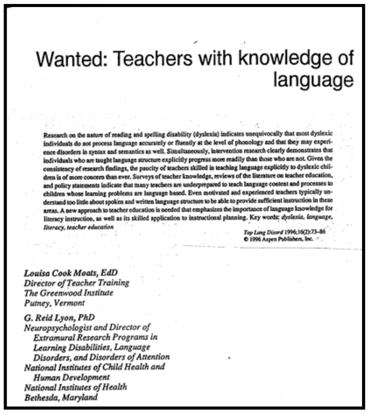
Fundamental Principles of a Successful RTI Approach

What principles do we, as teachers of reading, need to keep in mind to ensure that struggling literacy learners will achieve success within the provisions of the IDEA for RTI? Unfortunately, many RTI approaches place emphasis on prescriptive instruction delivered by teachers-as-technicians who focus on what children don't know as the starting point for instruction. Such approaches lack the necessary decision making on the part of teachers to respond effectively to differing challenges posed by individual children (Clay, 2005a). In contrast, I now highlight several fundamental principles that I consider foundational to any successful RTI approach.

A Child, Not a Group, Learns to Read. Anecdotal and research evidence supports the notion that children come "by different paths to common outcomes" in literacy (Clay, 1998). A skilled responsive teacher will observe the different paths taken by individual children and will design instruction that supports their literacy learning progress.

The Only Valid RTI Approach Is One in Which the Child Responds Successfully. The intervention must be appropriately intensive, delivered without delay, and tailored precisely to the individual child. A child who has been provided with the intervention he or she needs will respond successfully, making progress daily and learning how to lift his or her own literacy performance with skilled support from a knowledgeable teacher (Clay, 2001, 2005b). While many children respond quite well to whole-class and small-group instruction, the most struggling literacy learner needs the most intensive instruction delivered individually and tailored precisely to his or her needs.

To Be Successful, the Most Struggling Child Requires the Most Expert Teacher. Teachers, not programs, teach children to read. The child who is challenged by literacy learning requires a knowledgeable teacher who can make moment-by-moment teaching decisions in response to his or her idiosyncratic literacy competencies. The struggling child is likely to be harmed by a one-size-fits-all, prescriptive intervention that fails to acknowledge his or her abilities as a starting point for instruction.



Wanted: Teachers with knowledge of language

Research on the nature of reading and spelling disability (dyslexia) indicates unequivocally that most dyslexic individuals do not process language accurately or fluently at the level of phonology and that they may experience disorders in syntax and semantics as well. Simultaneously, intervention research clearly demonstrates that individuals who are taught language structure explicitly progress more readily than those who are not. Given the consistency of research findings, the paucity of teachers skilled in teaching language explicitly to dyslexic children is of more concern than ever. Surveys of teacher knowledge, reviews of the literature on teacher education, and policy statements indicate that many teachers are underprepared to teach language content and processes to children whose learning problems are language based. Even motivated and experienced teachers typically understand too little about spoken and written language structure to be able to provide sufficient instruction in these areas. A new approach to teacher education is needed that emphasizes the importance of language knowledge for literacy instruction, as well as its skilled application to instructional planning. Key words: *dyslexia, language, literacy, teacher education*

Top Lang Disord 1996;16(2):73–86
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"**…lower level language mastery is as essential for the literacy teacher as anatomy is for the physician**"

(Moats, 1994, p. 99).

"Learning to teach reading, language and writing is a complex undertaking. The competence and expertise of teachers can be nourished with training that emphasizes the study of reading development, language and individual differences," said Dr. Louisa Moats, Chair of IDA's Standards and Practices Committee. "If teachers are better prepared, the impact of reading difficulties, including dyslexia, will be lessened, and many more students will receive the instruction and support they require to reach their potential."

Press Release: International Dyslexia Association Recognizes Nine Universities for Meeting Teacher Training Standards in Reading *Teachers who are Better Prepared Lessen the Impact of Reading Difficulties* **BALTIMORE, May 2, 2012**

Teachers need to know...

How an alphabetic orthography represents our language.

Why beginning readers need to understand how phonological structure relates to orthography.

Why it is hard for some children to achieve this understanding.

-Liberman, Shankweiler, & Liberman (1990)

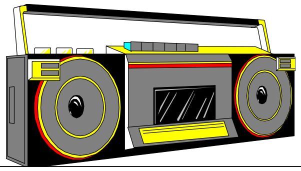
National Reading Panel

1. teach children how to manipulate the sounds in words (phonemic awareness)
2. teach them how these sounds can be written with letters and then blended together to form words (phonics)
3. have them read aloud with guidance and feedback (guided oral reading)
4. teach vocabulary and how to apply reading comprehension strategies

Phonological Awareness

Knowing that spoken language is composed of sounds

The ability to manipulate and integrate language sounds



Numerous Research Results have demonstrated:

Phonemic awareness...

is highly related to reading achievement and can cause reading failure

Phonemic awareness training...

reduces reading failure

provides long lasting benefits

National Reading Panel Conclusions about Phonemic Awareness

Can be taught explicitly

No more than 20 hours of instruction per year (5-18 hours)

Focus on one skill at a time

Most effective when combined with letters

Most effective with instruction in small groups

Phoneme

- **Basic building block of speech**
- **Single speech sound**
- **Distinguishes one word from another**
- **Signifies a change in meaning**

Pin or pen?

Letters, Phonemes, and Graphemes

How many letters in the alphabet?

How many speech sounds?

How many graphemes?
a letter or grouping of letters that represent a single speech sound

B

A

C

D

Phoneme vs. Grapheme

The same grapheme can represent different phonemes (e.g. chair, character, chute).

The same phoneme may have a variety of graphemes (e.g., sure, sugar, ship, machine, motion, and special).

Knowledge of phoneme-grapheme relationships is needed for skilled reading and spelling.

Phonological Awareness Development

K-1st: rhyming, blending and segmenting compounds words and multisyllabic words

1st and 2nd grade: Segmenting and blending phonemes. Manipulating the initial, final, and then the middle sound.

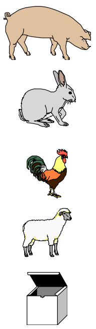
Sequence of Skill Development

- Discriminating rhymes
- Producing rhymes
- Isolating initial and final sounds
- Blending sounds
- Segmenting sounds
- Manipulating sounds (e.g., deleting, substituting, transposing)

Examples of Phonological Awareness Tasks

- Rhyming: What words rhyme with dog?
- Blending: What word is this... /sh/ /oe/?
- Phoneme Counting: How many sounds are in the word "ship"?
- Phoneme Deletion: What is left if the /t/ sound were taken from "cart"?
- Phoneme Segmentation: How many sounds do you hear in the word "bus"?

How many phonemes do you hear in...?



pig __

rabbit __

rooster __

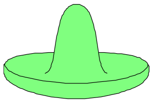
sheep __

box __

Rhyming

- Recognition: Do these two words rhyme?
- Oddity: Tell me which word doesn't rhyme.
- Completion: Finish what I say with a word that rhymes.
- Production: What word rhymes with...?

Onsets and Rimes



Parts of the English syllable

First part: Onset H...at

Second part: Rime h...AT

In English, all syllables have a rime, but not necessarily an onset

---

37 rimes from which 500 primary words can be taught using analytic phonics.
Wylie & Durrell, 1972

-ack -ain -ake -ale -all -ame -an
-ank -ap -ash -at -ate -aw -ay
-eat -ell -est -ice -ick -ide -ight
-ill -in -ine -ing -ink -ip -ir
-ock -oke -op -or -ore -uck -ug
-ump -unk

The Two Most Important Phonological Awareness Abilities

- Sound blending: provides the basis for learning phonics
- Segmentation: provides the basis for sequencing sounds when spelling

---

Continuous vs. Stop Consonant Sounds

Continuous: a sound that can be said for several seconds without distorting the sound (e.g., /s/).

Stop: a sound that can be said only for an instant (e.g., /p/)

Why is bat more difficult to sound out than rat?

Bounced and Stretched Sounds

Adapted from Success for All reading program

Bounced sounds are voiced softly and rapidly.
b c d g h j p t qu w x y

Stretched sounds are sustained for 1-2 seconds.
f l m n r s v z (a e i o u)

Training Sound Blending Ability

Ability to push together sounds

- Start the instruction with continuous sounds that can be prolonged (e.g., /s/, /f/, /m/)
- Progress from compound words to syllables to onset-rimes to phonemes
- Present words with two sounds, three, and then four (e.g., /m/ /e/, /sh/ /oe/, /c/ /a/ /t/, /s/ /a/ /n/ /d/)
- Gradually increase the interval between sounds from 1/4 second to 1 second break

Segmentation

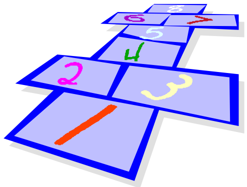
1. Break compound words into words (e.g., cup-cake.)
2. Count the number of syllables in a word (e.g., car-pen-ter).
3. Break into onset-rime (e.g., c-at).
4. Count the number of phonemes (e.g., s-e-g-m-e-n-t).

Segmentation

Ability to separate sounds

- Manipulatives (e.g., tiles, poker chips)
- Bounce or throw a ball
- Tap out the number of words, syllables, phonemes
- Hold up fingers to count the number of phonemes

Clap, Tap, or Jump the Number of…



- Words in a sentence
- Syllables in words
- Phonemes in words

Phoneme Manipulation Tasks

- Deletion: say cart without /t/
- Addition: say at with /c/ at the front
- Substitution:
  Initial: Change the /s/ in sun to /f/
  Final: Change the /t/ in cat to /b/
  Medial: Change the /i/ in hit to /a/
- Reversal: say the sounds in "enough" backward

Assessment and Instructional Guidelines

Consider the level of development and the difficulty level of the task:

Rhyme identification vs. production

Initial sound, final sound, and then medial sound

Compound words, syllables, onset-rimes, phonemes

Early Reading

- Print Awareness
- Phonological Awareness
- Terminology
- Alphabetic Principle

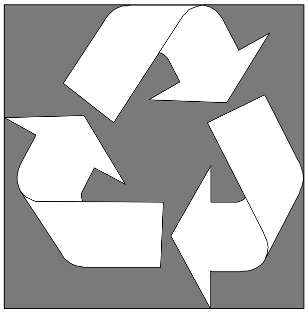
The Alphabetic Principle

The systematic use of alphabetic letters to represent speech sounds- how speech sounds are represented in print

phoneme → ***grapheme***

/f/ ➔ f

Reciprocal Relationship Exists Between Phonological Awareness and Reading Development



What are the five ways to spell the speech sound /f/?

1. ___
2. ___
3. ___
4. ___
5. ___

Adapted Elkonin Procedure (Pre-Alphabetic)

1. **Select a simple line drawing.**
2. **Place a rectangle for a word under the drawing divided into squares equal to number of phonemes** ☐☐☐
3. **Say the word slowly and push a marker forward for each sound.** ●●●
4. **Color-code markers for vowels and consonants.** ●●●
5. **Progress to letter tiles** C A T

Talk-to-Yourself Chart

(Adapted from Benchmark School, Gaskins)

1. The word is _____________.
2. When I stretch the word, I hear _____ sounds.
3. There are _____ letters because _____________.
4. The spelling pattern is _____________.
5. This is what I know about the vowel:____________________.
6. Another word I know with the same vowel sound is:___________.
7. Other words that share this same spelling pattern are:_____________.

---

1. The word is *right.*

2. When I stretch the word, I hear *3* sounds.

3. There are *5* letters because it takes *i-g-h* to represent the *i* sound.

4. The spelling pattern is *ight.*

5. This is what I know about the vowel: the vowel is the only vowel in the word and it says its own name.

6. Another word that I know with the same vowel sound is: *ride.*

7. Other words that share this same spelling pattern are: *light, fight, flight, right,night, might, tight, sight, fright, plight*

Talk-to-Yourself Chart

(Adapted from Benchmark School, Gaskins)

1. The word is _____________.
2. When I stretch the word, I hear _____ sounds.
3. There are _____ letters because _____________.
4. The spelling pattern is _____________.
5. This is what I know about the vowel:____________________.
6. Another word I know with the same vowel sound is:___________.
7. Other words that share this same spelling pattern are:_____________.

Making Words

- Give each student 6 to 8 letters with one or two colored coded vowels
- Have each student make 2 then 3 letters words using the letters.
- Continue a pattern, increasing word length one letter during each step.
- Example: it, sit, slit, split, splint, splinter, splintering
- Practice with morphemes: -ed, -ing, -er

Source: Cunningham, P.M., & Cunningham, J. W. (1992). Making words: Enhancing the invented spelling-decoding connection. *Reading Teacher, 46,* 106-115.

Modifying Making Words

- Focus on CVC patterns
- Progress from changing the initial to the final to medial sounds
- Integrate with a reading/writing activity
- Pair at-risk student with a tutor

C T A

What does he know?

What does he need to learn?

What else do you need to know to plan instruction?

Phoneme-Grapheme Mapping
Kathi Grace, Sopris West

- Begin with regular words where the number of phonemes equals the number of graphemes
- Introduce blends
- Introduce digraphs (written in one box)
- Introduce silent letters (e.g., v-c-e, mb)
- Introduce vowel digraphs (e.g. oa, ee)

Phoneme-Grapheme Mapping

- What do you hear?
- What do you write?
- One chip = one sound

Phoneme-Grapheme Mapping

○	○	○		
sh	**ee**	**p**		
○	○	○		
s	**i**	**ng**		
○	○	○	○	
s	**t**	**o**	**p**	

- Builds on phonemic awareness
- Phoneme-Grapheme Mapping builds the bridge between sounds and letters

Kathi Grace, PG Mapping

National Reading Panel review concluded that Synthetic Phonics approaches are the most effective for students with reading disabilities

- Teach sounds in isolation
- Provide practice blending sounds into words
- Introduce graphemes, place emphasis on learning how to blend and break words into their basic parts

- Begin with sounds, not letters.
- Teach short vowel sounds before long sounds.
- Teach a few consonants and one or two short vowels and then make words.
- Teach continuous consonants first (f, l, m, n, r, and s)
- Use a sequence in which the most words can be generated
- Progress from simple to more complex sounds

Source: Blevins, W. (2006). *Phonics from A to Z: A Practical Guide (2nd ed.)*., New York, NY: Scholastic.

Examples of Effective Synthetic Phonics Programs

- Wilson Reading System, Fundations Just Words
- SPIRE
- Herman Method
- Phonic Reading Lessons: Skills and Practice
- Spalding Method
- Corrective Reading
- Lindamood Phonemic Sequencing Program for Reading, Spelling, and Speech (LiPS)
- Slingerland
- Orton-Gillingham
- Barton Method
- Zoo Phonics

What is it?

Chip ______________

Cow ______________

Blast ______________

Beep ______________

Catch ______________

Scope and Sequence of Phonic Reading Lessons

Unit I:	Short vowels, CVC words
Unit II:	CVCe and consonant digraphs
Unit III:	Consonant blends and digraphs
Unit IV:	R-controlled vowels, vowel digraphs
Unit V:	Common word endings and spelling rules
Unit VI:	Alternative pronunciations and spellings
Unit VII:	Prefixes
Unit VIII:	Suffixes
Unit IX:	Latin roots
Unit X:	Greek roots

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Principles of Effective Phonics Instruction

1. Teach sound blending.
2. Provide instruction in decoding (grapheme to phoneme)
3. Provide Instruction in encoding (phoneme to grapheme)
4. Have the student practice skills in decodable text.

Characteristics of Decodable Text

Helps students learn to pronounce words accurately by applying phonics.

Introduces new sounds systematically with careful review of previously learned sounds.

Introduces exception or irregular words with considerable review.

What are the advantages of phonics-based readers?

What are the disadvantages?

What are the advantages of authentic text?

What are the disadvantages?

Steps in the Fernald Method

1. Student writes a story. When the student comes to a word, he or she does not know how to spell, the teacher writes it on a word card.
2. Student traces the word, while saying the word as many times as needed to be able to write the word from memory.

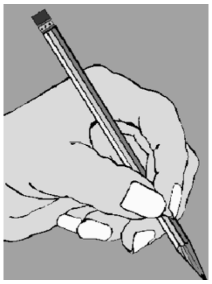
The Fernald Method

- Stage 1: Tracing the word
  - finger contact
  - saying as tracing
  - writing from memory
  - using in context
- Stage 2: Learning by looking, saying and writing
- Stage 3: Learning directly from print
- Stage 4: Generalizing and independent reading

> "The child is much more interested in writing and reading fairly difficult material that is on the level of his understanding than simpler material which is below his mental age level" (p. 44).
>
> -Grace Fernald (1943)

Tracing

- Attention
- Memory (Orthography)
- Sound-Symbol Associations
- Handwriting



Write-Say Method (based on Fernald)

Select word and write it on a card.
Pronounce the word and have the student look at and say the word.
Have the student pronounce the word while tracing it as many times as needed until he or she can write the word from memory.
Have the student write the word correctly 3 times from memory and then file in a word bank.
Review the word periodically to ensure the student can read and spell the word with ease.

Principles of Irregular Word Instruction

1. **Introduce one exception (red flag, trickster) word every several lessons. Highlight or color code the irregular element (e.g., s**ai**d).**
2. **Have the student spell the word letter by letter, and then say the word.**
3. **Gradually increase the rate to several new words each day.**
4. **File in a word box and provide systematic review of the words.**

Why Tracing is Effective

1. **Requires student to pay attention and look at each letter**
2. **Reinforces the connections between the phonemes and graphemes**
3. **Student has to write word from memory, not copy**

Spelling Accommodations

- Reduce the number of words
- Select high-frequency words
- Select phonically regular words
- Provide systematic review
- Keep positive

Ineffective Methods for Teaching Spelling

- Using a study-test approach.
- Presenting words in sentences or paragraphs initially.
- Relying on commercial materials as the foundation of the spelling program.
- Having students write words several times to aid in retention.

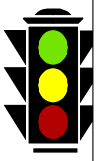
Principles of Spelling Instruction

- Select words at the instructional level.
- Only count off for spelling on spelling tests.
- Don't ask struggling students to write their spelling words 5 times each.
- Mark the number of words spelled correctly, not the number wrong.
- Don't assign students words to spell that they can't read or don't use.
- Change the difficulty level of the words when a student is missing too many.
- Don't ask students to edit their own work.

Effective Methods for Spelling

Using a test-study-test procedure.
Using high interest activities and motivational games.
Emphasizing a core of high frequency words first.
Teaching words that are part of a student's listening/speaking vocabulary.
Teaching strategies for word study.
Testing a few words daily.

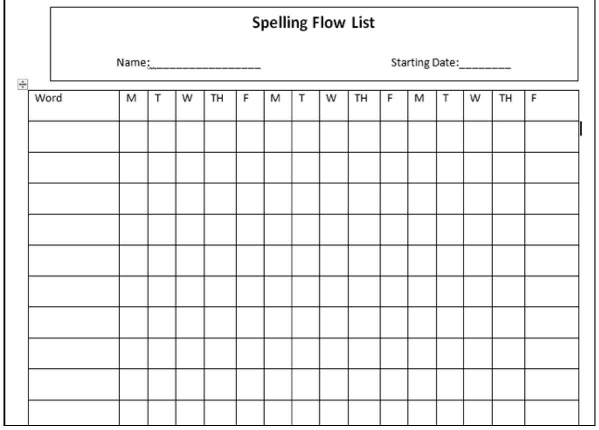
Color Coding



- **Green: Phonically regular words: (e.g., cat, swim)**
- **Yellow: Irregular but frequent patterns (e.g., night)**
- **Red: Irregular (e.g., once)**

Spelling Flow List

- Daily testing of a few words
- Keep the word on the list until it is spelled correctly 3 days in a row and then file the word in a word box
- Review weekly. If incorrect, add the word back to the flow list and keep it on the list until it is spelled correctly again 3 days in a row
- Select words from student's writing or a high frequency word list.



Spelling Flow List

Name:_______________ Starting Date:_______

Word	M	T	W	TH	F	M	T	W	TH	F	M	T	W	TH	F

Adapted Spelling Scale

Use a rating scale to evaluate responses on spelling tests:

0 points: random letters
1 point: One correct letter
2 points: Two correct letters
3 points: Three correct letters
4 points: All phonemes in the word are represented
5 points: All phonemes in the word are represented with a possible English spelling (e.g., rane for rain).
6 points: Correct spelling

Adapted from: Kroese, Hynd, Knight, & Hiemenz (2000); Tangel & Blachman (1992)

Structural Analysis

Breaking apart words by prefixes and suffixes (affixes) and other meaningful units

Phases of Sight Word Development

Pre-Alphabetic Phase

Partial Alphabetic Phase

Full Alphabetic Phase

Consolidated Alphabetic Phase

Ehri, L. C. (1998). Grapheme-phoneme knowledge is essential for learning to read words in English. In J. L. Metsala & L. C. Ehri (Eds.), Word recognition in beginning literacy (pp. 3-40). Mahwah, NJ: Lawrence Erlbaum.

1. **What phase is Marie in Ehri's Sight Word Development?**

   ____

2. **On what two areas of reading does she need to work?**

   ____

   ____

Morphemes

Smallest meaning unit of language

Free: functions independently

Bound: must combine with other morphemes (e.g., prefixes, suffixes, and endings)

How Many Morphemes in…

- girl ________
- boys ________
- unlocked ________
- repairing ________

The Four Most Frequent Prefixes

Prefix	Meaning
dis-	opposite
in-, im-, il-, ir-	not
re-	again
un-	not

58% of prefixed words in English

Four Most Common Suffixes

Suffix	Meaning
-ed	past tense verb
-ing	verb form
-ly	characteristic of
-s, -es	more than one

72% of suffixed words in English

Affixes

Introduce the prefix or suffix in isolation. Underline the affix in words. Practice reading the word part. Have students read the word twice.

1. **Read the suffix (or prefix), say the entire word.**
2. **Read the entire word.**

friction instruction deduction

Glass Analysis Method

Easier to Learn, Box 329, Garden City, NY 11530

- **Identify the whole word and the letters and sound of the target cluster**
- **Give the sound(s) and ask for the letter or letters**
- **Give the letter or letters and ask for the sound(s)**
- **Take away letters and ask for the remaining sound**
- **Say the whole word**

Steps in Glass Analysis

1.The word is "carpenter."
2. What letters make the /er/ sound? The /ar/ sound? The /car/ sound?
3. What sound or sounds do the letters "ar" make? "ter"? "en"?
4. Say carpenter without the /c/ sound. Say carpenter without the /ter/ sound.
5. The word is "carpenter."

REWARDS Strategy (Sopris West)

Circle the prefixes

Circle the suffixes

Underline the vowel in the root word

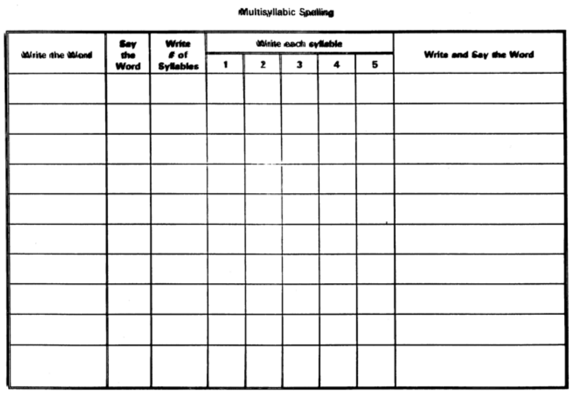
Draw scoops under the parts and say:

What part? What part? What part?

Spelling Grid

- Write the first word in the column, pronounce the word and discuss the meaning.
- Count and write number of syllables in the second column.
- Write each syllable in the next columns.
- Write and pronounce the entire word.

Source: Wong, B.Y.L. (1986). A cognitive approach to spelling. *Exceptional Children, 53,* 169-173.



Multisyllabic Spelling

Write the Word	Say the Word	Write # of Syllables	Write each syllable					Write and Say the Word
			1	2	3	4	5	

Independent Reading

Differences in Amounts of Independent Reading

Percentile	Minutes of book reading per day	Words read per year
98	65.0	4,358,000
90	21.1	1,823,000
80	14.2	1,146,000
70	9.6	622,000
60	6.5	432,000
50	4.6	282,000
40	3.2	200,000
30	1.3	106,000
20	0.7	21,000
10	0.1	8,000
2	0.0	0

Note. From "Growth in Reading and How Children Spend Their Time Outside of School," by R. C. Anderson, P. T. Wilson, and L. G. Fielding, 1988, *Reading Research Quarterly, 23,* pp. 285-303. Copyright 1988 by Richard C. Anderson and the International Reading Association.

What is Fluency?

- ***Put Reading First*** **(Armbruster, Lehr, & Osborn, 2001):**

  "Fluency is the ability to read a text accurately and quickly. When fluent readers read silently, they recognize words automatically. They group words quickly in ways that help them gain meaning from what they read. Fluent readers read aloud effortlessly and with expression. Their reading sounds natural, as if they are speaking (p. 22)."

Interventions for Reading Fluency

- **Rapid Word Recognition Chart**
- **Speed Drills**
- **Repeated Readings**
- **Books on CD**
- **Great Leaps**

Rapid Word Recognition Chart

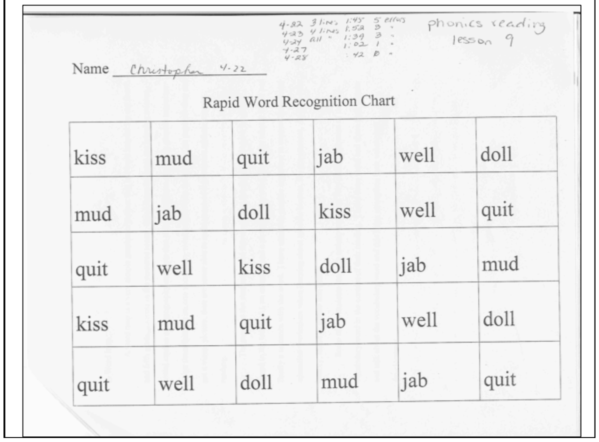
Method for practicing quick word reading

1. Use a chart composed of five rows of 6 irregular (or high frequency) words
2. Time how long it takes the student to read the chart
3. Count and record number of words read successfully
4. Review any words that were missed

Source: Carreker, S. (2005). Teaching reading: Accurate decoding and fluency. In J. R. Birsh (Ed.). *Multisensory teaching of basic language skills* (2nd edition). Baltimore, MD: Paul Brookes.

Rapid Word Recognition Chart

pretty	**said**	**who**	**there**	**they**	**what**
said	**pretty**	**there**	**who**	**what**	**they**
there	**who**	**they**	**said**	**pretty**	**what**
who	**what**	**said**	**they**	**there**	**pretty**
they	**there**	**pretty**	**what**	**who**	**said**



4-22 3 lines 1:45 5 errors
4-23 4 lines 1:52 3 "
4-24 All " 1:39 3 "
4-27 1:02 1 "
4-28 :42 0 "

phonics reading
lesson 9

Name Christopher 4-22

Rapid Word Recognition Chart

kiss	mud	quit	jab	well	doll
mud	jab	doll	kiss	well	quit
quit	well	kiss	doll	jab	mud
kiss	mud	quit	jab	well	doll
quit	well	doll	mud	jab	quit

Common Elements of Fluency Methods

- **Read while listening to the same material**
- **Track print with finger or marker**
- **Use high-interest material**
- **Use material at the instructional level**

Huey (1908) discusses the imitative method: "In the Orient, children bawl in concert over a book, imitating their fellows or their teacher until they come to know what the page says and to read it for themselves" (p. 274).

Source: Huey, E.B. (1908). *The psychology and pedagogy of reading.* Cambridge, MA: Massachusetts Institute of Technology Press.

Prosody is…

the stress and intonation patterns of an utterance

Beginning Fluency Methods

- Echo listening
- Predictable books
- Assisted reading
- Echo reading

Echo Listening: You read; they say it back.

Predictable Books: Thc student reads any repeated syntactic patterns

Assisted Reading: You read and let them say any words you know they know.

Echo Reading: You read; they read the same thing back.

Repeated Readings

Designed for children who read slowly despite adequate word recognition (Samuels, 1979).

Select a passage from 50 to 100 words long from a book that is slightly above the student's reading level.

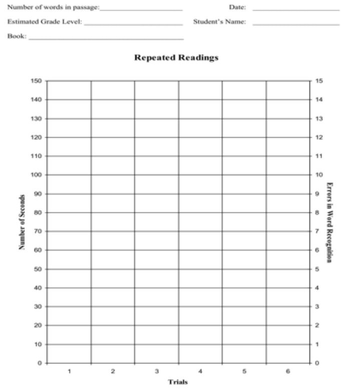
Have student read the same passage several times.

Time the reading and count the number of errors.

Record the reading time and the number of errors.

Use two different colored pencils for recording time and errors, or make time, a circle, and the mark for errors an "X" or square.

Adapted from: Samuels, S.J. (1979). The method of repeated readings. *Reading Teacher, 32*, 403-408.



Number of words in passage:____________ Date: ____________

Estimated Grade Level: ____________ Student's Name: ____________

Book: ____________________

Repeated Readings

Number of Seconds
150
140
130
120
110
100
90
80
70
60
50
40
30
20
10
0
Errors in Word Recognition
15
14
13
12
11
10
9
8
7
6
5
4
3
2
1
0
1
2
3
4
5
6
Trials

Choosing Text for Repeated Readings

Choose a selection of from 50-100 words at the student's instructional reading level.

If the student takes more than 2 minutes or makes more than 5 to 10 errors, the passage is too difficult.

Determine the number of Words Correct Per Minute (WCPM).

When the student is able to read 80-85 WCPM, increase the difficulty level of the passages.

Types of Interventions between Readings

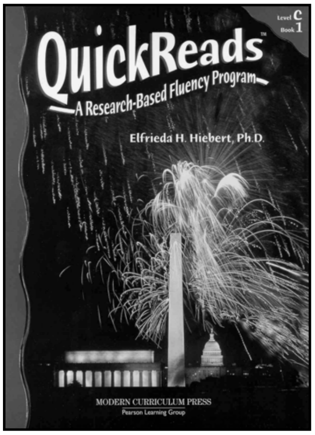
No interventions.

Review any errors made on the passage.

Have student practice with a peer.

Have student listen to the passage on a recording.

Read the passage with the student.



QuickReads™
A Research-Based Fluency Program
Elfrieda H. Hiebert, Ph.D.
Level C
Book 1
MODERN CURRICULUM PRESS
Pearson Learning Group

Short texts to be read quickly with meaning.

60 texts each at grades 2,3,4.

Carefully structured to focus on the 1000 most frequent words and important phonic patterns

www.quickreads.org

Choral Repeated Reading 3-Step Process

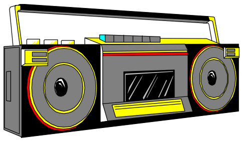
- Teacher reads short passage.
- Student and teacher read together.
- Student reads to teacher.

Choral Repeated Reading

- Select an interesting book 1-2 levels above instructional level.
- Establish purpose for reading
- Read using 3-step process.
- Discuss and predict after each part.
- Repeat 3-step process throughout book.
- Make word/phrase cards for unknown words.
- Have student keep track of progress.

Recorded Books

- Have child follow along with the print
- Ensure that the pace is appropriate
- Ensure child can follow procedure for finding the place (e.g., chime, page number)
- Encourage repeated listenings



Great Leaps Reading
(C. Mercer & K. Campbell)

Daily timing (one-minute each) and charting of three areas: Phonics: sounds in isolation to cvc, cvvc, cvce patterns; Sight Phrases; and Stories

Versions for all levels:
K-2 (also has a Sound Awareness section)
Grades 3-5
Middle school
High school
Adult

1-877-GRLEAPS or www.greatleaps.com

Tips for Teaching Fluency

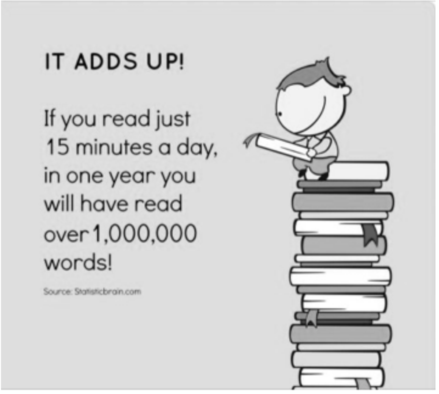
1. Multiple readings improves speed and accuracy (three to four times)
2. Instructional level text
3. Decodable text with struggling readers
4. Short, frequent periods of fluency practice with concrete measures of progress

Adapted from: Meyer, M. S., & Felton, R. H. (1999). Repeated reading to enhance fluency: Old approaches and new directions. *Dyslexia, XLIX,* 283-306.

How Fast is Average (50th percentile) Oral Reading?

End of first grade:	50-60 wpm
End of second grade:	85-95 wpm
End of third grade:	100-110 wpm
End of fourth grade:	115-125 wpm
End of fifth grade:	135-145 wpm
End of sixth grade:	145-155 wpm
End of seventh grade:	145-155 wpm
End of eighth grade:	145-155 wpm

Adapted from: Hasbrouck & Tindal Oral Reading Fluency Data (2005)



IT ADDS UP!

If you read just 15 minutes a day, in one year you will have read over 1,000,000 words!

Source: Statisticbrain.com

Adjustments: Simple Facts

For some students adjustments must be made in the:

Difficulty level of the material

Amount of material to be covered

Amount of time (extra time does not bring extra knowledge).

Method of acquisition (Technology can help performance).

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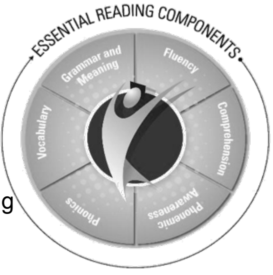
Internet-based

- Phonemic Awareness
- Phonics
- Fluency
- Vocabulary
- Comprehension
- *and* Grammar & Meaning


ESSENTIAL READING COMPONENTS
Grammar and Meaning
Fluency
Comprehension
Phonemic Awareness
Phonics
Vocabulary

www.mindplay.com

Virtual Coaches Deliver Evidence-Based, Differentiated Reading Instruction for each Student

INSTRUCTION provides:

✓Multisensory learning experiences

✓Timely and targeted feedback

✓Direct, explicit, and systematic instruction

✓Individualized mastery learning

MindPlay Virtual Reading Coach

A Technology Solution Addressing the Language Arts Curriculum

STEP 1: Individualized diagnostic assessment
- **30 minutes or less**
- **Diagnoses current reading skills**
- **Identifies specific weaknesses**

The assessment provides the teacher or parent with:
1. **an estimate of reading potential as approximated by oral vocabulary**
2. **a report of the student's current reading level**
3. **an identification of the underlying skills causing the student's reading deficit**

MindPlay Virtual Reading Coach

STEP 2: Automatically aligns the assessment results with an intervention plan

After diagnosis, MVRC:

1. **builds an individualized program plan for each student**
2. **provides direct interactive instruction that is short, systematic, explicit and intensive**
3. **assigns and reassigns various mastery-based activities that the student does independently**
4. **provides differentiated instruction to ensure mastery**

MindPlay Virtual Reading Coach

STEP 3: Provides student instruction

1. **Accurate scripted instruction** (developed by a team of master teachers and speech-language pathologists)
2. **Explicit goals** are established for each student
3. **Differentiated instruction**: if a student fails to understand a concept one way, up to **21** different instructional approaches are delivered
4. **Targeted instruction:** the student is only taught to needs
5. **Motivating:** positive feedback with mastery incentives
6. **Interactive**: students interact with the Virtual Coaches who provide targeted instructional feedback to address each error

---

MindPlay Virtual Reading Coach

Goal: All students reading at grade level

STEP 4: Student requirements

30 minutes a day, 5 days a week using MVRC

Change happens within 10 hours

Gains start to happen at 25 - 30 hours

Most students reach grade level within 50 hours of use

MindPlay Virtual Reading Coach

Phonemic Awareness module: introduces 44 sounds of the English language, ensuring students learn proper sound production, blending and segmentation

Phonics module: in addition to sound-letter associations, students learn and apply phonic rules, build sight words slowly, learn the patterns of Greek and Latin-based words, and learn to easily segment long words, building both reading and spelling skills

Grammar and Meaning module: the bridge between decoding words and understanding meaning. Students learn to chunk phrases into understandable units. They also learn how to write clear sentences and paragraphs

---

MindPlay Virtual Reading Coach

from basics to application…

Fluency module: students improve speed and accuracy while reading from a library that includes over 1000 passages of authentic text

Vocabulary module: students are challenged by engaging activities. With over 30,000 words, students learn through definitions, pictures, related pairs, synonyms and antonyms, and challenging games

Comprehension module: provides differentiated instruction and student mastery of critical comprehension skills, including finding the main idea and paraphrasing. Lessons are assigned based on student need

---

Begin intervention as early as possible:

For younger children, phoneme awareness instruction coupled with letters

Phonics-based approach and fluency training

Appropriate accommodations may include: extended time, books on CD, use of word processing program

Pennington , B. F. (2009). *Diagnosing learning disorders: A neuropsychological framework* (2nd ed.). New York, NY: Guilford Press.

"The students of greatest concern to us were those who were very poor readers at the start of the school year and as a group made no progress, despite being part of responsible inclusion program that received substantial support. We must conclude that full-time placement in the general education classroom with in-class support from special education teachers is not sufficient to meet the needs of these students. They require combined services that include in-class support and daily intensive, one-to-one instruction from highly trained personnel. This is an expensive proposition but appears to be the only solution that will yield growth in reading for students with severe reading disabilities" (p.159).

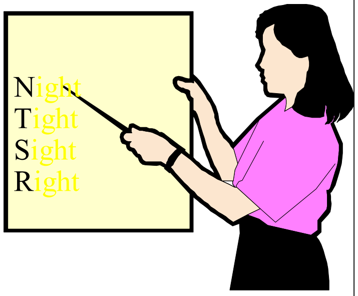
Source: Klingner, J. K., Vaughn, S., Hughes, M. T., Schumm, J. S., & Elbaum, B. (1998). Outcomes for students with and without learning disabilities in inclusive classrooms. *Learning Disabilities Research and Practice, 13*, 153–161.

"Students with learning disabilities are not receiving special education, which is based on the core principles of intensive, relentless, structured, appropriately paced instruction in small groups with frequent monitoring of each student's progress. We believe that the diminution of special education for students with learning disabilities has occurred because of the well-meaning, but misinformed, overly zealous adoption of inclusive educational practices" (p.3).

Hallahan, D. P., & Cohen, S. B. (2008). Many students with learning disabilities are not receiving *special* education. *Learning disabilities: A multidisciplinary journal, 15,* 3-9.

Explicit Reading Instruction

- Direct
- Structured
- Systematic
- Repetitious
- Controlled
- Intensive



"About one-third of the children in the longitudinal study were receiving special help, but this help was often very erratic, occurring sporadically and consisting of what might best be described as a Band-aid approach to a gushing wound" (pp. 34-35).

Source:

Shaywitz, S. (2003). *Overcoming dyslexia: A new and complete science-based program for reading problems at any level.* New York: Alfred A. Knopf.

Elements of Effective Reading Instruction

- Provide systematic, explicit instruction
- Move from phonological awareness to phonics to fluency
- Ensure mastery of high frequency and irregular words
- Employ multisensory techniques when needed
- Provide emotional support

A Variety of Instructional Programs are Effective

"It would seem that, taken as a group, these studies suggest that instruction in small groups with high response rates, immediate feedback, and sequential mastery of topics-all typical of good teaching-are more important than the specific evidence-based program used" (p. 12).

From: Responsiveness to Intervention and Learning Disabilities, A report prepared by the National Joint Committee on Learning Disabilities, June 2005.

"A variety of programs must be available for children who have a variety of needs" (p. 194).

Source:

Cruickshank, W. M. (1977). Least-restrictive placement: Administrative wishful thinking. *Journal of Learning Disabilities, 10,* 193-194.

"The point here is that in remedial teaching there is no such thing as a universally good method. A method that works well with Clyde may have little value with Cynthia; its goodness or badness can be judged only in relation to its success or failure when used by a particular teacher with a particular pupil under particular conditions. Perhaps the only factor that should remain constant in remedial teaching is the positive, enthusiastic approach that characterizes successful teachers, whether they operate as remedial specialists or as regular classroom teachers" (p.141).

Source: Otto, W., & McMenemy, R. A. (1966). *Corrective and remedial teaching: Principles and practices.* Boston: Houghton Mifflin.

"In all remedial work, the teacher should start first with the child and then find the appropriate method. Fit the method to the child, not the child to the method" (Monroe, 1935, p.227).

Monroe, M. (1935). Diagnosis of reading disabilities. In G. M. Whipple (Ed.), *The thirty-fourth yearbook of the National Society for the Study of Education: Educational diagnosis* (pp. 201-228). Bloomington, IL: Public School Publishing.

Developing readers need to be provided with reading materials at their instructional level

The boy
saw the
little dog
but he

Reading Level Criterion:

Oral Reading Fluency: (rate plus accuracy)

Independent Reading Level: **The level at which the student demonstrates word recognition 98+%.**

Instructional Reading Level: **The level at which the reader demonstrates word recognition of 95+%.**

Frustration Reading Level: **The level at which the student demonstrates word recognition of less than 90%.**

IRREDUCIBLE FACTS FOR TEACHING

1. Differences in learning rate exist.
   Instructional procedures that treat students as equal are bound to be ineffective for either the upper or lower ranges or both.
2. Span of student ability
   Average third-grade class will have a six-grade spread of ability.

Source: Ladas, H.S. (1960). A handbook of irreducible facts for teaching and learning. *Phi Delta Kappan*, 606-607.

"It is time to resolve the convoluted thinking that mandates the 'same" high ('rigorous') grade-level standards for all. One of the things that we know for sure in special education is that one size does not fit all, and that the same standards, rigorous or not, will not result in the same outcomes" (p. 248).

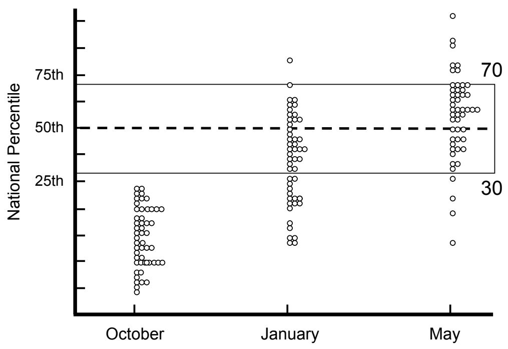
Source: Larson, N. W. (2005). "The time has come," the Walrus said, "to speak of many things!" *Learning Disability Quarterly, 28,* 247-248.

Design of Study in which intervention occurred

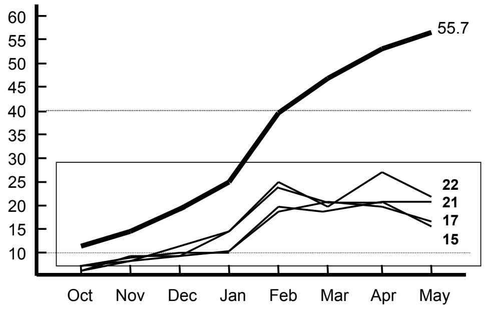
1. Most "at risk" first graders from five elementary school - PPVT above 70
2. Instruction provided in 45 min. sessions every day from October through May in groups of 3 or 5 by experienced teachers or well-trained paraprofessionals
3. Used a structured (scripted) reading program that contained instruction and practice in phonemic awareness, phonics, fluency, and comprehension
4. Used a number of methods to achieve fidelity of implementation: 3 days of initial training, weekly supervisory visits, and monthly inservices (3 hours)

Source: Torgesen, J. K. (2004, January). Setting new goals for reading interventions: Evidence from research. Keynote presentation at the Northern California Branch of the International Dyslexia Association, San Francisco.

Growth in Word Reading Ability



Growth in Correct Words Per Minute on First Grade Level Passages for four lowest performers



"The remedial work was unsuccessful in about 4 or 5 percent of the cases, in that this percentage of cases did not show improved scores on the retests" (p. 151).

Source:Monroe, M., & Backus, B. (1937). ***Remedial reading.*** **Boston: Houghton Mifflin.**

"Slow reading acquisition has cognitive, behavioral, and motivational consequences that slow the development of other cognitive skills and inhibit performance on many academic tasks. In short, as reading develops, other cognitive processes linked to it track the level of reading skill. Knowledge bases that are in reciprocal relationships with reading are also inhibited from further development.

The longer this developmental sequence is allowed to continue, the more generalized the deficits will become, seeping into more and more areas of cognition and behavior. Or to put it more simply and sadly—in the words of a tearful 9-year-old, already failing frustratingly behind his peers in reading progress, 'Reading affects everything you do.' " (p. 390)

Source: Stanovich, K. E. (1986). Matthew effects in reading: Some consequences of individual differences in the acquisition of literacy. *Reading Research Quarterly, 21,* 360-407.

"Failure to learn to read as others do is a major catastrophe in a child's life" (p.1).

Source:

Dolch, E. W. (1939). *A manual for remedial reading.* Champaign, IL: Garrard Press.

"We firmly believe that it does students with LD little good to be included and socialized in general education classrooms for 12 years if the result is that these students leave high-school reading at a second- or third-grade level and with serious self esteem issues" (p. 66).

Source: Herr, C. M., & Bateman, B. D.. (2013). Learning disabilities and the law. In H. L. Swanson, K. R. Harris, & S. Graham (Eds.), *Handbook of learning disabilities* (2nd ed.) (pp. 51-68). New York, NY: Guilford Press.

"My ignorance of my dyslexia only intensified my sense of isolation and hopelessness. Ignorance is perhaps the most painful aspect of a learning disability" (p. 64).

Source: Schultz, P. (2011). *My dyslexia.* New York, NY: W. W. Norton & Company.

Knowing what is needed to help students is not the same thing as being able to provide it.

Kauffman, J. M., Lloyd, J. W., Baker, J., & Riedel, T. M. (1995). Inclusion of all students with emotional or behavioral disorders? Let's think again. *Phi Delta Kappan*, 542-546.

Conclusions Regarding Instruction for Students with Specific Reading Disability

- Effective instruction plays a critical role in development
- Early, intensive interventions are important
- Instruction must be adjusted based upon a student's needs

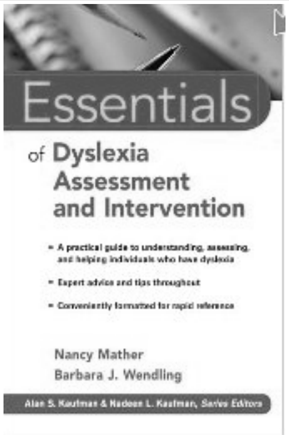
- Training in processes without academic content is ineffective
- The most effective methods are explicit and intensive
- No single approach works with all students
- Even "evidence-based" methods fail to work with certain students.

Adapted from: Fletcher, J. M., Lyon, G. R., Fuchs, L. S., & Barnes, M. A. (2007). *Learning disabilities: From identification to intervention.* New York, NY: Guilford Press.

A little over a decade ago, Foorman and Torgesen (2001) claimed that if current research findings on effective classroom reading instruction were implemented, meeting the additional needs of the at-risk child for effective, intensive, and explicit individual or small group instruction, the literacy needs of all children could be met. This is the case where advances in the science of reading disorders and intervention research, if brought to the front line of educational practice, could change the life circumstances of millions of at-risk children and adolescents" (p. 351).

Source: Lovett, M. W., Barron, R. W., & Frijters, J. C. (2013). Word identification difficulties in children and adolescents with reading disabilities. In H. L. Swanson, K. R. Harris, & S. Graham (Eds.), *Handbook of learning disabilities* (2nd ed.) (pp. 169-185). New York, NY: Guilford Press.

January 27, 2014, 04:00 pm **Make dyslexia a national priority** by Sally E. Shaywitz, M.D. and Bennett A. Shaywitz, M.D Rep. Bill Cassidy (R- La.) has introduced a House Resolution on Dyslexia (H.Res. 456, 113th Congress…"As physician-scientists, we have seen the devastating impact on children and families resulting from the failure by our schools to recognize and address dyslexia; as scientists we know the powerful scientific knowledge that both explains dyslexia and offers an evidence-based route to remediation. Often we wish there were more knowledge to address a problem. In the case of dyslexia, we have the knowledge to do much better for our children and our nation and so rather than a knowledge gap, there is an action gap which H.R. 456 – by bringing science to education - takes a major step to close."



Essentials of Dyslexia Assessment and Intervention

- A practical guide to understanding, assessing, and helping individuals who have dyslexia
- Expert advice and tips throughout
- Conveniently formatted for rapid reference

Nancy Mather
Barbara J. Wendling

Alan S. Kaufman & Nadeen L. Kaufman, *Series Editors*

Students with Reading Disabilities Need Understanding Teachers…

- Sympathetic
- Interested
- Developmental
- Process Oriented
- Inspiring

"Failure in reading is likely to lead to a general sense of inferiority that will cripple the individual's whole life. One of the greatest compensations in remedial reading work is to see the transformation in a child when you have shown him, in spite of his conviction, that he can read" (p. 3).

Source: Dolch, E. W. (1939). *A manual for remedial reading.* Champaign, IL: Garrard Press.

"At one magical instant in your early childhood, the page of a book -that string of confused, alien ciphers-shivered into meaning. Words spoke to you, gave up their secrets; at that moment, whole universes opened. You became, irrevocably, a reader."

Alberto Manguel (1996). *A History of reading*.

Assessment and Intervention for Students with Specific Reading Disabilities

Nancy Mather, Ph.D.
March 26, 2014
WSPA Spring Convention

Topics

- What is Specific Reading Disability?
- History
- Factors that Contribute to Dyslexia
- Development of Decoding and Encoding
- Instructional Strategies and Accommodations

"We do not understand why the term "dyslexia" is often viewed as if it were a four-letter word, not to be uttered in polite company" (p. 187).

Siegel, L. S., & Mazabel, S. (2013). Basic cognitive processes and reading disabilities. In H. L. Swanson, K. R. Harris, & S. Graham (Eds.), *Handbook of learning disabilities* (2nd ed.) (pp. 186-213). New York, NY: Guilford Press.

The Term Dyslexia

"In the first half of this century the story of dyslexia has been one of decline and fall; in the second half it has culminated in a spectacular rise. From being a rather dubious term, dyslexia has blossomed into a glamorous topic; and rightly so, for with a prevalence of around 5% the condition is remarkably common" (Frith, 1999, p. 192).

Labels

"…without a label we have no way of talking about a problem."

Source: Johns, B. H., & Kauffman, J. M. (2009). Caution: Response to intervention (Rtl). *Learning Disabilities: A Multidisciplinary Journal, 15*, 157-160.

"Every child would read if it were in his power to do so"
(Betts, 1936, p.5).

Source: Betts, E. A. (1936). *The prevention and correction of reading difficulties.* Evanston, IL: Row, Peterson and Company.

The Simple View of Reading

RC = D x LC

Reading Comprehension (RC) = the product of decoding (D) times listening comprehension (LC)

Gough & Tunmer, 1986

Four Types of Readers

- Impaired decoding, but typical listening comprehension (specific reading disability/ dyslexia)
- Impaired listening comprehension, but typical decoding (language impairment)
- Impaired decoding and listening comprehension
- Typical decoding and listening comprehension

International Dyslexia Association (2003) defines dyslexia as:

[A] specific learning disability that is neurobiological in origin. It is characterized by difficulties with accurate and/or fluent word recognition and by poor spelling and decoding abilities. These difficulties typically result from a deficit in the phonological component of language that is often unexpected in relation to other cognitive abilities and the provision of effective classroom instruction. Secondary consequences may include problems in reading comprehension and reduced reading experience that can impede growth of vocabulary and background knowledge.

Health Council of the Netherlands. Dyslexia. Definition and treatment. The Hague: Health Council of the Netherlands, 1995.

Dyslexia is present when the automatization of word identification (reading) and/or word spelling does not develop or does so very incompletely or with great difficulty. The term ‘automatization’ refers to the establishment of an automatic process. A process of this kind is characterized by a high level of speed and accuracy. It is carried out unconsciously, makes minimal demands on attention and is difficult to suppress, ignore or influence…

…dyslexia is characterized in practice by a severe retardation in reading and spelling which is persistent and resists the usual teaching methods and remedial efforts… it will be accompanied by very slow and/or inaccurate and easily disturbed word identification and/or word spelling.

“It was as if he were driving in a NASCAR race in first gear while everyone else was cruising along in fifth gear” (Lindstedt & Zaccariello, 2008) (pp 195-196).

Source: Lindstedt, K., & Zaccariello, M. J. (2008). A tale of two assessments: Reading Fluency. In J. N. Apps, R. F. Newby, & L. W. Roberts (Ed)., *Pediatric neuropsychology case studies: From the exceptional to the commonplace* (pp. 191-199). New York: Springer.

National Institute of Neurological Disorders and Stroke

Dyslexia is a brain-based type of learning disability that specifically impairs a person's ability to read. These individuals typically read at levels significantly lower than expected despite having normal intelligence. Although the disorder varies from person to person, common characteristics among people with dyslexia are difficulty with spelling, phonological processing (the manipulation of sounds), and/or rapid visual-verbal responding… It can also be inherited in some families, and recent studies have identified a number of genes that may predispose an individual to developing dyslexia.

British Dyslexia Association

The word 'dyslexia' comes from the Greek and means 'difficulty with words'.

Definition: Dyslexia is a specific learning difficulty which mainly affects the development of literacy and language related skills. It is likely to be present at birth and to be lifelong in its effects. It is characterised by difficulties with phonological processing, rapid naming, working memory, processing speed, and the automatic development of skills that may not match up to an individual's other cognitive abilities.

The phonological deficit view that has dominated the field for years is inadequate for explaining all cases of reading disorder (Peterson & Pennington, 2012; Snowling & Hulme, 2012 and its importance has been overstated (Swanson, Trainin, Necoechea, & Hammill, 2003).

Peterson, R. L., & Pennington, B. F. (2012). Developmental dyslexia. *The Lancet, 379*(9830), 1997–2007.

Snowling, M. J., & Hulme, C. (2012). Annual research review: The nature and classification of reading disorders—a commentary for proposals on DSM-5. *Journal of Child Psychology and Psychiatry, 53*, 593–607.

Swanson, H. L., Trainin, G., Necoechea, D. M., & Hammill, D. D. (2003). Rapid naming, phonological awareness, and reading. A meta analysis of the correlational evidence. *Review of Educational Research, 73,* 407–444.

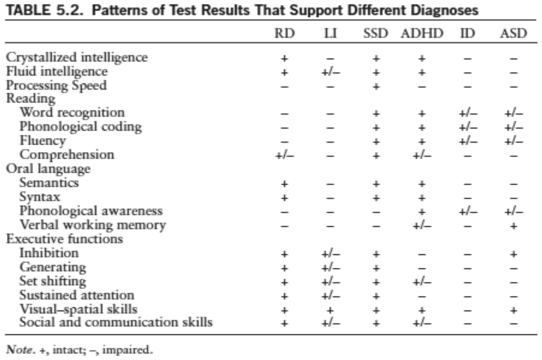


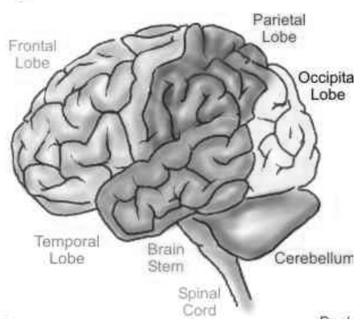
TABLE 5.2. Patterns of Test Results That Support Different Diagnoses

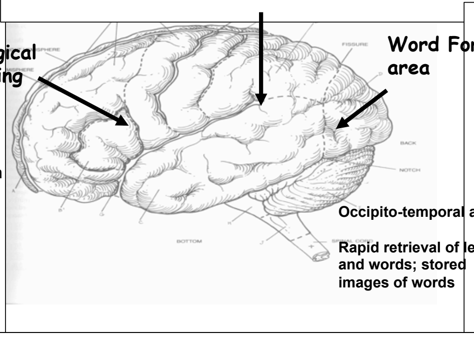
	RD	LI	SSD	ADHD	ID	ASD
Crystallized intelligence	+	–	+	+	–	–
Fluid intelligence	+	+/–	+	+	–	–
Processing Speed	–	–	+	–	–	–
Reading						
Word recognition	–	–	+	+	+/–	+/–
Phonological coding	–	–	+	+	+/–	+/–
Fluency	–	–	+	+	+/–	+/–
Comprehension	+/–	–	+	+/–	–	–
Oral language						
Semantics	+	–	+	+	–	–
Syntax	+	–	+	+	–	–
Phonological awareness	–	–	–	+	+/–	+/–
Verbal working memory	–	–	–	+/–	–	+
Executive functions						
Inhibition	+	+/–	+	–	–	+
Generating	+	+/–	+	–	–	–
Set shifting	+	+/–	+	+/–	–	–
Sustained attention	+	+/–	+	–	–	–
Visual–spatial skills	+	+	+	+	–	+
Social and communication skills	+	+/–	+	+/–	–	–

Note. +, intact; –, impaired.

Pennington , B. F. (2009). *Diagnosing learning disorders: A neuropsychological framework* (2nd ed.). New York, NY: Guilford Press.

What is going on in the brain?





Left Hemisphere

Sound-symbol connection

Parieto-temporal area: integration of sounds with symbols (phoneme-grapheme connections)

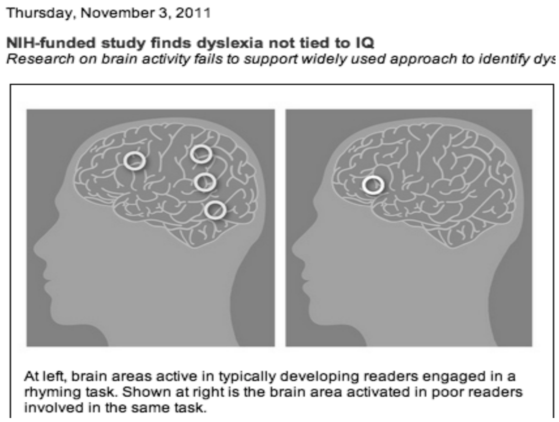
Phonological processing

Broca's area: Hearing sounds in words.

Word Form area

Occipito-temporal area

Rapid retrieval of letters and words; stored images of words



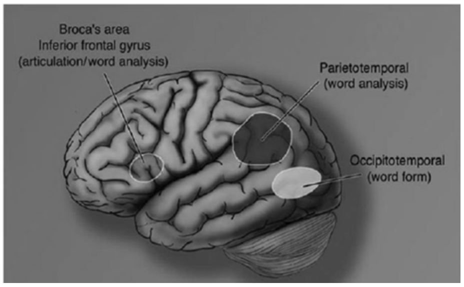
Thursday, November 3, 2011

NIH-funded study finds dyslexia not tied to IQ

Research on brain activity fails to support widely used approach to identify dys

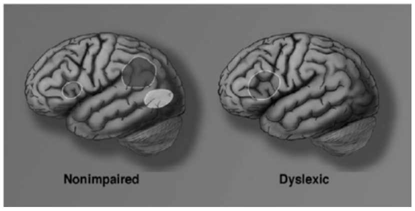
At left, brain areas active in typically developing readers engaged in a rhyming task. Shown at right is the brain area activated in poor readers involved in the same task.

Neural Systems for Reading


Broca's area
Inferior frontal gyrus
(articulation/word analysis)
Parietotemporal
(word analysis)
Occipitotemporal
(word form)

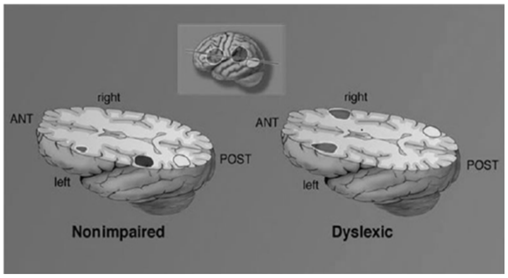
Source: Shaywitz, S. (2003). *Overcoming Dyslexia.* New York: Knopf.

The Neural Signature for Dyslexia (Shaywitz, 2003)


Nonimpaired
Dyslexic

The anterior system is overactivated and the posterior system is underactivated (the neural signature).

Compensate: over-active left and right anterior systems and the right visual word form area


right
ANT
POST
left
Nonimpaired
right
ANT
POST
left
Dyslexic

Shaywitz, S. (2003). *Overcoming Dyslexia.* New York: Knopf.

Consensus on the Definition

- Neurobiological disorder that affects the development of basic reading skills, spelling, and automaticity with sound-symbol connections
- It is often accompanied by specific weaknesses in cognitive factors that predict poor reading and spelling
- It is a lifelong condition but effective interventions reduce the impact
- Many other abilities are often intact and can even be advanced

In describing an intelligent 14-year old boy:

"He seems to have no power of preserving and storing up the visual impression produced by words - hence the words, though seen, have no significance for him. His visual memory for words is defective or absent; which is equivalent to saying that he is what Kussmaul has termed "word blind." I may add that the boy is bright and of average intelligence in conversation…The schoolmaster who has taught him for some years says that he would be the smartest lad in the school if the instruction were entirely oral" (p. 94). Pringle Morgan (1896)

Central Themes from Dr. James Hinshelwood (1902)

- the children do not learn to read with the same rapidity as other children
- the earlier the problem is identified, the better so as not to waste valuable instructional time
- the children must be taught by special methods adapted to help them overcome their difficulties
- the sense of touch can help children retain visual impressions
- persistent and persevering attempts will often help children improve their reading.

Source: Hinshelwood, J. (1902). *Congenital word-blindness with reports of two cases.* London: John Bale, Sons & Danielsson, Ltd.

The Importance of Early Intervention Hinshelwood (1902)

"It is evident that it is a matter of the highest importance to recognise as early as possible the true nature of this defect, when it is met with in a child. It may prevent much waste of valuable time and may save the child from suffering and cruel treatment…The sooner the true nature of the defect is recognised, the better are the chances of the child's improvement" (p. 10).

Source:

Hinshelwood, J. (1902). *Congenital word-blindness with reports of two cases.* London: John Bale, Sons & Danielsson, Ltd.

"The diagnosis of dyslexia is as precise and scientifically informed as almost any diagnosis in medicine" (p. 165).

Source:

Shaywitz, S. (2003). *Overcoming dyslexia: A new and complete science-based program for overcoming reading problems at any level.* New York: Alfred Knopf.

Diagnosis of Word Blindness

"With the possession of a knowledge of the symptoms, there is little difficulty in the diagnosis of congenital word-blindness when the cases are met with, since the general picture of the condition stands out as clear-cut and distinct as that of any pathological condition in the whole range of medicine" (p. 88).

Source: Hinshelwood, J. (1917). *Congenital word-blindness.* London: H. K. Lewis.

Importance of Phonics

"… that the logical training for these children would be that of extremely thorough repetitive drill on the fundamentals of phonic associations with letter forms, both visually presented and produced in writing, until the correct associations were built up…" (Orton, 1925, p. 614).

O-G Sequence

1. The child is shown a letter and repeats its name after the teacher.
2. The teacher demonstrates how to form the letter and the child traces over the model. The child then copies the word, and then writes the word from memory.
3. Each phonic unit is present on individual cards with consonant letters on white cards and vowel letters on salmon-colored cards. The sound is introduced with a key word. The student repeats the key word before providing the sound (e.g., apple /a/).

4. The letter sounds are taught in groups as rapidly as they can be learned. The first letters are: a (short sound as in cat),b, f, h, j, k, m, p, t.
5. After the names and sounds are learned, blending is introduced. A consonant, vowel, and consonant are presented and the student provides the sounds rapidly until he or she can produce the whole word.

6. The teacher then pronounces a word slowly and separates the sounds. The teacher then asks the child to: repeat the word, name the letters, write the word while naming each letter, and then read back the word.
7. Once mastery is assured, additional sounds are introduced. The manual provides the following sequence: g (go), o, initial r and l, n, th (this), u, ch, e, s, sh, d, w, wh, y, v, z
8. Consonant blends are introduced and then the following sounds: qu, x, y, ph, s, and z.
9. The long sounds of all vowels are introduced and the vowel consonant –e spelling pattern (e.g., a-e, safe).
10. The student practices reading material with a controlled vocabulary (decodable text) to practice this alphabetic approach to words.

"Moreover, it seems probably that psychometric tests as ordinarily employed give an entirely erroneous and unfair estimate of the intellectual capacity of these children" (p. 582).

Source: Orton, S. T. (1925). Word-blindness in school children. *Archives of Neurology and Psychiatry, 14, 581-615.*

Central Themes from Dr. Samuel Orton

- disabilities can be overcome by special training
- many of the children have a high degree of intelligence
- data must be collected regarding the effects of the training
- emotional factors are of primary importance

Source: Orton, S. T. (1937). *Reading, writing, and speech problems in children.* New York: W. W. Norton.

The Reading Index

See if reading achievement is in harmony with other achievements. The other measures are administered in order to determine the child's expectation in reading and to measure the discrepancy.

1) Chronological age
2) Mental age (based on the Stanford-Binet)
3) Arithmetic computation

Monroe, M. (1932). *Children who cannot read.* Chicago: University of Chicago Press.

"It seems that we are measuring a discrepancy between reading and other accomplishments which may occur in either direction at any intellectual level" (p. 17)

"The reading defects may occur at any intellectual level from very superior to very inferior, as measured by intelligence tests" (p. 6).

Source:

Monroe, M. (1932). *Children who cannot read.* Chicago: University of Chicago Press.

"The children of superior mental capacity who fail to learn to read are, of course, spectacular examples of specific reading difficulty since they have such obvious abilities in other fields." (p. 23)

Source:
Monroe, M. (1932). *Children who cannot read.* Chicago: University of Chicago Press.

Case 3: Betty

Betty represents a case of reading retardation in a very bright little girl. She was completing the second year in school without having been able to learn to read. When examined she was seven years and four months of age, with a mental age of ten years, I. Q. 135. Arithmetic measured high second grade. Reading and spelling measured very low first grade… She had a very engaging manner and had learned many ways of diverting attention from the fact that she could not read. When the reading tests were presented she pushed them aside and said, "Let's don't do any reading. I know some arithmetic games that are lots of fun…" When finally persuaded to attempt the tests she showed considerable emotional tension, clearing her voice, saying "ah" several times before attempting each word, and flushing over her obvious errors (p. 10).

Monroe, M. (1932). *Children who cannot read.* Chicago: The University of Chicago Press.

"Individuals identified as intellectually gifted may also have LD. Although twice-exceptional individuals may appear to be functioning adequately in the classroom, their performance may be far below what they are capable of, given their intellectual ability…educators often overlook these students until late in their academic careers" (p. 238).

Source: Learning disabilities: Implications for policy regarding research and practice: A report by the National Joint Committee on Learning Disabilities March 2011. *Learning Disability Quarterly, 34,* 237-241.

"Diagnosis is one thing; treatment is another. No one diagnosis applies to all cases; no one treatment will eradicate all trouble" (p. 117).

Source: Stanger, M. A., & Donohue, E. K. (1937). *Prediction and prevention of reading difficulties.* New York: Oxford University Press.

"To be effective, remedial instruction in reading must be preceded by careful diagnosis" (Monroe & Backus, 1937).

General Conditions

- **Remedial work is most effective when given individually; small groups if the children have similar difficulties**
- **Provided at a favorable time of day:**
  30 minutes for younger children;
  40 to 60 minutes for older students

Monroe, M. (1935). Diagnosis and treatment of reading disabilities. In G. M. Whipple (Ed.), *The Thirty-fourth yearbook of the National Society for the Study of Education: Educational diagnosis* (pp. 201-228). Bloomington, IL: Public School Publishing Company.

Components of Effective Reading Instruction

- supported with a supply of books suitable to the child's reading level
- instructed by specially trained reading teachers
- progress measured frequently

Source: Monroe, M., & Backus, B. (1937). *Remedial reading: A monograph in character education.* Boston: Houghton Mifflin.

The rate of progress under remedial instruction was found to be a function of:

- the child's intelligence
- how early the intervention was provided
- number of hours of training
- severity of the reading disability
- behavior and personality difficulties
- supervision of the remedial techniques

(Source: Monroe, 1932, p. 157)

A Major Problem: Inappropriate Reading Material

- scarcity of high interest books with simple reading vocabulary
- provision of reading books for only one grade level for each grade
- inflexible programs so that teachers cannot adjust the difficulty of the texts to the achievement level of the students

Source: Monroe, M., & Backus, B. (1937). *Remedial reading.* Boston: Houghton Mifflin.

"Furthermore, workbooks should be ordered in terms of the reading levels of the pupils in the room. No one can justify ordering thirty similar third-grade workbooks for the thirty dissimilar third-grade pupils found in any classroom in the country" (p. 525).

Source: Betts, E. A. (1946). *Foundations of reading instruction.* New York: American Book Company.

Performance on Specific Intellectual Abilities

"Sometimes children of good general intelligence show retardation in some of the specific skills which compose an intelligence test" (p. 22)

Monroe, M., & Backus, B. (1937). *Remedial reading.* Boston: Houghton Mifflin.

Special Disabilities

"A child may fail to learn to read or spell or achieve satisfactorily in music and yet be of adequate intelligence. In some children there is a close relation between ability in one direction and ability in another direction. Also in some children there is a close association between ability in some given direction and general intelligence.

Source: Travis, L. E. (1935). Intellectual factors. In G. M. Whipple (Ed.), *The thirty-fourth yearbook of the National Society for the Study of Education: Educational Diagnosis* (pp. 37-47). Bloomington, IL: Public School Publishing Company.

However, in other children this is striking disparity between ability in one subject and that in another or between achievement in some subject and general intelligence. Such discrepancies may appear between rather closely related abilities, such as reading and intelligence. We find, for instance, such combinations as a child who cannot read although he can comprehend material read to him and another child who presents just the reverse condition" (p. 43).

"The clearest expression of a special disability is consistently low scores on a series of tests in a given subject conjoined with average or superior scores on tests in other subjects. Such scores can be arranged in an 'educational profile.' For example, in case of a reading disability, a child might obtain scores placing him in the ninth grade in arithmetic…and in the third grade in reading. Here we would have evidence of a striking reading disability." (p. 43).

Forms of Disabilities

- Disorders of attention
- Perceptual disabilities (quickness of perception in number of stimuli that can be perceived within a limited time period)
- Deficiencies in visual and auditory memory spans
- Alexia or word-blindness (reading and writing)
- Aphasia (speech, writing)
- Agraphia (express thoughts in writing)
- Amusia (inability to sing in tune or distinguish musical sounds)

Source: Travis, L. E. (1935).

"…the concept of dyslexia requires that the deficits displayed by such children not extend too far into other domains of cognitive functioning" (p.278).

"In short, the key deficit in dyslexia must be a vertical faculty rather than a horizontal faculty--a domain-specific process rather than a process that operates across a variety of domains" (p.279).

Source: Stanovich, K. E. (1993). The construct validity of discrepancy definitions of reading disability. In G. R. Lyon, D. B. Gray, J. F. Kavanagh, N. A. Krasnegor (Eds.),*Better understanding learning disabilities: New views from research and their implications for education and public policies* (pp. 273-307). Baltimore: Paul H. Brookes Publishing Co.

"Most students with LD have an uneven pattern of strengths and weaknesses that affect learning. The problems experienced by these students vary in severity and pervasiveness; some students experience deficits in one area of functioning, and others experience difficulties in multiple areas of functioning. Regardless students with LD require instruction and support that are differentiated in ways that address their specific learning needs" (p. 238).

Source: Learning disabilities: Implications for policy regarding research and practice: A report by the National Joint Committee on Learning Disabilities March 2011. *Learning Disability Quarterly, 34*, 237-241.

Reading Ability

"The ability to read well, both silently and orally, doubtless surpasses in importance many of the other learning skills, since it opens up all records of knowledge. For this reason the earlier that deficiency is eliminated during the school program, the more rapid will be the individual's approach to an effective education" (p. 347).

Source: Williamson, E.G. (1939). Reading disabilities. In E. G. Williamson (Ed.), *How to counsel students: A manual of techniques for clinical counselors* (pp. 327-347). New York, NY: McGraw-Hill.

Prevention Program

"A prevention program should have its inception at the earliest school age and be continued coordinately with correction through high school" (p. 343).

Source: Williamson, E.G. (1939). Reading disabilities. In E. G. Williamson (Ed.), *How to counsel students: A manual of techniques for clinical counselors* (pp. 327-347). New York, NY: McGraw-Hill.

Teacher Training

- understand the mechanics of reading
- the value of objective measurements
- how to chart and graph students' progress
- how to apply proper remedial measures dictated by diagnostic findings
- recognize individual differences

Source: Williamson, E.G. (1939). Reading disabilities. In E. G. Williamson (Ed.), *How to counsel students: A manual of techniques for clinical counselors* (pp. 327-347). New York, NY: McGraw-Hill.

The Upper Grades

"… provision for correcting reading disability in the upper grades and high school should be a major responsibility of teachers and administrators" (Williamson, 1939, p. 347)

Central Themes from Dr. Grace Fernald

- the difficulties can be partially or fully overcome with proper diagnosis and treatment
- methods have to be adapted to the child
- multisensory instruction is beneficial
- methods need to be applied before the child has failed
- reading difficulties contribute to emotional difficulties

Source: Fernald, G. M. (1943). *Remedial techniques in basic school subjects.* New York: McGraw-Hill.

Instruction

For these reasons, the reading instruction emphasizes accurate perception of words and very early attempts to make the relationship between visual and auditory perceptions a functioning one. Word study is therefore an important feature of reading for the brain-injured child. In as many ways as possible, his attention should be drawn to the components making them on cards or paper with a stamping set; he should copy them with crayons, emphasizing significant features with color, write them on the blackboard, and build them with letter cards" (Strauss & Lehtinen, 1947, p. 179).

"Children with developmental imbalances are those who reveal a developmental disparity in psychological processes related to education …" (p. 28)."The key characteristic that identifies this child to the observer is the substantial *difference* between the worst and the best of his developing intelligences, or the substantial intraindividual differences noted within the child. The children with large developmental imbalances can be counted on to cause considerable difficulties in any educational program which is based on the assumption that a child's developmental processes will be within narrow limits" (p. 29).

"The information provided by this patterning of abilities is much more important than his single mental age score or language scores. While his Binet mental level is listed as between five and six years, his internal variation from three to eight years is the more important educationally diagnostic information. It not only establishes the fact of developmental imbalance, but it locates the areas of specific disability" (p. 29).

Source: Gallagher, J. J. (1966). Children with developmental imbalances: A psychoeducational definition. In W. M. Cruickshank (Ed.), *The Teacher of Brain-Injured Children* (pp. 23-43). New York: Syracuse University Press.

"The single most important factor in planning for a child with a learning disability is an intensive diagnostic study. Without a comprehensive evaluation of his deficits and assets, the educational program may be too general, or even inappropriate. The diagnostic study should include an evaluation of sensory acuity, intelligence, language (spoken, read, written), motor function, educational achievement, emotional status, and social maturity" (p. 50).

"The implication is that it is necessary to have immediate access to all diagnostic findings because it is from these that the educational approach must be evolved. Sometimes teachers are required to begin remediation without adequate knowledge of the deficits and integrities. Although information can be obtained from personal contact with the child, precise planning is possible only when these observations are supplemented by detailed diagnostic information" (p. 51).

Source: Johnson, D. J. & Myklebust, H. R. (1967). *Learning disabilities: Educational principles and practices.* New York: Grune & Stratton.

Visual and Auditory Dyslexia (Johnson & Myklebust, 1967)

- Confuses letters and words with similar appearance
- Slow rate of perception
- Reversals in reading and writing
- Difficulty retaining visual sequences

- Difficulty hearing the differences among speech sounds
- Difficulty discriminating short vowel sounds
- Difficulty with blending and segmentation

Diagnosis

"…there is a deficit in learning in the presence of basic integrity" (p. 25).

Source: Johnson, D. J., & Myklebust, H. R. (1967). *Learning disabilities: Educational principles and practices.* New York: Grune & Stratton.

"We are coming to recognize that deficiencies in certain cognitive processes are indicators of LD that predict and, therefore, result in expected underachievement" (p. 239).

Source: Learning disabilities: Implications for policy regarding research and practice: A report by the National Joint Committee on Learning Disabilities March 2011. *Learning Disability Quarterly, 34,* 237-241.

Kirk's work, flowing directly out of the Monroe's tutelage, produced the historically important ideas that:

(1) children with disabilities (later specified as LD) have intraindividual differences, and

(2) assessment is a critical tool for guiding instruction (p. 20).

Source: Hallahan, D. P., Pullen, P. C., & Ward, D. (2013), A brief history of the field of learning disabilities. In H. L. Swanson, K. R. Harris, and S. Graham (Eds.). *Handbook of Learning Disabilities (2nd ed).* New York, NY: Guilford Press.

Steps for Diagnosis of a Reading Disability

1. Determine reading potential (verbal intelligence, vocabulary, and arithmetic computation).
2. Determine the reading level.
3. Determine the symptoms of poor reading.
4. Analyze the related factors (e.g., poor sound blending or visualization).
5. Recommend remedial methods.

Source: Kirk, S. A. (1962). *Educating exceptional children.* Boston: Houghton Mifflin Company.

"I like to define a learning disability as a psychological or neurological impediment to development of adequate perceptual or communicative behavior, which first is manifested in discrepancies among specific behaviors or between overall performance and academic achievement…" (p. 617).

Source:

Arena, J. (1978). An interview with Samuel Kirk. *Academic Therapy, 13,*617-620.

"A learning disability is like pornography… it's hard to define, but you know it when you see it."

Dr. Samuel Kirk

Lessons from History

- Certain parts of the brain are involved.
- A specific problem exists in cognitive, linguistic, or perceptual processes that affects reading and spelling development.
- Oral language and reasoning abilities are often more advanced than basic reading skills.
- Early intervention is critical.
- Reading problems can affect an individual of any level of intelligence.

Lessons from History

- Both assessments and instruction must be planned, adapted for each individual, systematic, and intensive.
- Reading disabilities affect the IQ score.
- One-to-one or small group instruction is effective.
- The teacher must receive adequate training and supervision in the implementation of methodologies.
- Reading problems affect emotional well being .

Hereditary Factors

Strong converging evidence suggests that:

1. Reading disability is genetic.

2. Different regions of the brain are involved.

3. Family history is a key risk indicator

Cognitive Factors Implicated in Dyslexia

- Phonological Processing
- Orthographic Processing
- Rapid Automatized Naming (RAN)
- Processing Speed
- Working Memory

High comorbidity with ADHD.

ADHD/RD

Specifically, the rate of RD in samples selected for ADHD typically falls between 25 and 40% [e.g., August and Garfinkel, 1990; Semrud-Clikeman et al., 1992], whereas 15–35% of individuals with RD also meet criteria for ADHD [Gilger et al.,1992; Shaywitz et al., 1995; Willcutt & Pennington, 2000].

Willcutt, E. G., Pennington, B. F., & DeFries, J. C. (2000). Twin study of the etiology of comorbidity between reading disability and Attention-Deficit/ Hyperactivity Disorder. *American Journal of Medical Genetics (Neuropsychiatric Genetics) 96*, 293–301.

Early Predictors of Reading

The **two** best early predictors of how well children will learn to read during the first two years of school are:

phonemic awareness

letter/sound knowledge

Ehri, L. (2000). National Reading Panel.

Many students with specific reading disabilities have poor phonological awareness and difficulty connecting sounds to print which results in slow word perception, a delay in developing instant word reading, and poor spelling.

Poor Phonological Processing

May have:

1. Early articulation errors

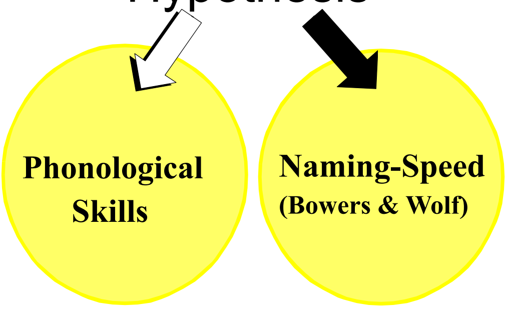
2. Confusion of similar sounds (e.g., /b/,/p/ and /f/, /v/)

3. History of ear infections

4. Trouble learning letter sounds

5. Poor nonword repetition, reading, and spelling

Double-Deficit Hypothesis



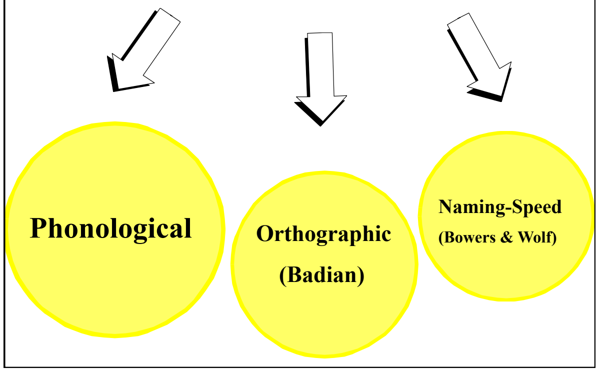
Phonological Skills

Naming-Speed (Bowers & Wolf)

"The term, double deficit, emerged as a concrete metaphor to convey at once the critical blow that the combination of both deficits represents. Just as naming-speed skills predicted word identification, and phonological skills predicted word attack, deficits in both variables would impede both aspects of reading, leaving no compensatory route easily available." (p.13)

Source: Wolf, M. (1999). What time may tell: Towards a new conceptualization of developmental dyslexia. Annals of Dyslexia, 49, 3-27.

Triple-Deficit Hypothesis



Phonological

Orthographic (Badian)

Naming-Speed (Bowers & Wolf)

Phonology and Orthography

Phonology: the sounds of a language

Orthography: the marks of a writing system, including the spelling patterns

Dyslexia can be caused by problems in phonology or orthography or both.

Definitions

Orthographic: the visual representations specific to words (not visual-spatial skills)

Orthographic coding: Representing a printed word in memory and accessing the whole word, a letter cluster, or a letter.

Orthographic image: Representation of a specific written word in memory .

Source: Berninger, V. W. (1996). *Reading and writing acquisition: A developmental neuropsychological perspective.* Boulder, CO: Westview Press.

Poor Orthographic Processing

Reverses letter and numbers
Has trouble copying
Has difficulty learning how to form letters
Has trouble remembering sight words
Confuses low-image words (e.g., of and for)
Confuses similar-looking letters and words
Spells phonetically and violates rules of English spelling
Has a slow reading rate and poor spelling into adulthood

What is Rapid Automatized Naming (RAN)?

Measures response time or rapid retrieval for a visual stimulus (objects, colors, letters, or numbers or a combination)

6 8 9 6 4 9 3 6 9 4

8 1 3 9 6 8 4 3 1 9

What Do Rapid Naming Tests Appear to Measure?

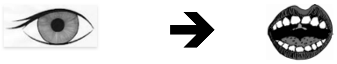
1. Ability to sustain attention to process and name the symbols.
2. Ability to name and discriminate among the symbols.
3. Ability to retrieve verbal labels rapidly.
4. Ability to articulate words rapidly.

What Do We Know about Rapid Naming?

1. Appears to be distinct from phonology.
2. Predicts word-reading accuracy and speed in many languages.
3. Predicts irregular word reading better than non-word reading.
4. Predicts poor reading across the lifespan.

Dr. Martha Denckla

The Visual-Verbal Highway



Slow word perception

See it….Say it

Slow RAN performance is more related to reading speed than reading accuracy (Georgiou et al., 2008).

In a summary regarding RAN findings, Abu-Hamour (2009) reported that:

(a) RAN letters and then numbers are the strongest predictors of both reading and spelling;

(b) RAN appears to be distinct from phonological awareness and accounts for independent variance in word reading;

Abu-Hamour, B. (2009). The relationships among cognitive ability Measures and irregular word, non-word, and word reading. Unpublished doctoral dissertation, University of Arizona, Tucson.

(c) the contribution of RAN is larger for younger readers and readers with more severe disabilities;

(d) pause time is significantly correlated with reading accuracy and fluency, whereas articulation time is not;

(e) RAN is most highly related to speeded measures of reading; and

(f) RAN is a good predictor of orthographic skills, but not non-word reading skills.

"...this new conceptualization of reading disabilities was ironically, named too quickly. To be sure, double deficit captures the phenomenon of study--that is, the importance of understanding the separate and combined effects of two core deficits--but it fails miserably in redirecting our simultaneous attention as a field to the entire profile of strengths and limitations manifest in children with reading disabilities. Only when we develop truly multi- dimensional models of deficits and strengths will our diagnostic and remedial efforts be best matched to individual children" (p.23).

Source: Wolf, M. (1999). What time may tell: Towards a new conceptualization of developmental dyslexia. *Annals of Dyslexia, 49,* 3-27.

"The history of dyslexia research, the heterogeneity of our dyslexic children, and the very complexity of the reading process argue against any single-factor, two-factor, or even three-factor explanation (p. 5)."

Source: Wolf, M. (1999). What time may tell: Towards a new conceptualization of developmental dyslexia. *Annals of Dyslexia, 49*, 3-27.

People who study the correlates of reading must distinguish between predictors and requisite abilities (i.e.,indispensable parts)

Dr. Don Hammill,1999,

personal communication

Processing Speed

Involves the serial scanning of print

Can be related to poor attention, slow RAN, poor orthography, inefficient visual tracking

Appears related to the development of automaticity with basic skills

Neuropsychologists place more emphasis on the measurement of neurodevelopmental functions. As such, broad global composites, such as IQ, have long been known to have little utility (Lezak, 1988). Consequently, neuropsychologists have relied more on functional deficits (e.g., phonological processing) to explain academic problems (e.g., reading) rather than IQ-achievement discrepancies. Interventions, when conducted, are targeted based on the specific functional deficits contributing to an academic problem. Such methodology provides greater specificity in constructing interventions.

Source: Decker, S. (2008). School Neuropsychology Consultation in Neurodevelopmental disorders. *Psychology in the Schools, 48.*

Working Memory

Ability to hold information in memory and rearrange it.

Related to attention and executive functioning.

Affects many aspects of academic performance.

Academic Assessment

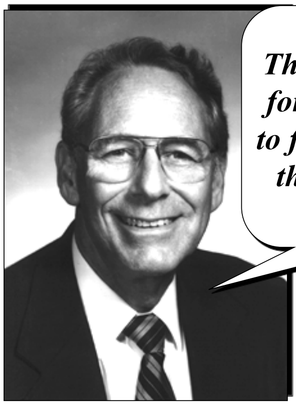
- Nonword reading and spelling
- Phonological awareness
- Reading accuracy
- Reading fluency and rate
- Spelling (regular and irregular words)
- Compare to math and oral language abilities

Dyslexia creates a breakdown in the acquisition and application of alphabetic knowledge that results in slow, labored reading development, delayed automaticity, and poor spelling. The treatment requires direct, intensive instruction in the alphabetic system, followed by methods to build rate and fluency.

Dr. Alan Kaufman

… there is a demand for the comprehensive assessment to drive intervention. This is the way it has always been, and this is the way it will always be because the referral questions for children with SLD have always asked, What is wrong? And how can we help? These questions demand differential diagnosis, a large part of which is determined by the cognitive abilities present in the individual child (p. 211).

Source: Kaufman, A. S., Lichtenberger, E. O., Fletcher-Janzen, E., & Kaufman, N. L. (2005). *Essentials of the K-ABC-II Assessment.* New York: John Wiley & Sons.



The primary purpose for testing should be to find out more about the problem, not to just get a score.

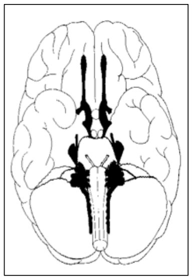
And to find more about the factors that will facilitate performance…

We shouldn't ask:
How smart you are…

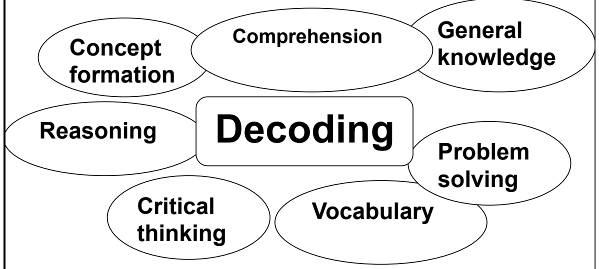
but instead:

How are you smart?

- H. Gardner



Sea of Strengths Model of Dyslexia



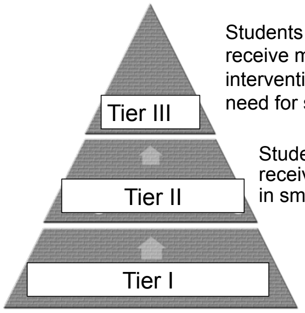
Shaywitz, S. (2003). *Overcoming dyslexia: A new and complete science-based program for reading problems at any level.* New York: Alfred A. Knopf. (p. 58)

Verbal Ability as the Estimate of Potential

"Children should be able to comprehend, or construct, the meaning of what is being read at a level consistent with their general verbal ability" (p.55).

Source: Torgesen, J. K. (2000). Individual differences in response to early interventions in reading: The lingering problem of treatment resisters. *Learning Disabilities Research & Practice, 15,* 55-64.

Three Tiers of Service Delivery



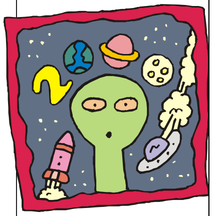
Students who still do not respond receive more targeted, intensive interventions. Consider eligibility and need for special education.

Students who do not respond may receive more intensive interventions in small groups

All students are provided with evidence-based instruction and progress is monitored

What can be Weird, about Three Tiers?

- the different types of interventions
- the lack of flexibility in the system



"…there has been a too frequent, unexamined acceptance of untested practices, which may not represent the smartest way of implementing multilevel prevention. Examples of this uncritical acceptance include the very quick and broad adoption of one-stage screening procedures…" (p. 275).

Source: Fuchs, D., Fuchs, L. S., & Compton, D. (2012). Smart RTI: A next-generation approach to multilevel prevention. *Exceptional Children, 78,* 263-279.

One-stage screens in the early grades result in unacceptably high rates of false positives. A two-stage screen that included rapid naming, phonological processing, oral language comprehension, nonverbal reasoning, untimed and timed word identification and word attack skills, greatly improved classification accuracy.

Source: Fuchs, D., Fuchs, L. S., & Compton, D. (2012). Smart RTI: A next-generation approach to multilevel prevention. *Exceptional Children, 78,* 263-279.

"We recommend that schools practice Smart RTI by conducting multistage screening within primary prevention to avoid providing secondary prevention to students whose failure to respond to it can be predicted. These students should be fast tracked to tertiary prevention" (p. 269).

Source: Fuchs, D., Fuchs, L. S., & Compton, D. (2012). Smart RTI: A next-generation approach to multilevel prevention. *Exceptional Children, 78,* 263-279.

WJ III Stage 2 Screening: Basic Reading Skills Grades 1 and 2

Sound Blending
Visual Matching
Visual-Auditory Learning
Rapid Picture Naming
Picture Vocabulary
Letter-Word Identification
Word Attack
Reading Fluency

For additional ideas on tests appropriate for two-stage screening, see: McGrew, K. S., & Wendling, B. J. (2010). Cattell-Horn-Carroll cognitive-achievement relations: What we have learned from the past 20 years of research. *Psychology in the Schools, 47,* 651-675.

Day 5 of kindergarten and after testing her students the classroom teacher is told that a full one-third of her class are performing below expectations. As she struggled to explain to a young mother how her child needed extra help on day 5, I witnessed the most insightful response from the mother. She replied, how with only 5 days of formal schooling and his first time not home, not taking a nap, and not playing during the day can you tell he is behind? He's still adjusting to a new routine! How can this be a good thing to put children through their first week of school? The teacher replied, no one said it was a good thing.
Ann Marie

"Accuracy is FIRST, FOREMOST, and FOREVER the FOUNDATION of FLUENCY."

Source:

Hasbrouck, J., & Glaser, D. (2011). *Fluency: Understanding and teaching this complex skill: Training manual.* Wellesley Hills, MA: Gibson Hasbrouck & Associates.

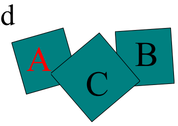
Universal Screening

1. **Test of Silent Word Reading Fluency-2 (TOSWRF-2, 2013)- group administered; 3 minutes**
2. **Test of Word Reading Efficiency-2 (TOWRE-2, 2012); 2 subtests, individually administered:**
   Sight Word Efficiency
   Phonemic Decoding Efficiency;
   45 seconds each

(PRO-ED)

Poor readers have difficulties...

- learning how to blend (put together) and segment (take apart) the sounds in words.
- learning sound (phoneme) and letter (grapheme) correspondences.
- blending phonemes and graphemes



Strategies for Word Identification

1. **By segmenting and blending sounds.**
2. **By pronouncing common spelling units (e.g., syllables).**
3. **By recognizing sight words from memory.**
4. **By creating analogies to known words.**
5. **By using context cues to predict words.**

Skilled Reading

The key to efficient text reading is automaticity (the ability to read words by sight automatically). Allows readers to process words in text quickly w/o conscious attention to words. All other cuing systems require conscious attention.

Source: **Ehri, L. C. (1998). Grapheme-phoneme knowledge is essential for learning to read words in English. In J. L. Metsala & L. C. Ehri (Eds.), Word recognition in beginning literacy (pp. 3-40). Mahwah, NJ: Lawrence Erlbaum.**

Phases of Sight Word Development

Pre-Alphabetic Phase

Partial Alphabetic Phase

Full Alphabetic Phase

Consolidated Alphabetic Phase

Ehri, L. C. (1998). Grapheme-phoneme knowledge is essential for learning to read words in English. In J. L. Metsala & L. C. Ehri (Eds.), Word recognition in beginning literacy (pp. 3-40). Mahwah, NJ: Lawrence Erlbaum.

Pre-Alphabetic Phase

Makes connection between salient visual cues and word meaning

Does not use letter-sound relations to aid in word identification

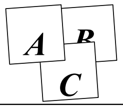
Partial Alphabetic

Makes connections between some of the letters and sounds

Relies more on first and final sounds

Lacks full knowledge of alphabetic system, particularly vowels

Reads same word inconsistently and confuses words with similar letters (e.g., cap and camp)



Full Alphabetic

Has complete connections between letters and phonemes

Can decode words never read before by segmenting and blending letters

Remembers how to read sight words

Consolidated Alphabetic

Recognizes larger letters units instantly (e.g., morphemes, syllables, onset/rimes)

Has consolidated units in memory (e.g., -est, -tion, -ing, -le)

Is sensitive and recalls spelling patterns observed in words

Reads words rapidly and easily

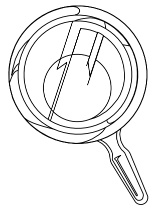
1. What phase is Charlie in Ehri's Sight Word Development?

____

2. On what area of reading does he primarily need to work?

____

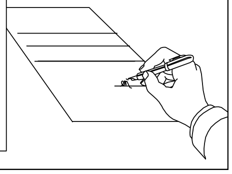
Decoding and Encoding Require Similar Processes, but Encoding is Much More Difficult



Development of Encoding Skill

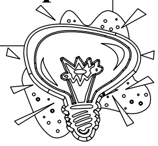
Print Awareness
Phonological Awareness
Alphabetic Principle
Increased Orthographic Awareness
- Syllables
- Visual Patterns

Automaticity



Strategy Theory of Spelling Development

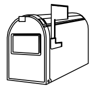
Children use information from phonology, orthography, and morphology as an aid to spelling from the beginning of attempted spellings.



Stages of Spelling Development

- **Prephonetic:** Has no knowledge of the alphabetic principal
- **Semi-phonetic:** Uses letters to represent easy to hear speech sounds
- **Phonetic:** Represents all speech sounds
- **Transitional:** integrates some orthographic patterns
- **Conventional:** Uses sounds, patterns, and meanings

Stages of Development



Pre-phonetic or emergent: W17pt

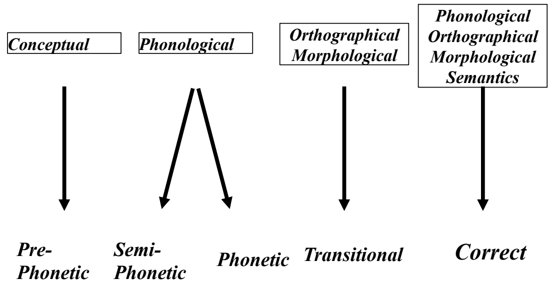
Semi-phonetic: I wk t the madk.

Phonetic: I wokt to the maylbocks.

Transitional: I waked two the malebox.

Conventional: I walked to the mailbox.

Primary Abilities for Spelling Development



Conceptual → *Pre-Phonetic*

Phonological → *Semi-Phonetic*, *Phonetic*

Orthographical Morphological → *Transitional*

Phonological Orthographical Morphological Semantics → *Correct*

Stages of Decoding/Encoding Development

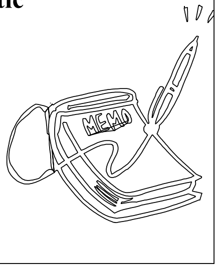
Prealphabetic: Prephonetic

Partial alphabetic: Semi-phonetic

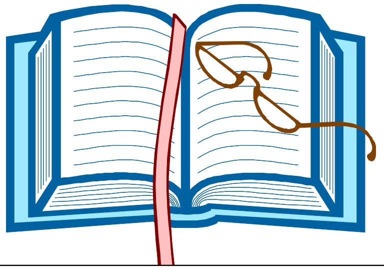
Full alphabetic: Phonetic

Consolidated: Transitional (orthography)

Fluency: Conventional



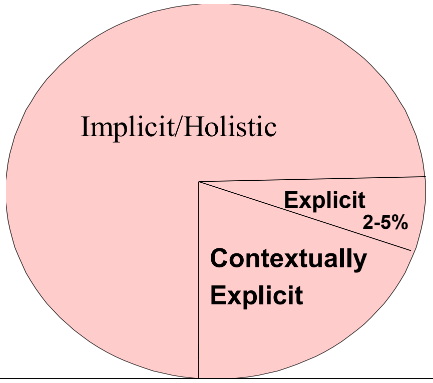
Different People require Different Approaches at Different Developmental Stages



Elements of Whole Language Methods

- Child centered and motivating
- High-interest and authentic text
- Interactive: Language-rich environment
- Emphasis on meaning and language
- Main belief :Reading develops naturally through exposure

Learning to Read



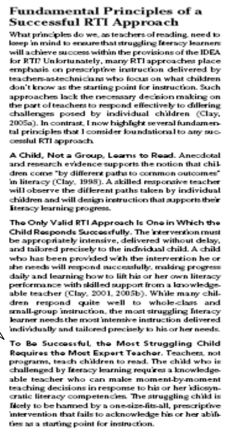
viewing reading as developing naturally will negatively affect "… perhaps 20 to 25 percent (of the children) who will not discover the point of the alphabet except as it is made apparent to them by appropriate instruction" (p. 54).

(Liberman & Liberman, 1990)

"Decoding is at once the least and yet the most important aspect of reading..."

-Gerald Glass, 1973

To be successful, the most struggling child requires the most expert teacher.



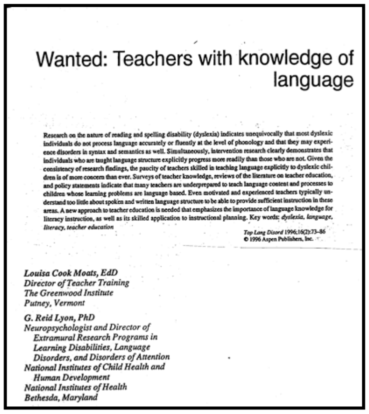
Fundamental Principles of a Successful RTI Approach

What principles do we, as teachers of reading, need to keep in mind to ensure that struggling literacy learners will achieve success within the provisions of the IDEA for RTI? Unfortunately, many RTI approaches place emphasis on prescriptive instruction delivered by teachers-as-technicians who focus on what children don't know as the starting point for instruction. Such approaches lack the necessary decision making on the part of teachers to respond effectively to differing challenges posed by individual children (Clay, 2005a). In contrast, I now highlight several fundamental principles that I consider foundational to any successful RTI approach.

A Child, Not a Group, Learns to Read. Anecdotal and research evidence supports the notion that children come "by different paths to common outcomes" in literacy (Clay, 1998). A skilled responsive teacher will observe the different paths taken by individual children and will design instruction that supports their literacy learning progress.

The Only Valid RTI Approach Is One in Which the Child Responds Successfully. The intervention must be appropriately intensive, delivered without delay, and tailored precisely to the individual child. A child who has been provided with the intervention he or she needs will respond successfully, making progress daily and learning how to lift his or her own literacy performance with skilled support from a knowledgeable teacher (Clay, 2001, 2005b). While many children respond quite well to whole-class and small-group instruction, the most struggling literacy learner needs the most intensive instruction delivered individually and tailored precisely to his or her needs.

To Be Successful, the Most Struggling Child Requires the Most Expert Teacher. Teachers, not programs, teach children to read. The child who is challenged by literacy learning requires a knowledgeable teacher who can make moment-by-moment teaching decisions in response to his or her idiosyncratic literacy competencies. The struggling child is likely to be harmed by a one-size-fits-all, prescriptive intervention that fails to acknowledge his or her abilities as a starting point for instruction.



Wanted: Teachers with knowledge of language

Research on the nature of reading and spelling disability (dyslexia) indicates unequivocally that most dyslexic individuals do not process language accurately or fluently at the level of phonology and that they may experience disorders in syntax and semantics as well. Simultaneously, intervention research clearly demonstrates that individuals who are taught language structure explicitly progress more readily than those who are not. Given the consistency of research findings, the paucity of teachers skilled in teaching language explicitly to dyslexic children is of more concern than ever. Surveys of teacher knowledge, reviews of the literature on teacher education, and policy statements indicate that many teachers are underprepared to teach language content and processes to children whose learning problems are language based. Even motivated and experienced teachers typically understand too little about spoken and written language structure to be able to provide sufficient instruction in these areas. A new approach to teacher education is needed that emphasizes the importance of language knowledge for literacy instruction, as well as its skilled application to instructional planning. Key words: *dyslexia, language, literacy, teacher education*

Top Lang Disord 1996;16(2):73–86
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"…lower level language mastery is as essential for the literacy teacher as anatomy is for the physician"

(Moats, 1994, p. 99).

"Learning to teach reading, language and writing is a complex undertaking. The competence and expertise of teachers can be nourished with training that emphasizes the study of reading development, language and individual differences," said Dr. Louisa Moats, Chair of IDA's Standards and Practices Committee. "If teachers are better prepared, the impact of reading difficulties, including dyslexia, will be lessened, and many more students will receive the instruction and support they require to reach their potential."

Press Release: International Dyslexia Association Recognizes Nine Universities for Meeting Teacher Training Standards in Reading *Teachers who are Better Prepared Lessen the Impact of Reading Difficulties* **BALTIMORE, May 2, 2012**

Teachers need to know...

How an alphabetic orthography represents our language.

Why beginning readers need to understand how phonological structure relates to orthography.

Why it is hard for some children to achieve this understanding.

-Liberman, Shankweiler, & Liberman (1990)

National Reading Panel

1. teach children how to manipulate the sounds in words (phonemic awareness)

2. teach them how these sounds can be written with letters and then blended together to form words (phonics)

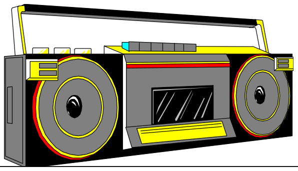
3. have them read aloud with guidance and feedback (guided oral reading)

4. teach vocabulary and how to apply reading comprehension strategies

Phonological Awareness

Knowing that spoken language is composed of sounds

The ability to manipulate and integrate language sounds



Numerous Research Results have demonstrated:

Phonemic awareness...

is highly related to reading achievement and can cause reading failure

Phonemic awareness training...

reduces reading failure

provides long lasting benefits

National Reading Panel Conclusions about Phonemic Awareness

Can be taught explicitly

No more than 20 hours of instruction per year (5-18 hours)

Focus on one skill at a time

Most effective when combined with letters

Most effective with instruction in small groups

Phoneme

- **Basic building block of speech**
- **Single speech sound**
- **Distinguishes one word from another**
- **Signifies a change in meaning**

Pin or pen?

Letters, Phonemes, and Graphemes

How many letters in the alphabet?

How many speech sounds?

How many graphemes? B

a letter or grouping of letters A C

that represent a single speech sound D

Phoneme vs. Grapheme

The same grapheme can represent different phonemes (e.g. chair, character, chute).

The same phoneme may have a variety of graphemes (e.g., sure, sugar, ship, machine, motion, and special).

Knowledge of phoneme-grapheme relationships is needed for skilled reading and spelling.

Phonological Awareness Development

K-1st: rhyming, blending and segmenting compounds words and multisyllabic words

1st and 2nd grade: Segmenting and blending phonemes. Manipulating the initial, final, and then the middle sound.

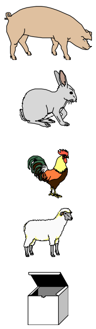
Sequence of Skill Development

- Discriminating rhymes
- Producing rhymes
- Isolating initial and final sounds
- Blending sounds
- Segmenting sounds
- Manipulating sounds (e.g., deleting, substituting, transposing)

Examples of Phonological Awareness Tasks

- Rhyming: What words rhyme with dog?
- Blending: What word is this... /sh/ /oe/?
- Phoneme Counting: How many sounds are in the word "ship"?
- Phoneme Deletion: What is left if the /t/ sound were taken from "cart"?
- Phoneme Segmentation: How many sounds do you hear in the word "bus"?

How many phonemes do you hear in...?



pig __

rabbit __

rooster __

sheep __

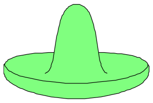
box __

Rhyming

- Recognition: Do these two words rhyme?
- Oddity: Tell me which word doesn't rhyme.
- Completion: Finish what I say with a word that rhymes.
- Production: What word rhymes with...?

Onsets and Rimes

Parts of the English syllable



First part: Onset H...at

Second part: Rime h...AT

In English, all syllables have a rime, but not necessarily an onset

---

37 rimes from which 500 primary words can be taught using analytic phonics.
Wylie & Durrell, 1972

-ack -ain -ake -ale -all -ame -an
-ank -ap -ash -at -ate -aw -ay
-eat -ell -est -ice -ick -ide -ight
-ill -in -ine -ing -ink -ip -ir
-ock -oke -op -or -ore -uck -ug
-ump -unk

The Two Most Important Phonological Awareness Abilities

- Sound blending: provides the basis for learning phonics
- Segmentation: provides the basis for sequencing sounds when spelling

---

Continuous vs. Stop Consonant Sounds

Continuous: a sound that can be said for several seconds without distorting the sound (e.g., /s/).

Stop: a sound that can be said only for an instant (e.g., /p/)

Why is bat more difficult to sound out than rat?

Bounced and Stretched Sounds

Adapted from Success for All reading program

Bounced sounds are voiced softly and rapidly.
b c d g h j p t qu w x y

Stretched sounds are sustained for 1-2 seconds.
f l m n r s v z (a e i o u)

Training Sound Blending Ability

Ability to push together sounds

- Start the instruction with continuous sounds that can be prolonged (e.g., /s/, /f/, /m/)
- Progress from compound words to syllables to onset-rimes to phonemes
- Present words with two sounds, three, and then four (e.g., /m/ /e/, /sh/ /oe/, /c/ /a/ /t/, /s/ /a/ /n/ /d/)
- Gradually increase the interval between sounds from 1/4 second to 1 second break

Segmentation

1. Break compound words into words (e.g., cup-cake.)
2. Count the number of syllables in a word (e.g., car-pen-ter).
3. Break into onset-rime (e.g., c-at).
4. Count the number of phonemes (e.g., s-e-g-m-e-n-t).

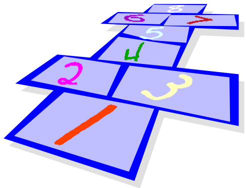
Segmentation

Ability to separate sounds

- Manipulatives (e.g., tiles, poker chips)
- Bounce or throw a ball
- Tap out the number of words, syllables, phonemes
- Hold up fingers to count the number of phonemes

Clap, Tap, or Jump the Number of…

- Words in a sentence
- Syllables in words
- Phonemes in words



Phoneme Manipulation Tasks

- Deletion: say cart without /t/
- Addition: say at with /c/ at the front
- Substitution:
  Initial: Change the /s/ in sun to /f/
  Final: Change the /t/ in cat to /b/
  Medial: Change the /i/ in hit to /a/
- Reversal: say the sounds in “enough” backward

Assessment and Instructional Guidelines

Consider the level of development and the difficulty level of the task:

Rhyme identification vs. production

Initial sound, final sound, and then medial sound

Compound words, syllables, onset-rimes, phonemes

Early Reading

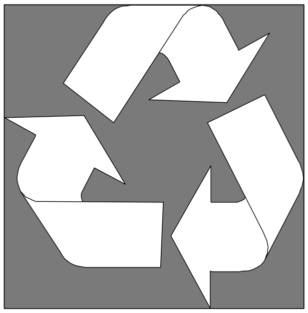
- Print Awareness
- Phonological Awareness
- Terminology
- Alphabetic Principle

The Alphabetic Principle

The systematic use of alphabetic letters to represent speech sounds- how speech sounds are represented in print

phoneme **/f/** ➔ ***grapheme*** **f**

Reciprocal Relationship Exists Between Phonological Awareness and Reading Development



What are the five ways to spell the speech sound /f/?

1. ___
2. ___
3. ___
4. ___
5. ___

Adapted Elkonin Procedure (Pre-Alphabetic)

1. **Select a simple line drawing.**
2. **Place a rectangle for a word under the drawing divided into squares equal to number of phonemes** ☐☐☐
3. **Say the word slowly and push a marker forward for each sound.** ●●●
4. **Color-code markers for vowels and consonants.** ●●●
5. **Progress to letter tiles** C A T

Talk-to-Yourself Chart

(Adapted from Benchmark School, Gaskins)

1. The word is _____________.

2. When I stretch the word, I hear _____ sounds.

3. There are _____ letters because _____________.

4. The spelling pattern is _____________.

5. This is what I know about the vowel:____________________.

6. Another word I know with the same vowel sound is:___________.

7. Other words that share this same spelling pattern are:_____________.

---

1. The word is *right.*

2. When I stretch the word, I hear *3* sounds.

3. There are *5* letters because it takes *i-g-h* to represent the *i* sound.

4. The spelling pattern is *ight.*

5. This is what I know about the vowel: the vowel is the only vowel in the word and it says its own name.

6. Another word that I know with the same vowel sound is: *ride.*

7. Other words that share this same spelling pattern are: *light, fight, flight, right,night, might, tight, sight, fright, plight*

Talk-to-Yourself Chart

(Adapted from Benchmark School, Gaskins)

1. The word is _____________.

2. When I stretch the word, I hear _____ sounds.

3. There are _____ letters because _____________.

4. The spelling pattern is _____________.

5. This is what I know about the vowel:____________________.

6. Another word I know with the same vowel sound is:___________.

7. Other words that share this same spelling pattern are:_____________.

Making Words

- Give each student 6 to 8 letters with one or two colored coded vowels
- Have each student make 2 then 3 letters words using the letters.
- Continue a pattern, increasing word length one letter during each step.
- Example: it, sit, slit, split, splint, splinter, splintering
- Practice with morphemes: -ed, -ing, -er

Source: Cunningham, P.M., & Cunningham, J. W. (1992). Making words: Enhancing the invented spelling-decoding connection. *Reading Teacher, 46,* 106-115.

Modifying Making Words

- Focus on CVC patterns
- Progress from changing the initial to the final to medial sounds
- Integrate with a reading/writing activity
- Pair at-risk student with a tutor

What does he know?

What does he need to learn?

What else do you need to know to plan instruction?

Phoneme-Grapheme Mapping Kathi Grace, Sopris West

- Begin with regular words where the number of phonemes equals the number of graphemes
- Introduce blends
- Introduce digraphs (written in one box)
- Introduce silent letters (e.g., v-c-e, mb)
- Introduce vowel digraphs (e.g. oa, ee)

Phoneme-Grapheme Mapping

- What do you hear?
- What do you write?
- One chip = one sound

Phoneme-Grapheme Mapping

○	○	○		
sh	**ee**	**p**		
○	○	○		
s	**i**	**ng**		
○	○	○	○	
s	**t**	**o**	**p**	

- Builds on phonemic awareness
- Phoneme-Grapheme Mapping builds the bridge between sounds and letters

Kathi Grace, PG Mapping

National Reading Panel review concluded that Synthetic Phonics approaches are the most effective for students with reading disabilities

- Teach sounds in isolation
- Provide practice blending sounds into words
- Introduce graphemes, place emphasis on learning how to blend and break words into their basic parts

- Begin with sounds, not letters.
- Teach short vowel sounds before long sounds.
- Teach a few consonants and one or two short vowels and then make words.
- Teach continuous consonants first (f, l, m, n, r, and s)
- Use a sequence in which the most words can be generated
- Progress from simple to more complex sounds

Source: Blevins, W. (2006). *Phonics from A to Z: A Practical Guide (2nd ed.)*., New York, NY: Scholastic.

Examples of Effective Synthetic Phonics Programs

- **Wilson Reading System, Fundations Just Words**
- **SPIRE**
- **Herman Method**
- **Phonic Reading Lessons: Skills and Practice**
- **Spalding Method**
- **Corrective Reading**
- **Lindamood Phonemic Sequencing Program for Reading, Spelling, and Speech (LiPS)**
- **Slingerland**
- **Orton-Gillingham**
- **Barton Method**
- **Zoo Phonics**

What is it?

Chip _______________

Cow _______________

Blast _______________

Beep _______________

Catch _______________

Scope and Sequence of Phonic Reading Lessons

Unit I:	Short vowels, CVC words
Unit II:	CVCe and consonant digraphs
Unit III:	Consonant blends and digraphs
Unit IV:	R-controlled vowels, vowel digraphs
Unit V:	Common word endings and spelling rules
Unit VI:	Alternative pronunciations and spellings
Unit VII:	Prefixes
Unit VIII:	Suffixes
Unit IX:	Latin roots
Unit X:	Greek roots

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www.AcademicTherapy.com

Principles of Effective Phonics Instruction

1. Teach sound blending.
2. Provide instruction in decoding (grapheme to phoneme)
3. Provide Instruction in encoding (phoneme to grapheme)
4. Have the student practice skills in decodable text.

Characteristics of Decodable Text

Helps students learn to pronounce words accurately by applying phonics.
Introduces new sounds systematically with careful review of previously learned sounds.
Introduces exception or irregular words with considerable review.

What are the advantages of phonics-based readers?

What are the disadvantages?

What are the advantages of authentic text?

What are the disadvantages?

Steps in the Fernald Method

1. **Student writes a story. When the student comes to a word, he or she does not know how to spell, the teacher writes it on a word card.**
2. **Student traces the word, while saying the word as many times as needed to be able to write the word from memory.**

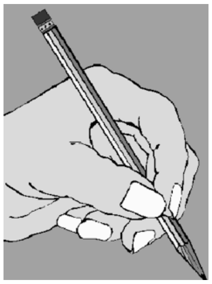
The Fernald Method

- Stage 1: Tracing the word
  - finger contact
  - saying as tracing
  - writing from memory
  - using in context
- Stage 2: Learning by looking, saying and writing
- Stage 3: Learning directly from print
- Stage 4: Generalizing and independent reading

> “The child is much more interested in writing and reading fairly difficult material that is on the level of his understanding than simpler material which is below his mental age level” (p. 44).
>
> -Grace Fernald (1943)

Tracing

- Attention
- Memory (Orthography)
- Sound-Symbol Associations
- Handwriting



Write-Say Method (based on Fernald)

Select word and write it on a card.
Pronounce the word and have the student look at and say the word.
Have the student pronounce the word while tracing it as many times as needed until he or she can write the word from memory.
Have the student write the word correctly 3 times from memory and then file in a word bank.
Review the word periodically to ensure the student can read and spell the word with ease.

Principles of Irregular Word Instruction

1. **Introduce one exception (red flag, trickster) word every several lessons. Highlight or color code the irregular element (e.g., s*ai*d).**
2. **Have the student spell the word letter by letter, and then say the word.**
3. **Gradually increase the rate to several new words each day.**
4. **File in a word box and provide systematic review of the words.**

Why Tracing is Effective

1. **Requires student to pay attention and look at each letter**
2. **Reinforces the connections between the phonemes and graphemes**
3. **Student has to write word from memory, not copy**

Spelling Accommodations

- Reduce the number of words
- Select high-frequency words
- Select phonically regular words
- Provide systematic review
- Keep positive

Ineffective Methods for Teaching Spelling

- Using a study-test approach.
- Presenting words in sentences or paragraphs initially.
- Relying on commercial materials as the foundation of the spelling program.
- Having students write words several times to aid in retention.

Principles of Spelling Instruction

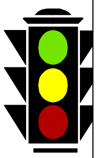
- Select words at the instructional level.
- Only count off for spelling on spelling tests.
- Don’t ask struggling students to write their spelling words 5 times each.
- Mark the number of words spelled correctly, not the number wrong.
- Don’t assign students words to spell that they can’t read or don’t use.
- Change the difficulty level of the words when a student is missing too many.
- Don’t ask students to edit their own work.

Effective Methods for Spelling

Using a test-study-test procedure.
Using high interest activities and motivational games.
Emphasizing a core of high frequency words first.
Teaching words that are part of a student’s listening/speaking vocabulary.
Teaching strategies for word study.
Testing a few words daily.

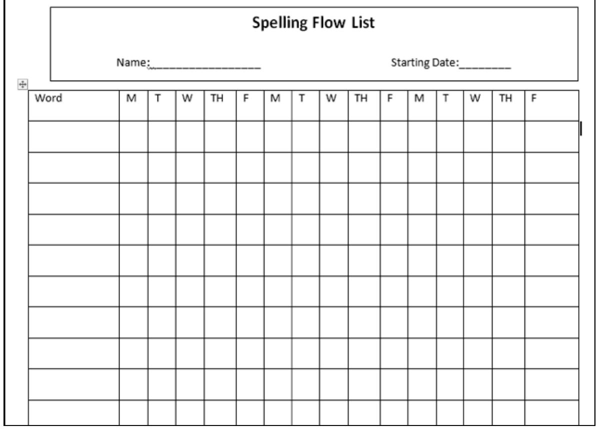
Color Coding

- **Green: Phonically regular words: (e.g., cat, swim)**
- **Yellow: Irregular but frequent patterns (e.g., night)**
- **Red: Irregular (e.g., once)**



Spelling Flow List

- Daily testing of a few words
- Keep the word on the list until it is spelled correctly 3 days in a row and then file the word in a word box
- Review weekly. If incorrect, add the word back to the flow list and keep it on the list until it is spelled correctly again 3 days in a row
- Select words from student’s writing or a high frequency word list.



Spelling Flow List

Name:________________ Starting Date:_______

Word	M	T	W	TH	F	M	T	W	TH	F	M	T	W	TH	F

Adapted Spelling Scale

Use a rating scale to evaluate responses on spelling tests:

0 points: random letters
1 point: One correct letter
2 points: Two correct letters
3 points: Three correct letters
4 points: All phonemes in the word are represented
5 points: All phonemes in the word are represented with a possible English spelling (e.g., rane for rain).
6 points: Correct spelling

Adapted from: Kroese, Hynd, Knight, & Hiemenz (2000); Tangel & Blachman (1992)

Structural Analysis

Breaking apart words by prefixes and suffixes (affixes) and other meaningful units

Phases of Sight Word Development

Pre-Alphabetic Phase

Partial Alphabetic Phase

Full Alphabetic Phase

Consolidated Alphabetic Phase

Ehri, L. C. (1998). Grapheme-phoneme knowledge is essential for learning to read words in English. In J. L. Metsala & L. C. Ehri (Eds.), Word recognition in beginning literacy (pp. 3-40). Mahwah, NJ: Lawrence Erlbaum.

1. What phase is Marie in Ehri's Sight Word Development?

____

2. On what two areas of reading does she need to work?

____

____

Morphemes

Smallest meaning unit of language

Free: functions independently

Bound: must combine with other morphemes (e.g., prefixes, suffixes, and endings)

How Many Morphemes in…

- girl ________
- boys ________
- unlocked ________
- repairing ________

The Four Most Frequent Prefixes

Prefix	Meaning
dis-	opposite
in-, im-, il-, ir-	not
re-	again
un-	not

58% of prefixed words in English

Four Most Common Suffixes

Suffix	Meaning
-ed	past tense verb
-ing	verb form
-ly	characteristic of
-s, -es	more than one

72% of suffixed words in English

Affixes

Introduce the prefix or suffix in isolation. Underline the affix in words. Practice reading the word part. Have students read the word twice.

1. **Read the suffix (or prefix), say the entire word.**
2. **Read the entire word.**

friction instruction deduction

Glass Analysis Method

Easier to Learn, Box 329, Garden City, NY 11530

- **Identify the whole word and the letters and sound of the target cluster**
- **Give the sound(s) and ask for the letter or letters**
- **Give the letter or letters and ask for the sound(s)**
- **Take away letters and ask for the remaining sound**
- **Say the whole word**

Steps in Glass Analysis

1.The word is "carpenter."
2. What letters make the /er/ sound? The /ar/ sound? The /car/ sound?
3. What sound or sounds do the letters "ar" make? "ter"? "en"?
4. Say carpenter without the /c/ sound. Say carpenter without the /ter/ sound.
5. The word is "carpenter."

REWARDS Strategy (Sopris West)

Circle the prefixes

Circle the suffixes

Underline the vowel in the root word

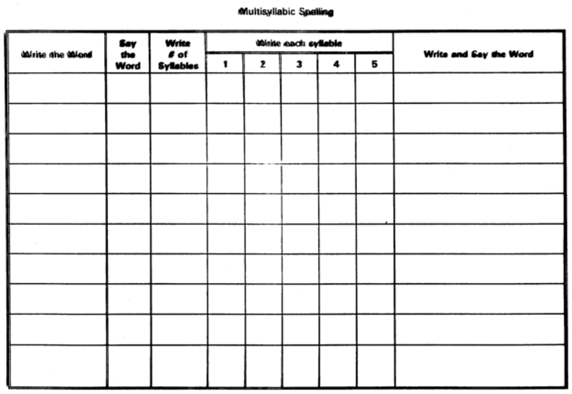
Draw scoops under the parts and say:

What part? What part? What part?

Spelling Grid

- Write the first word in the column, pronounce the word and discuss the meaning.
- Count and write number of syllables in the second column.
- Write each syllable in the next columns.
- Write and pronounce the entire word.

Source: Wong, B.Y.L. (1986). A cognitive approach to spelling. *Exceptional Children, 53,* 169-173.



Multisyllabic Spelling

Write the Word	Say the Word	Write # of Syllables	Write each syllable					Write and Say the Word
			1	2	3	4	5	

Independent Reading

Differences in Amounts of Independent Reading

Percentile	Minutes of book reading per day	Words read per year
98	65.0	4,358,000
90	21.1	1,823,000
80	14.2	1,146,000
70	9.6	622,000
60	6.5	432,000
50	4.6	282,000
40	3.2	200,000
30	1.3	106,000
20	0.7	21,000
10	0.1	8,000
2	0.0	0

Note. From “Growth in Reading and How Children Spend Their Time Outside of School,” by R. C. Anderson, P. T. Wilson, and L. G. Fielding, 1988, *Reading Research Quarterly, 23,* pp. 285-303. Copyright 1988 by Richard C. Anderson and the International Reading Association.

What is Fluency?

- ***Put Reading First*** **(Armbruster, Lehr, & Osborn, 2001):**

  “Fluency is the ability to read a text accurately and quickly. When fluent readers read silently, they recognize words automatically. They group words quickly in ways that help them gain meaning from what they read. Fluent readers read aloud effortlessly and with expression. Their reading sounds natural, as if they are speaking (p. 22).”

Interventions for Reading Fluency

- **Rapid Word Recognition Chart**
- **Speed Drills**
- **Repeated Readings**
- **Books on CD**
- **Great Leaps**

Rapid Word Recognition Chart

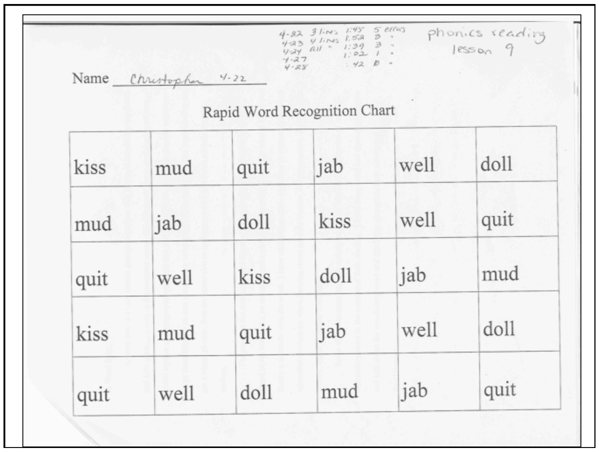
Method for practicing quick word reading

1. Use a chart composed of five rows of 6 irregular (or high frequency) words
2. Time how long it takes the student to read the chart
3. Count and record number of words read successfully
4. Review any words that were missed

Source: Carreker, S. (2005). Teaching reading: Accurate decoding and fluency. In J. R. Birsh (Ed.). *Multisensory teaching of basic language skills* (2nd edition). Baltimore, MD: Paul Brookes.

Rapid Word Recognition Chart

pretty	said	who	there	they	what
said	pretty	there	who	what	they
there	who	they	said	pretty	what
who	what	said	they	there	pretty
they	there	pretty	what	who	said



4-22 3 lines 1:45 5 errors
4-23 4 lines 1:52 3 "
4-24 all " 1:39 3 "
4-27 1:02 1 "
4-28 :42 0 "

phonics reading
lesson 9

Name Christopher 4-22

Rapid Word Recognition Chart

kiss	mud	quit	jab	well	doll
mud	jab	doll	kiss	well	quit
quit	well	kiss	doll	jab	mud
kiss	mud	quit	jab	well	doll
quit	well	doll	mud	jab	quit

Common Elements of Fluency Methods

- **Read while listening to the same material**
- **Track print with finger or marker**
- **Use high-interest material**
- **Use material at the instructional level**

Huey (1908) discusses the imitative method: "In the Orient, children bawl in concert over a book, imitating their fellows or their teacher until they come to know what the page says and to read it for themselves" (p. 274).

Source: Huey, E.B. (1908). ***The psychology and pedagogy of reading.*** **Cambridge, MA: Massachusetts Institute of Technology Press.**

Prosody is…

the stress and intonation patterns of an utterance

Beginning Fluency Methods

- Echo listening
- Predictable books
- Assisted reading
- Echo reading

Echo Listening: You read; they say it back.

Predictable Books: Thc student reads any repeated syntactic patterns

Assisted Reading: You read and let them say any words you know they know.

Echo Reading: You read; they read the same thing back.

Repeated Readings

Designed for children who read slowly despite adequate word recognition (Samuels, 1979).

Select a passage from 50 to 100 words long from a book that is slightly above the student's reading level.

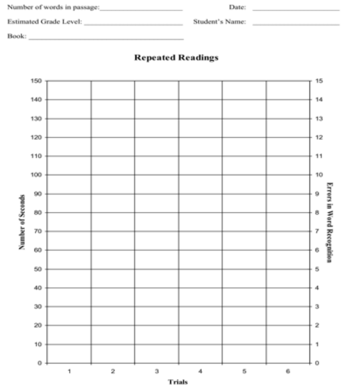
Have student read the same passage several times.

Time the reading and count the number of errors.

Record the reading time and the number of errors.

Use two different colored pencils for recording time and errors, or make time, a circle, and the mark for errors an "X" or square.

Adapted from: Samuels, S.J. (1979). The method of repeated readings. *Reading Teacher, 32*, 403-408.



Number of words in passage:________________ Date: ________________

Estimated Grade Level: ________________ Student's Name: ________________

Book: ________________________________

Repeated Readings

150
140
130
120
110
100
90
80
70
60
50
40
30
20
10
0
Number of Seconds
15
14
13
12
11
10
9
8
7
6
5
4
3
2
1
0
Errors in Word Recognition
1
2
3
4
5
6
Trials

Choosing Text for Repeated Readings

Choose a selection of from 50-100 words at the student's instructional reading level.

If the student takes more than 2 minutes or makes more than 5 to 10 errors, the passage is too difficult.

Determine the number of Words Correct Per Minute (WCPM).

When the student is able to read 80-85 WCPM, increase the difficulty level of the passages.

Types of Interventions between Readings

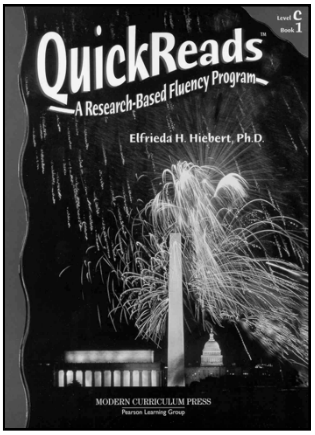
No interventions.

Review any errors made on the passage.

Have student practice with a peer.

Have student listen to the passage on a recording.

Read the passage with the student.



Level C
Book 1
QuickReads™
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Elfrieda H. Hiebert, Ph.D.
MODERN CURRICULUM PRESS
Pearson Learning Group

Short texts to be read quickly with meaning.

60 texts each at grades 2,3,4.

Carefully structured to focus on the 1000 most frequent words and important phonic patterns

www.quickreads.org

Choral Repeated Reading 3-Step Process

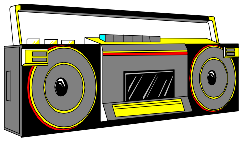
- Teacher reads short passage.
- Student and teacher read together.
- Student reads to teacher.

Choral Repeated Reading

- Select an interesting book 1-2 levels above instructional level.
- Establish purpose for reading
- Read using 3-step process.
- Discuss and predict after each part.
- Repeat 3-step process throughout book.
- Make word/phrase cards for unknown words.
- Have student keep track of progress.

Recorded Books

- Have child follow along with the print
- Ensure that the pace is appropriate
- Ensure child can follow procedure for finding the place (e.g., chime, page number)
- Encourage repeated listenings



Great Leaps Reading
(C. Mercer & K. Campbell)

Daily timing (one-minute each) and charting of three areas: Phonics: sounds in isolation to cvc, cvvc, cvce patterns; Sight Phrases; and Stories

Versions for all levels:
K-2 (also has a Sound Awareness section)
Grades 3-5
Middle school
High school
Adult

1-877-GRLEAPS or www.greatleaps.com

Tips for Teaching Fluency

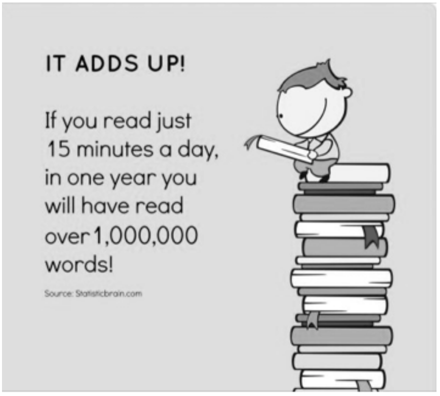
1. Multiple readings improves speed and accuracy (three to four times)
2. Instructional level text
3. Decodable text with struggling readers
4. Short, frequent periods of fluency practice with concrete measures of progress

Adapted from: Meyer, M. S., & Felton, R. H. (1999). Repeated reading to enhance fluency: Old approaches and new directions. *Dyslexia, XLIX,* 283-306.

How Fast is Average (50th percentile) Oral Reading?

End of first grade:	50-60 wpm
End of second grade:	85-95 wpm
End of third grade:	100-110 wpm
End of fourth grade:	115-125 wpm
End of fifth grade:	135-145 wpm
End of sixth grade:	145-155 wpm
End of seventh grade:	145-155 wpm
End of eighth grade:	145-155 wpm

Adapted from: Hasbrouck & Tindal Oral Reading Fluency Data (2005)



IT ADDS UP!

If you read just 15 minutes a day, in one year you will have read over 1,000,000 words!

Source: Statisticbrain.com

Adjustments: Simple Facts

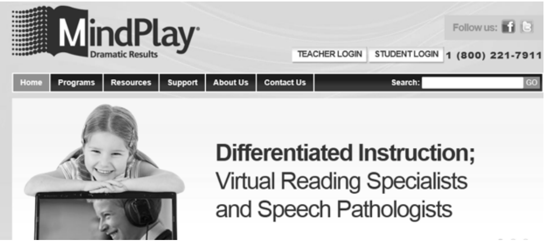
For some students adjustments must be made in the:

Difficulty level of the material

Amount of material to be covered

Amount of time (extra time does not bring extra knowledge).

Method of acquisition (Technology can help performance).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Mindplay Virtual Reading Coach
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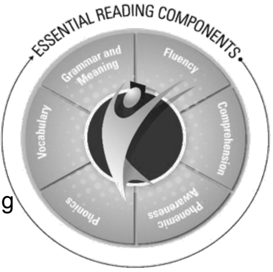
MindPlay Virtual Reading Coach

Internet-based

- Phonemic Awareness
- Phonics
- Fluency
- Vocabulary
- Comprehension
- *and* Grammar & Meaning


ESSENTIAL READING COMPONENTS
Grammar and Meaning
Fluency
Comprehension
Phonemic Awareness
Phonics
Vocabulary

www.mindplay.com

Virtual Coaches Deliver Evidence-Based, Differentiated Reading Instruction for each Student

INSTRUCTION provides:

✓Multisensory learning experiences

✓Timely and targeted feedback

✓Direct, explicit, and systematic instruction

✓Individualized mastery learning

MindPlay Virtual Reading Coach

A Technology Solution Addressing the Language Arts Curriculum

STEP 1: Individualized diagnostic assessment

- **30 minutes or less**
- **Diagnoses current reading skills**
- **Identifies specific weaknesses**

The assessment provides the teacher or parent with:

1. **an estimate of reading potential as approximated by oral vocabulary**
2. **a report of the student's current reading level**
3. **an identification of the underlying skills causing the student's reading deficit**

MindPlay Virtual Reading Coach

STEP 2: Automatically aligns the assessment results with an intervention plan

After diagnosis, MVRC:

1. **builds an individualized program plan for each student**
2. **provides direct interactive instruction that is short, systematic, explicit and intensive**
3. **assigns and reassigns various mastery-based activities that the student does independently**
4. **provides differentiated instruction to ensure mastery**

MindPlay Virtual Reading Coach

STEP 3: Provides student instruction

1. **Accurate scripted instruction** (developed by a team of master teachers and speech-language pathologists)
2. **Explicit goals** are established for each student
3. **Differentiated instruction**: if a student fails to understand a concept one way, up to **21** different instructional approaches are delivered
4. **Targeted instruction:** the student is only taught to needs
5. **Motivating:** positive feedback with mastery incentives
6. **Interactive**: students interact with the Virtual Coaches who provide targeted instructional feedback to address each error

MindPlay Virtual Reading Coach

Goal: All students reading at grade level

STEP 4: Student requirements

30 minutes a day, 5 days a week using MVRC

Change happens within 10 hours

Gains start to happen at 25 - 30 hours

Most students reach grade level within 50 hours of use

MindPlay Virtual Reading Coach

Phonemic Awareness module: introduces 44 sounds of the English language, ensuring students learn proper sound production, blending and segmentation

Phonics module: in addition to sound-letter associations, students learn and apply phonic rules, build sight words slowly, learn the patterns of Greek and Latin-based words, and learn to easily segment long words, building both reading and spelling skills

Grammar and Meaning module: the bridge between decoding words and understanding meaning. Students learn to chunk phrases into understandable units. They also learn how to write clear sentences and paragraphs

MindPlay Virtual Reading Coach

from basics to application…

Fluency module: students improve speed and accuracy while reading from a library that includes over 1000 passages of authentic text

Vocabulary module: students are challenged by engaging activities. With over 30,000 words, students learn through definitions, pictures, related pairs, synonyms and antonyms, and challenging games

Comprehension module: provides differentiated instruction and student mastery of critical comprehension skills, including finding the main idea and paraphrasing. Lessons are assigned based on student need

---

Begin intervention as early as possible:

For younger children, phoneme awareness instruction coupled with letters

Phonics-based approach and fluency training

Appropriate accommodations may include: extended time, books on CD, use of word processing program

Pennington , B. F. (2009). *Diagnosing learning disorders: A neuropsychological framework* (2nd ed.). New York, NY: Guilford Press.

"The students of greatest concern to us were those who were very poor readers at the start of the school year and as a group made no progress, despite being part of responsible inclusion program that received substantial support. We must conclude that full-time placement in the general education classroom with in-class support from special education teachers is not sufficient to meet the needs of these students. They require combined services that include in-class support and daily intensive, one-to-one instruction from highly trained personnel. This is an expensive proposition but appears to be the only solution that will yield growth in reading for students with severe reading disabilities" (p.159).

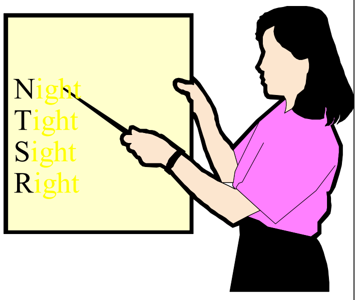
Source: Klingner, J. K., Vaughn, S., Hughes, M. T., Schumm, J. S., & Elbaum, B. (1998). Outcomes for students with and without learning disabilities in inclusive classrooms. *Learning Disabilities Research and Practice, 13*, 153–161.

"Students with learning disabilities are not receiving special education, which is based on the core principles of intensive, relentless, structured, appropriately paced instruction in small groups with frequent monitoring of each student's progress. We believe that the diminution of special education for students with learning disabilities has occurred because of the well-meaning, but misinformed, overly zealous adoption of inclusive educational practices" (p.3).

Hallahan, D. P., & Cohen, S. B. (2008). Many students with learning disabilities are not receiving *special* education. *Learning disabilities: A multidisciplinary journal, 15,* 3-9.

Explicit Reading Instruction

Direct
Structured
Systematic
Repetitious
Controlled
Intensive



"About one-third of the children in the longitudinal study were receiving special help, but this help was often very erratic, occurring sporadically and consisting of what might best be described as a Band-aid approach to a gushing wound" (pp. 34-35).

Source:

Shaywitz, S. (2003). *Overcoming dyslexia: A new and complete science-based program for reading problems at any level.* New York: Alfred A. Knopf.

Elements of Effective Reading Instruction

- Provide systematic, explicit instruction
- Move from phonological awareness to phonics to fluency
- Ensure mastery of high frequency and irregular words
- Employ multisensory techniques when needed
- Provide emotional support

A Variety of Instructional Programs are Effective

"It would seem that, taken as a group, these studies suggest that instruction in small groups with high response rates, immediate feedback, and sequential mastery of topics-all typical of good teaching-are more important than the specific evidence-based program used" (p. 12).

From: Responsiveness to Intervention and Learning Disabilities, A report prepared by the National Joint Committee on Learning Disabilities, June 2005.

"A variety of programs must be available for children who have a variety of needs" (p. 194).

Source:

Cruickshank, W. M. (1977). Least-restrictive placement: Administrative wishful thinking. *Journal of Learning Disabilities, 10,* 193-194.

"The point here is that in remedial teaching there is no such thing as a universally good method. A method that works well with Clyde may have little value with Cynthia; its goodness or badness can be judged only in relation to its success or failure when used by a particular teacher with a particular pupil under particular conditions. Perhaps the only factor that should remain constant in remedial teaching is the positive, enthusiastic approach that characterizes successful teachers, whether they operate as remedial specialists or as regular classroom teachers" (p.141).

Source: Otto, W., & McMenemy, R. A. (1966). *Corrective and remedial teaching: Principles and practices.* Boston: Houghton Mifflin.

"In all remedial work, the teacher should start first with the child and then find the appropriate method. Fit the method to the child, not the child to the method" (Monroe, 1935, p.227).

Monroe, M. (1935). Diagnosis of reading disabilities. In G. M. Whipple (Ed.), *The thirty-fourth yearbook of the National Society for the Study of Education: Educational diagnosis* (pp. 201-228). Bloomington, IL: Public School Publishing.

Developing readers need to be provided with reading materials at their instructional level

The boy
saw the
little dog
but he

Reading Level Criterion:

Oral Reading Fluency: (rate plus accuracy)

Independent Reading Level: **The level at which the student demonstrates word recognition 98+%.**

Instructional Reading Level: **The level at which the reader demonstrates word recognition of 95+%.**

Frustration Reading Level: **The level at which the student demonstrates word recognition of less than 90%.**

IRREDUCIBLE FACTS FOR TEACHING

1. Differences in learning rate exist.
   Instructional procedures that treat students as equal are bound to be ineffective for either the upper or lower ranges or both.
2. Span of student ability
   Average third-grade class will have a six-grade spread of ability.

Source: Ladas, H.S. (1960). A handbook of irreducible facts for teaching and learning. *Phi Delta Kappan*, 606-607.

"It is time to resolve the convoluted thinking that mandates the 'same" high ('rigorous') grade-level standards for all. One of the things that we know for sure in special education is that one size does not fit all, and that the same standards, rigorous or not, will not result in the same outcomes" (p. 248).

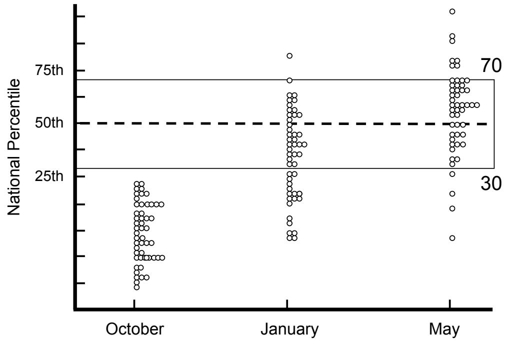
Source: Larson, N. W. (2005). "The time has come," the Walrus said, "to speak of many things!" *Learning Disability Quarterly, 28,* 247-248.

Design of Study in which intervention occurred

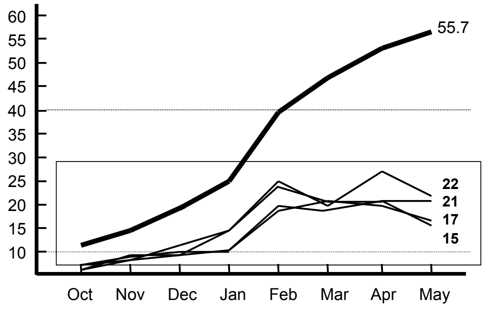
1. Most "at risk" first graders from five elementary school - PPVT above 70
2. Instruction provided in 45 min. sessions every day from October through May in groups of 3 or 5 by experienced teachers or well-trained paraprofessionals
3. Used a structured (scripted) reading program that contained instruction and practice in phonemic awareness, phonics, fluency, and comprehension
4. Used a number of methods to achieve fidelity of implementation: 3 days of initial training, weekly supervisory visits, and monthly inservices (3 hours)

Source: Torgesen, J. K. (2004, January). Setting new goals for reading interventions: Evidence from research. Keynote presentation at the Northern California Branch of the International Dyslexia Association, San Francisco.

Growth in Word Reading Ability



Growth in Correct Words Per Minute on First Grade Level Passages for four lowest performers



"The remedial work was unsuccessful in about 4 or 5 percent of the cases, in that this percentage of cases did not show improved scores on the retests" (p. 151).

Source:Monroe, M., & Backus, B. (1937). *Remedial reading.* Boston: Houghton Mifflin.

"Slow reading acquisition has cognitive, behavioral, and motivational consequences that slow the development of other cognitive skills and inhibit performance on many academic tasks. In short, as reading develops, other cognitive processes linked to it track the level of reading skill. Knowledge bases that are in reciprocal relationships with reading are also inhibited from further development.

The longer this developmental sequence is allowed to continue, the more generalized the deficits will become, seeping into more and more areas of cognition and behavior. Or to put it more simply and sadly—in the words of a tearful 9-year-old, already failing frustratingly behind his peers in reading progress, 'Reading affects everything you do.' " (p. 390)

Source: Stanovich, K. E. (1986). Matthew effects in reading: Some consequences of individual differences in the acquisition of literacy. *Reading Research Quarterly, 21,* 360-407.

"Failure to learn to read as others do is a major catastrophe in a child's life" (p.1).

Source:

Dolch, E. W. (1939). *A manual for remedial reading.* Champaign, IL: Garrard Press.

"We firmly believe that it does students with LD little good to be included and socialized in general education classrooms for 12 years if the result is that these students leave high-school reading at a second- or third-grade level and with serious self esteem issues" (p. 66).

Source: Herr, C. M., & Bateman, B. D.. (2013). Learning disabilities and the law. In H. L. Swanson, K. R. Harris, & S. Graham (Eds.), *Handbook of learning disabilities* (2nd ed.) (pp. 51-68). New York, NY: Guilford Press.

"My ignorance of my dyslexia only intensified my sense of isolation and hopelessness. Ignorance is perhaps the most painful aspect of a learning disability" (p. 64).

Source: Schultz, P. (2011). *My dyslexia.* New York, NY: W. W. Norton & Company.

Knowing what is needed to help students is not the same thing as being able to provide it.

Kauffman, J. M., Lloyd, J. W., Baker, J., & Riedel, T. M. (1995). Inclusion of all students with emotional or behavioral disorders? Let's think again. *Phi Delta Kappan*, 542-546.

Conclusions Regarding Instruction for Students with Specific Reading Disability

Effective instruction plays a critical role in development

Early, intensive interventions are important

Instruction must be adjusted based upon a student's needs

Training in processes without academic content is ineffective

The most effective methods are explicit and intensive

No single approach works with all students

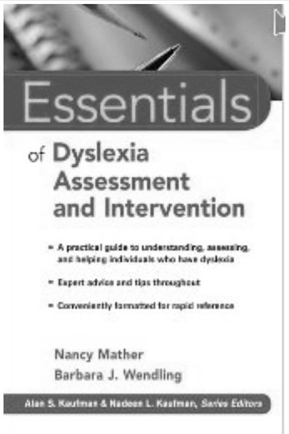
Even "evidence-based" methods fail to work with certain students.

Adapted from: Fletcher, J. M., Lyon, G. R., Fuchs, L. S., & Barnes, M. A. (2007). *Learning disabilities: From identification to intervention.* New York, NY: Guilford Press.

A little over a decade ago, Foorman and Torgesen (2001) claimed that if current research findings on effective classroom reading instruction were implemented, meeting the additional needs of the at-risk child for effective, intensive, and explicit individual or small group instruction, the literacy needs of all children could be met. This is the case where advances in the science of reading disorders and intervention research, if brought to the front line of educational practice, could change the life circumstances of millions of at-risk children and adolescents" (p. 351).

Source: Lovett, M. W., Barron, R. W., & Frijters, J. C. (2013). Word identification difficulties in children and adolescents with reading disabilities. In H. L. Swanson, K. R. Harris, & S. Graham (Eds.), *Handbook of learning disabilities* (2nd ed.) (pp. 169-185). New York, NY: Guilford Press.

January 27, 2014, 04:00 pm **Make dyslexia a national priority** by Sally E. Shaywitz, M.D. and Bennett A. Shaywitz, M.D Rep. Bill Cassidy (R- La.) has introduced a House Resolution on Dyslexia (H.Res. 456, 113th Congress…"As physician-scientists, we have seen the devastating impact on children and families resulting from the failure by our schools to recognize and address dyslexia; as scientists we know the powerful scientific knowledge that both explains dyslexia and offers an evidence-based route to remediation. Often we wish there were more knowledge to address a problem. In the case of dyslexia, we have the knowledge to do much better for our children and our nation and so rather than a knowledge gap, there is an action gap which H.R. 456 – by bringing science to education - takes a major step to close."


Essentials of Dyslexia Assessment and Intervention

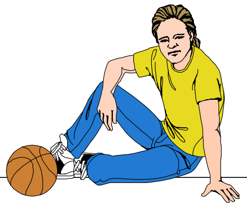
- A practical guide to understanding, assessing, and helping individuals who have dyslexia
- Expert advice and tips throughout
- Conveniently formatted for rapid reference

Nancy Mather
Barbara J. Wendling

Alan S. Kaufman & Nadeen L. Kaufman, *Series Editors*

Students with Reading Disabilities Need Understanding Teachers…

- Sympathetic
- Interested
- Developmental
- Process Oriented
- Inspiring



"Failure in reading is likely to lead to a general sense of inferiority that will cripple the individual's whole life. One of the greatest compensations in remedial reading work is to see the transformation in a child when you have shown him, in spite of his conviction, that he can read" (p. 3).

Source: Dolch, E. W. (1939). *A manual for remedial reading.* Champaign, IL: Garrard Press.

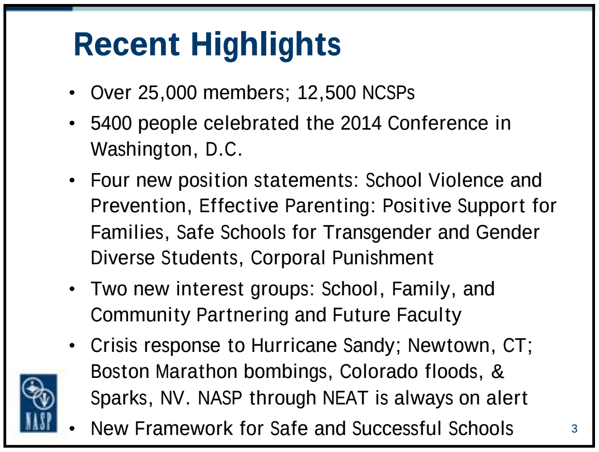
"At one magical instant in your early childhood, the page of a book -that string of confused, alien ciphers-shivered into meaning. Words spoke to you, gave up their secrets; at that moment, whole universes opened. You became, irrevocably, a reader."
Alberto Manguel (1996). *A History of reading*.

Welcome to the WSPA Conference!!

Creating Access: Collaborate. Advocate. Lead

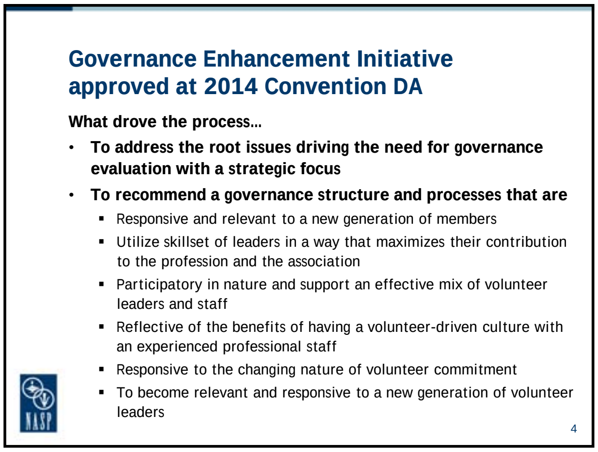
NASP 2013-2014

Sally A. Baas EdD, NASP President



Recent Highlights

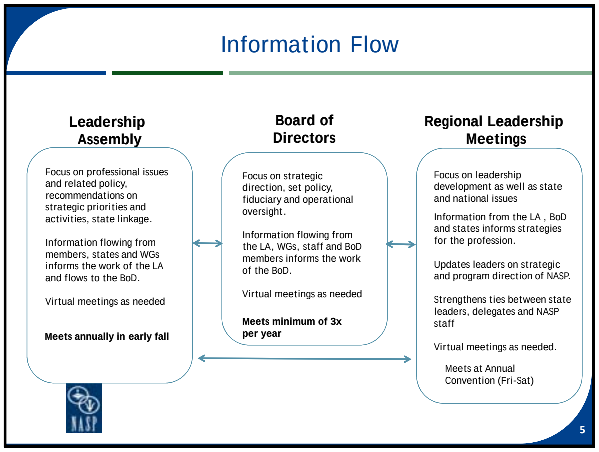
- Over 25,000 members; 12,500 NCSPs
- 5400 people celebrated the 2014 Conference in Washington, D.C.
- Four new position statements: School Violence and Prevention, Effective Parenting: Positive Support for Families, Safe Schools for Transgender and Gender Diverse Students, Corporal Punishment
- Two new interest groups: School, Family, and Community Partnering and Future Faculty
- Crisis response to Hurricane Sandy; Newtown, CT; Boston Marathon bombings, Colorado floods, & Sparks, NV. NASP through NEAT is always on alert
- New Framework for Safe and Successful Schools



Governance Enhancement Initiative approved at 2014 Convention DA

What drove the process…

- **To address the root issues driving the need for governance evaluation with a strategic focus**
- **To recommend a governance structure and processes that are**
    - Responsive and relevant to a new generation of members
    - Utilize skillset of leaders in a way that maximizes their contribution to the profession and the association
    - Participatory in nature and support an effective mix of volunteer leaders and staff
    - Reflective of the benefits of having a volunteer-driven culture with an experienced professional staff
    - Responsive to the changing nature of volunteer commitment
    - To become relevant and responsive to a new generation of volunteer leaders



Information Flow

Leadership Assembly

Focus on professional issues and related policy, recommendations on strategic priorities and activities, state linkage.

Information flowing from members, states and WGs informs the work of the LA and flows to the BoD.

Virtual meetings as needed

Meets annually in early fall

Board of Directors

Focus on strategic direction, set policy, fiduciary and operational oversight.

Information flowing from the LA, WGs, staff and BoD members informs the work of the BoD.

Virtual meetings as needed

Meets minimum of 3x per year

Regional Leadership Meetings

Focus on leadership development as well as state and national issues

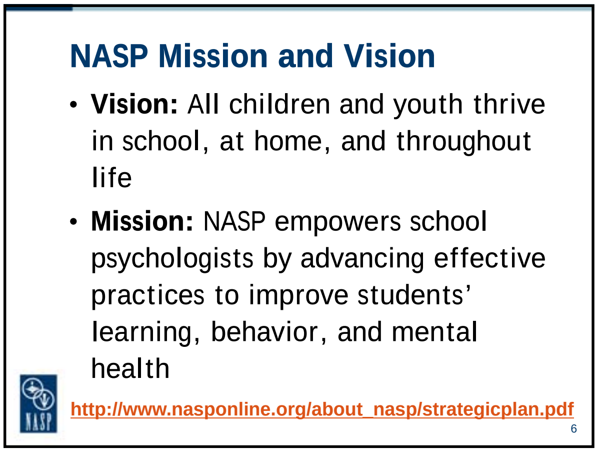
Information from the LA , BoD and states informs strategies for the profession.

Updates leaders on strategic and program direction of NASP.

Strengthens ties between state leaders, delegates and NASP staff

Virtual meetings as needed.

Meets at Annual Convention (Fri-Sat)



NASP Mission and Vision

- **Vision:** All children and youth thrive in school, at home, and throughout life
- **Mission:** NASP empowers school psychologists by advancing effective practices to improve students' learning, behavior, and mental health

http://www.nasponline.org/about_nasp/strategicplan.pdf

Strategic Priorities 2013-2014

- Professional Advocacy
- Professional Competence
- Leadership Development

CREATING ACCESS • COLLABORATE • ADVOCATE • LEAD

NASP Priorities 2013-2014

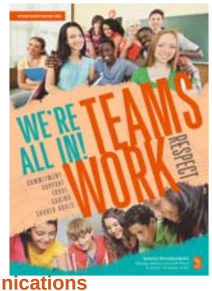
- Equip school psychologists at the state and local levels to promote their services and role
- Promote understanding and adoption of NASP Practice Model to enhance our services to children, schools, and families
- Expand availability of quality continuing professional development that is affordable and accessible

NASP Priorities (cont.)

- Increase cultural competence and cultural and linguistic diversity of school psychologists
- Enhance leadership development and resources alignment to effectively serve NASP members and the interests of children, families and schools

How do you continue to celebrate our field of School Psychology?

- “*We’re All In! Teams Work.*”
- Possibilities in Action Partners colleague recognition program
- Student POWER Award recognition program
- Gratitude Works Program


WE'RE ALL IN!
TEAMS WORK
RESPECT

www.nasponline.org/communications

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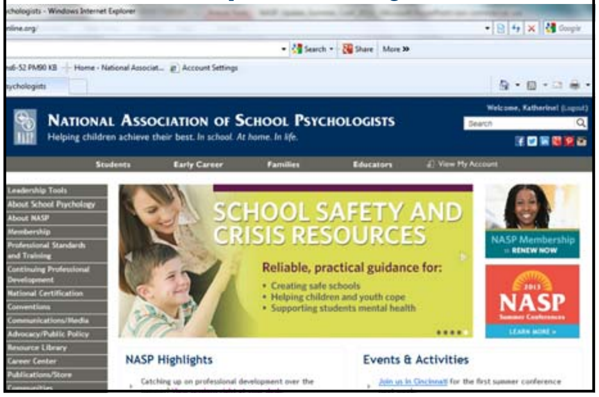
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Reliable, practical guidance for:

- Creating safe schools
- Helping children and youth cope
- Supporting students mental health

Catching up on professional development over the

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NASP Online Learning Center

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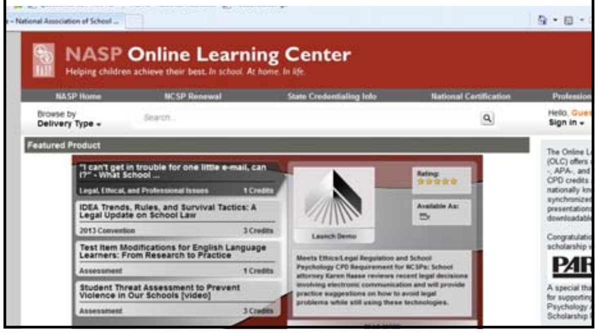
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Featured Product
Rating:
Available As:
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“I can't get in trouble for one little e-mail, can I?” - What School ...	Legal, Ethical, and Professional Issues	1 Credits
IDEA Trends, Rules, and Survival Tactics: A Legal Update on School Law	2013 Convention	3 Credits
Test Item Modifications for English Language Learners: From Research to Practice	Assessment	1 Credits
Student Threat Assessment to Prevent Violence in Our Schools [video]	Assessment	3 Credits

Meets Ethics/Legal Regulation and School Psychology CPD Requirement for NCSPs: School attorney Karen Haase reviews recent legal decisions involving electronic communication and will provide practice suggestions on how to avoid legal problems while still using these technologies.

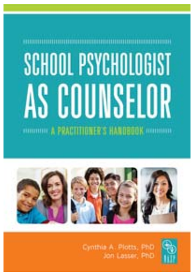
NASP Periodicals: Research to Practice

School Psychology Review
Communiqué
Remembering Polly Alexander
School Psychology Forum
Research in Practice
Redefining School Psychology: Applications to Service Delivery

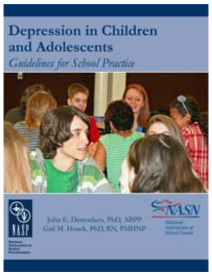
Access complete issues online at

http://www.nasponline.org/publications/periodicals.aspx

Newest Publications From NASP

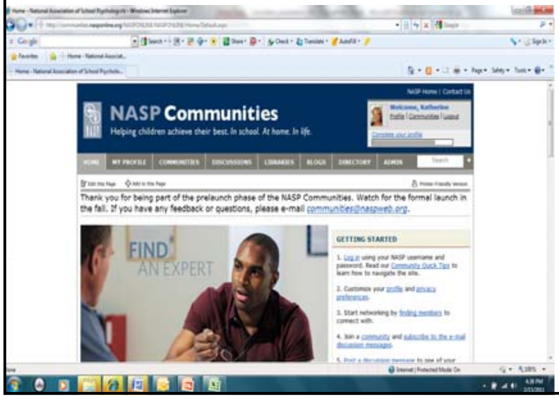

SCHOOL PSYCHOLOGIST AS COUNSELOR
A PRACTITIONER'S HANDBOOK
Cynthia A. Plotts, PhD
Jon Lasser, PhD

Guidance on specific counseling techniques and how to integrate them into school processes


Depression in Children and Adolescents
Guidelines for School Practice
John E. Desrochers, PhD, ABPP
Gail M. Houck, PhD, RN, PMHNP
NASN

Practical guidance and resources to support children and adolescents with depression

NASP Online Communities

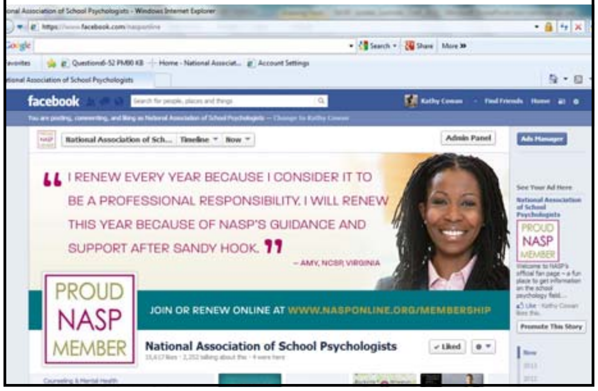

NASP Communities
Helping children achieve their best. In school. At home. In life.
NASP Home | Contact Us
Welcome, Katherine
HOME
MY PROFILE
COMMUNITIES
DISCUSSIONS
LIBRARIES
BLOGS
DIRECTORY
ADMIN
FIND AN EXPERT

Thank you for being part of the prelaunch phase of the NASP Communities. Watch for the formal launch in the fall. If you have any feedback or questions, please e-mail communities@naspweb.org.

GETTING STARTED

1. Log in using your NASP username and password. Read our Community Quick Tips to learn how to navigate the site.
2. Customize your profile and privacy preferences.
3. Start networking by finding members to connect with.
4. Join a community and subscribe to the e-mail discussion messages.
5. Post a discussion message to one of your

Join Us On Social Media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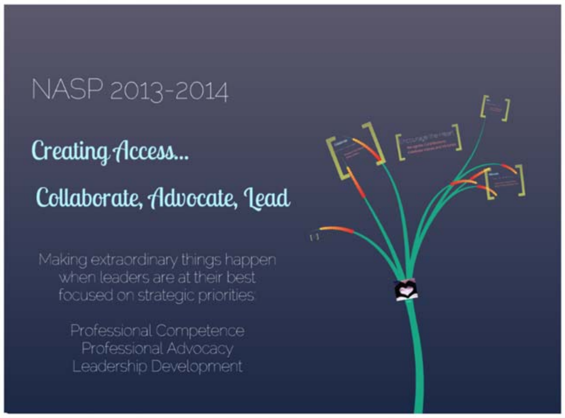
“I RENEW EVERY YEAR BECAUSE I CONSIDER IT TO BE A PROFESSIONAL RESPONSIBILITY. I WILL RENEW THIS YEAR BECAUSE OF NASP'S GUIDANCE AND SUPPORT AFTER SANDY HOOK.”

– AMY, NCSP, VIRGINIA

JOIN OR RENEW ONLINE AT WWW.NASPONLINE.ORG/MEMBERSHIP

National Association of School Psychologists



NASP 2013-2014

Creating Access…

Collaborate, Advocate, Lead

Making extraordinary things happen when leaders are at their best focused on strategic priorities.

Professional Competence
Professional Advocacy
Leadership Development

How can school psych services create access for students, staff, families, and communities?

Modeling the way

Inspiring a shared vision

Challenging the process

Enabling others to act

Encouraging the hearts of those with whom you work and play

Model the Way

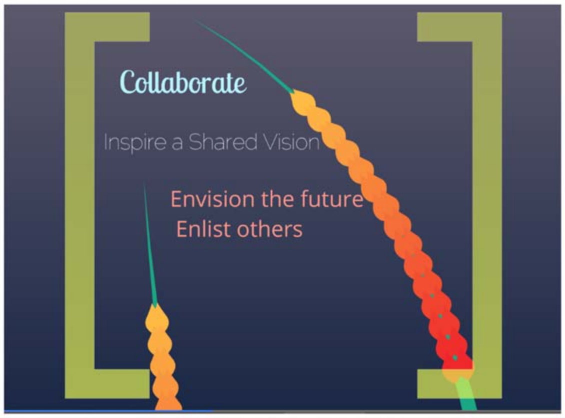
Clarify Values.
Set the example.

NASP Core Values

- Advocacy
- Collaborative relationships
- Continuous improvement
- Diversity
- Excellence
- Integrity
- Student-centered
- Visionary leadership

Professional Competency

- Know and practice the legal, ethical and professional practices
- Based on the data you gather about students, learn to tell positive stories about your students so parents and others understand how students are making gains.
- Combine your work, study, and self-care for healthy balance.

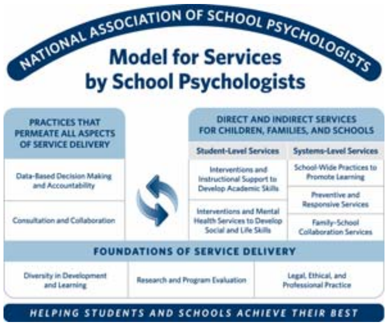


Collaborate

Inspire a Shared Vision

Envision the future
Enlist others

Collaborating With A Purpose



NATIONAL ASSOCIATION OF SCHOOL PSYCHOLOGISTS

Model for Services by School Psychologists

PRACTICES THAT PERMEATE ALL ASPECTS OF SERVICE DELIVERY	DIRECT AND INDIRECT SERVICES FOR CHILDREN, FAMILIES, AND SCHOOLS	
	Student-Level Services	Systems-Level Services
Data-Based Decision Making and Accountability	Interventions and Instructional Support to Develop Academic Skills	School-Wide Practices to Promote Learning Preventive and Responsive Services
Consultation and Collaboration	Interventions and Mental Health Services to Develop Social and Life Skills	Family-School Collaboration Services

FOUNDATIONS OF SERVICE DELIVERY

Diversity in Development and Learning	Research and Program Evaluation	Legal, Ethical, and Professional Practice

HELPING STUDENTS AND SCHOOLS ACHIEVE THEIR BEST

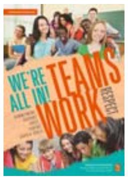
Collaborating With A Purpose

Collaborating with others creates

T.E.A.M.

Together **E**ach **A**chieves **M**ore!

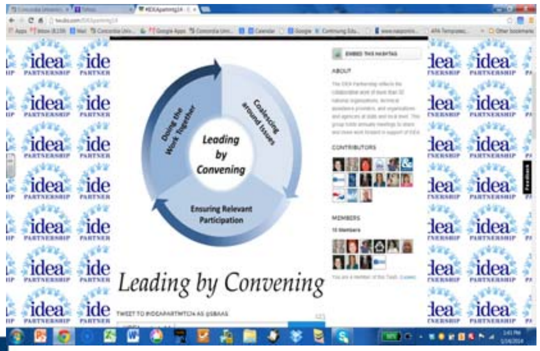
Commitment
Support
Trust
Caring
Shared Goals



Professional Collaboration

NASP is involved with many coalitions and professional partnerships:

- National Association of Specialized Instructional Support Personnel (NASISP)
- Collaboration on principal organizations, other school mental organizations and the school resource officers to a joint framework on school safety
- Child Mind/Speak Up for Kids
- IDEA Partnership activities
- Depart. of Education and SAMSHA consultation on and participation in children's mental health and safe schools initiatives



Leading by Convening

> "Conveners are driven by a personal mission, but they are able to invite others into this mission in such a way that the ownership is shared. They let others construct the narrative with them. They open spaces for learning and instigating change...."
>
> Etienne and Bev Wenger-Trayner

Advocate

Challenge the Process

Search for opportunities
Experiment and take risks

Why do we need to advocate for children, youth, and families?

- Nationally there are 23% of children who are living in poverty
- 32% of children whose parents lack secure employment
- 40% of children living in households with a high housing cost burden
- 8% of teens not in school and not working, according to Kids Count 2013, from the Annie E. Casey Foundation

Why do we need to advocate?

Many challenges facing education:

- **Economic climate**
  - Low income families – 42% of children
  - Poverty – 23% of all American children
    - 39% of African American children
    - 37% American Indian children
    - 34% of Hispanic children
  - Lack of resources
- **Political climate**
  - Privatization
  - Business mentality: test scores = success
  - Performance pay
  - Vouchers
  - Unions

Federal Advocacy Efforts

- **ESEA reauthorization** (focus on keeping SPs in definition of service providers; reference to ratio; increased access to student supports/MH services (MTSS); safe supportive conditions for learning)
- **ACA**(focus on ensuring that SPs are included as approved providers for reimbursement at state level)
- **Violence Prevention/School Safety** (focus on role of school-employed MH professionals; collaboration with allied groups; link to MTSS)

Lead

Enable Others to Act

Foster collaboration
Strengthen others

NASP NASP Strategic Plan Outlines Advocacy Objectives

- Maintain or increase inclusion of school psychologists as service providers in legislation, regulations, and procedures (federal, state, and local levels)
- Increase school psychologists' role in provision of mental health services for children and youth
- Increase school psychologists' role in prevention, intervention, and crisis response
- Promote awareness and support of comprehensive school psychological services
- Increase awareness of the value of professional supervision for school psychologists
- Increase number of school psychologists and graduate students trained in advocacy skills
- Promote equity in access to educational resources and mental health services for all children and youth

Attend the NASP Public Policy Institute, July 2014

- https://mail.google.com/mail/u/0/?shva=1#inbox/1446436616452f75

How shall we lead?

- NASP approaches our work
  - with optimism
  - energy
  - and confidently working pragmatically with “what is” while moving to “what can be”

Leading From The Middle

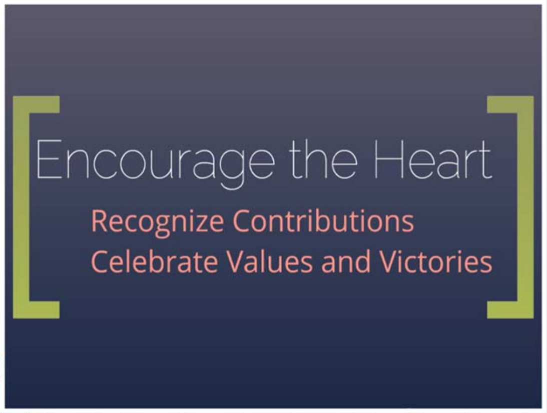
- Have direct dialogue
- Mindful listening
- Team flexibility
- Accountability freedom
- Valuably fail
- Relentless learning

Leading From The Middle

- 100% real action
- Soul-full
- Crux- be in the middle, not directing, not dictating, not doing it all- instead leveraging points
- Building others up and bringing things together.
  - Dec. 8, 2011, Generational Insights, Millennial Leadership

NASP Membership

- Thank you NASP members!
-
- The new membership year started July 1; please renew if you haven't already do so
- Not yet a member? Join us!
- Pay in three installments if you want
- Get the most of the fabulous resources available to members



Encourage the Heart

Recognize Contributions

Celebrate Values and Victories

NASP Awards, Public Charities, Grants, And Scholarships

- GPR Certificate of Appreciation
- GPR Friend of Children Award
- NASP Lifetime Achievement Award
- Paul H. Henkin Memorial Scholarship
- School Psychologist of the Year
- Minority Scholarship Program
- NASP Children's Fund
- Thank you's to all who have been on your T.E.A.M.

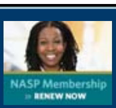
"Nothing you do for children is ever wasted."
~ Garrison Keillor

Issues for Mississippi

- Recognizing School Psychologists' worth/training
- NCSP

Recognizing SP Worth

NSCP


NASP Membership
» RENEW NOW

NATIONAL ASSOCIATION OF SCHOOL PSYCHOLOGISTS

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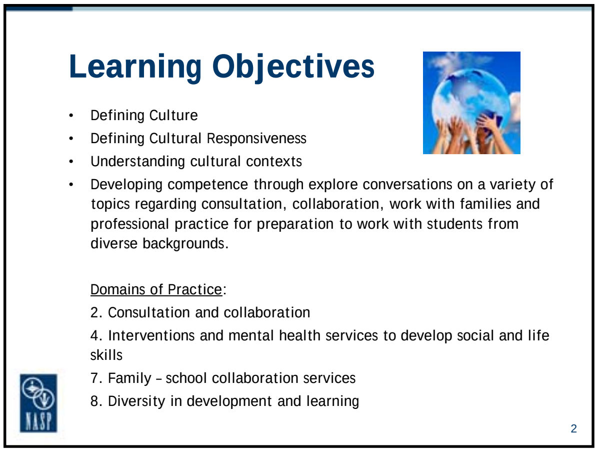
Inspire a shared vision

Inspire a shared vision

Cultures, Context, Competence

WSPA State Conference
Sally A. Baas EdD
NASP President



Learning Objectives

- Defining Culture
- Defining Cultural Responsiveness
- Understanding cultural contexts
- Developing competence through explore conversations on a variety of topics regarding consultation, collaboration, work with families and professional practice for preparation to work with students from diverse backgrounds.

Domains of Practice:

2. Consultation and collaboration
4. Interventions and mental health services to develop social and life skills
7. Family – school collaboration services
8. Diversity in development and learning

Culture

- **An Anthropological Perspective of Culture**
- **Topical:** Culture consists of everything on a list of topics, or categories, such as social organization, religion, or economy
- **Historical:** Culture is social heritage, or tradition, that is passed on to future generations
- **Behavioral:** Culture is shared, learned human behavior, a way of life
- **Normative:** Culture is ideals, values, or rules for living
- **Functional:** Culture is the way humans solve problems of adapting to the environment or living together
- **Mental:** Culture is a complex of ideas, or learned habits that inhibit impulses and distinguish people from animals
- **Structural:** Culture consists of patterned and interrelated ideas, symbols, or behaviors
- **Symbolic:** Culture is based on arbitrarily assigned meanings that are shared by a society
- Source: John H. Bodley, From *Cultural Anthropology: Tribes, States, and the Global System*, 1994

Culture

- An integrated pattern of human behavior that includes thoughts, communications, languages, practices, beliefs, values, customs, courtesies, rituals, manners of interacting and roles, relationships and expected behaviors of a racial, ethnic, religious or social group; and the ability to transmit the above to succeeding generations.
- A specific set of social, educational, religious and professional behaviors, practices and values that individuals learn and adhere to while participating in or out of groups they usually interact with.

Context

1. What is your background (e.g., nationality, ethnicity) around cultural differences?
2. What is most interesting or intriguing and what is most challenging for you in working with people from other cultures (e.g., nationality, ethnicity)?
3. What are key goals, responsibilities or tasks you and/or your team have, if any, in which cultural differences need to be successfully navigated?

4. Please give examples of situations you were personally involved with or observed *where cultural differences* needed to be addressed within your organization, and

- The situation ended negatively—that is, was not successfully resolved. Please describe where and when the situation took place, who was involved (please do not use actual names), what happened and the final result.
- The situation ended positively—that is, was successfully resolved. Please describe where and when the situation took place, who was involved (please do not use actual names), what happened and the final result.

Cultural Styles

- Building cultural competence,
- Key step: build awareness of others.
  - In the absence of a relationship or unique experiences, many of us never develop a true understanding of other cultures without exerting significant effort.
  - Important to think about cultures and how the variables interact with the process of serving children and families in schools.

Jones, J. "What do you know about cultural styles", CQ, Vol. 38,7

Cultural Style # 1

- People who tend to speak softly and slowly with limited eye contact. When in conversation, they don't interject very often.
- In fact, they wait for a natural pause in the dialogue to speak at all. This is considered respectful communication.
- Encouragement of others in the group is usually done nonverbally with a smile, a nod, or a gesture.
- In culture one, there is a high regard for privacy and respecting another's desire for secrecy.

Cultural Style #1- continued

- When there is a problem, it is preferred that members of this group be patient for the problem to resolve rather than to be quick to act.
- Of the utmost importance to this group is the sense of community. Sharing is essential to one's well-being and the sharing includes the praise and blame that are associated with the trials of everyday life.
- All members take responsibility for the success or failure of the unit—it is part of being a member of the community. This group orientation means that members are noncompetitive and are more focused on the present than the future.

Cultural Style #2

- By contrast, members of culture two speak quickly and assertively.
- They prefer direct eye contact in conversation and affectionately address the person in conversation with them by name throughout the conversation.
- The conversation includes frequent interjections from both parties that do not disrupt the flow of the conversation.

Culture #2 continued

- Encouragement of members is usually verbal with comments such as "great job" and "way to go!"
- Verbal skills are highly prized, so those who are more articulate are interpreted to be more successful.
- Individual accomplishments are coveted and members of this group manage competitive situations well.
- In terms of interpersonal communication, self-expression and self-disclosure between members is highly valued.
- Problems are solved through action and scientific explanations of problems are expected and respected.

Cultural Style #3

- A group with a speech pattern that includes both volume and pace.
- Words are communicated with emotion as a way to enhance understanding.
- There is also a kinesthetic style of communication, learning, and interacting, and nonverbal communication is extremely important.
- Members of this group pay close attention to social cues and are also very sensitive to the nonverbal communication of others.

Cultural Style #3 continued

- There is a highly developed skill in understanding and perceiving the affect of other people and situations—albeit nonverbal.
- The members of this culture adhere to a group orientation rather than an individual orientation, where preservation of the group is a goal of life. Members of culture three believe that success is developed through group unity, freedom, and equality.
- There is often a multigenerational social network along with informal kinship bonds that are as strong as formal kinship bonds.
- There is a deep respect for spirituality and human connections through religion.

Cultural Competence

- Cultural competence is defined as a set of congruent behaviors, attitudes, and policies that come together in a system, agency, or among professionals and enables that system, agency, or those professionals to work effectively in cross-cultural situations.

Operationally defined

- Cultural competence is the integration and transformation of knowledge about individuals and groups of people into specific standards, policies, practices, and attitudes used in appropriate cultural settings to increase the quality of services; thereby producing better outcomes.

Culturally Competence Practice

- School psychologists respond to and work with parents, educators, and others to improve outcomes for children and youth through assessment, consultation, prevention, and intervention activities.
- Services are provided to children and families from diverse cultural and linguistic backgrounds.
- Priorities for NASP include improving culturally responsive services to students from diverse cultures

Self-Reflection

- A process of self-reflection would be an ideal next step.
- Consider which culture seems the most familiar to you and to your upbringing.
- Consider which culture is the most different from the one that you resonate with.
- Do you have an idea of who might belong to each of the described cultures?
- Do you know anyone that ascribes to the values of one of these cultures

Learn the cultures of students in your school community.

- How do each of the cultures fit your own cultural values?
- Consider the process of serving children and families. When you were trained to do counseling, were the techniques connecting well with one of the groups above, but not all?
- Consider if you were trained that the process of counseling includes increasing verbalization of feelings and direct communication of feelings and you have a client who communicates more nonverbally.
- It is important to build your knowledge about other cultures.
- Doing so will enhance your ability to use culturally based knowledge to develop treatment interventions appropriate for the culture and to have realistic expectations for what success will look like.

Recognize assumptions or preconceived notions

- *Reflect on assumptions or preconceived notions about a student or family.*
- A major source of information in the 21st century is the media ,which often portrays diverse groups according to stereotypes. In addition, thoughts and perspectives about people from different cultures and backgrounds can be passed down from parents to their children or become accepted in localized areas that have limited exposure to a more representative sampling of individuals of CLD backgrounds.
- School psychologists, who are often leaders in their school communities, need to focus the discussion at school sites toward objective facts, understanding behaviors in context, and an awareness that everyone has a unique lens through which we interpret events. In addition, engaging in a process of self-reflection increases attention to how our experiences and exposures influence the assumptions we make about other groups or cultures.

Social graces important to others

- Do members prefer handshakes to a hug?
- Is talking in close proximity better?
- Is expecting direct eye contact unrealistic?
  - These are just a few examples of social manners that could affect your first interaction with a family in either a positive or negative way.
  - In order to increase your knowledge about these values, you can find someone in the community through your friends, family, work, or other social group who can share information.
  - If you find that you do not have this kind of access, you can call a local community center that serves the population

Read.

- There are so many resources that one can read to learn more about different cultural groups.
- . For example, Ebony, Essence, and Black Enterprise are three of the most commonly read magazines by African Americans.
- Latino, Latino Perspectives, and Hispanic magazine are read in the Latino community.
- Subscribing to such magazines can help expose you to the perspectives of people within the community and also enhance the relationships you build with families within that culture

Attend ethnic events

- When attending these events, pay attention to cultural nuances such as the music, art, and attire.
- The most important observations you can make are of the members of the community and their social interactions.
  - For example, when members greet each other,
    - ➢is there touch involved?
    - ➢How long do they interact?
    - ➢Do the interactions differ by individual?
    - ➢Can you tell the difference between friends and family?

Build cross-cultural relationships

- Building relationships help our understandings of other beliefs and we do not have the expectation that they have to match.
- Nor do we make any efforts to convince the other that our own cultural value is the better one.
- This life experience enhances our abilities as school psychologists to serve people from all different cultures and races and to sustain these relationships.
- Having a person of a different culture in your life not only enriches you personally, but also professionally.

- *Consider acculturation and its effects on families and students.* Change is never easy, especially when the values of the family (or parents/elders) contrast with “mainstream” culture. Oftentimes adaptation on the part of the family is neither negotiated nor assisted. For example, the provision of mental health services often holds a stigma in many cultures and needed referrals may take additional time and care to complete. School psychologists stand at a unique position to understand and acknowledge the multifaceted nature of CLD families and their acculturation

Acculturation

- Understand that a negative response to acculturation can lead to maladaptive cultural characteristics.
- Over time, historical or sociopolitical events can negatively affect the process of acculturation of some CLD groups and create secondary cultural characteristics.
- As a maladaptive response to issues of maltreatment, discrimination, or lack of economic opportunity, some individuals from CLD backgrounds may not only reject "mainstream" cultural values, but also disassociate themselves from those of their regions of origin
- Some families and students may become suspicious of school staff or mental health professionals, not want to cooperate with educators' recommendations, or oppose school rules and academic success for peer group attention.
- It is our responsibility not to take certain individuals' preconceptions and negative perspectives personally, but view them as possible responses to environmental/historical patterns or events.

Communication

- *When in doubt, communicate respectfully, clearly, and thoroughly.*
- *Regardless of origin or upbringing, all families want the best for their children. Unfortunately, navigating the educational system to get the help their children need can be a daunting task, especially for families that are not from the mainstream culture.*
- *At its most basic level, communicating effectively with CLD parents is predicated on the same principles used in effective communication with any parent: respect, clarity, and care.*

Involve a cultural liaison

- "Cultural liaison" means a person who is of the same racial, cultural socioeconomic or linguistic background as the pupil, and who:

- A. Provides information to the IEP team about the pupil's race, cultural, socioeconomic, and linguistic background;
- B. Assists the IEP team in understanding how racial, cultural, socioeconomic, and linguistic factors impact educational progress;
- C. Facilitates the pupil's parent's understanding and involvement in the special education process.

- If a person who is of the same racial, cultural, socioeconomic, or linguistic background as the pupil is not available, then a person who has knowledge of the pupil's racial, cultural, socioeconomic, and linguistic background may act as a cultural liaison.
-

Some examples:
PTSD in refugee children

Angie Yetterboe, 2009

General migration and forced relocation stressors

Barowsky, Ellis I. and McIntyre, Thomas. (2010) Migration and Relocation Trauma of Young Refugees and Asylum Seekers: Awareness as Prelude to Effective Intervention. *Childhood Education*, 86(3), 161-168.

- The actual emigration of young refugees causes various stressors to affect physical and mental health.
- Adults are more capable than children of establishing relationships between two or more cultures.
- Involuntary migration of children may cause emotional and behavioral disorders to emerge later.
- Single event traumas or multiple event traumas are common in refugee children.
- Schools can provide a physically and psychologically safe haven for young PTSD sufferers.

Mental health issues in Somali and Rwandese refugees

Onyut, Lamaro P. and Neuner, Frank. (2009) Trauma, poverty and mental health among Somali and Rwandese refugees living in an African refugee settlement—an epidemiological study. *Conflict and Health*. 3(6). 1-16.

- The study was conducted at Nakivale refugee settlement in southwestern Uganda in 2003 and included 519 Somali participants and 906 Rwandese.
- 48.1% of Somali refugees were found to have suffered from PTSD while 32% of Rwandese suffered.
- Somali women scored higher on the PDS (posttraumatic diagnostic scale) than Somali men, and in Rwandese it was reversed.
- As a result of the study, a mental health intervention program to provide therapy at the camp was developed.

Cambodian refugee family mental health issues

Chang, Janet, Rhee, Siyon and Berthold, Megan. (2008) Child Abuse and Neglect in Cambodian Refugee Families: Characteristics and Implications for Practice. *Child Welfare*. 87(1). 141-160.

- Among Asian Pacific immigrants, Cambodians are most likely to have been forced into relocation as refugees and suffer from PTSD.
- Among abuse and neglect cases in California, many referrals resulted from depression in mothers and substance abuse and alcohol abuse in fathers.
- Many traditional Cambodian healing practices (cupping and coining) were misinterpreted as abuse.
- Due to forced relocation, men often tended to lose their traditional role as breadwinner, which led to feelings of inadequacy.
- These issues required collaboration among related agencies to best serve children.

Iraqi refugees and mental health

Kira, Ibrahim and Hammad, Adnan. (2007) The Physical and Mental Status of Iraqi Refugees and its Etiology. *Ethnicity & Disease*. Summer, 2007, Vol. 17. 79-82.

- 14% in the study met the criteria for PTSD, with adolescents higher at 19%.
- Along with PTSD, Iraqi refugees presented other serious disorders such as neurological and numerous cardiovascular disorders.
- Lack of acculturation in U.S. society may contribute to the high level of symptoms.
- Cumulative trauma, collective identity trauma or discrimination and exposure to media coverage of the war in Iraq contributed to the severity of symptoms.
- The study highlights the need to address specific health and mental health issues of Iraqis in the U.S.

Applications to practice

- Listening to victims, or encouraging victims to tell their stories are effective therapeutic devices.
- PTSD is often intergenerational and involves complex methods of therapy, so a school can become a safe haven for children and parents.
- Becoming familiar with student victims of PTSD and their backgrounds can help students overcome the debilitating effects of multiple or cumulative traumas.

A Personal Story

Nao Thao

Refugee

from Laos via Thailand

Cultural Comparisons: American

- Emphasis on self apart from others and the world
- Equality
- Nuclear Family
- Internal frame of reference
  - Separate from and superior to nature
  - Individual as master or controller of nature
  - One is responsible for one's own destiny
  - Society exists to maximize individual's potential
  - Individual freedom; autonomy; individualism
  - Obtain social control through love and affection
    - Informal interpersonal relationships.

Cultural Comparisons: Asian

- Family as focus, social-self; interdependence
- Hierarchical relationship
- Extended family
- External frame of reference
  - Harmony with nature; nature not to be conquered
  - Individuals assumed to be integrated with nature
  - Fatalism
  - Obedience to and honor of family, elders
  - Obtain social control through duty and obligation
  - formal interpersonal relationships.

Cultural Comparisons: Hispanic

- Family as focus, social-self interdependence
- Hierarchical relationship
- Extended family
- External frame of reference
  - Obedience to family
  - Personal needs are secondary to family need
- Focus on what kind of person you are rather than status
- Work for present needs
- Religion plays important role
- Formal interpersonal relationships

Cultural Comparisons: Somali

- Family as focus, social-self interdependence
- Hierarchical relationship
- Extended family
- External frame of reference
  - Obedience to family
  - Personal needs are secondary to family need
- Focus on what kind of person you are rather than status
- Religion plays important role
- Formal interpersonal relationships

Cultural Comparisons

- Important to note the differences:
- Family v.s. Self-focus
- Heirarchical v.s. Equality
- Extended family v.s. Nuclear
- Frame of reference: internal/external
- Religious influence

More things for consideration

- Move from being culturally unaware to being sensitive to personal cultural heritage and to valuing and respecting other cultures.
- To be aware of personal values and biases and how they may affect our students from other cultures.
- To be comfortable with differences that exist between us and our students in terms of race and beliefs.
- To be sensitive to circumstances (personal biases, stage of ethnic identity, sociopolitial influences, etc. which may dictate referral of student to a member of his/her own race or culture.

NASP Mission and Vision

- ➢**Vision:** All children and youth thrive in school, at home, and throughout life
- ➢**Mission:** NASP empowers school psychologists by advancing effective practices to improve students' learning, behavior, and mental health

http://www.nasponline.org/about_nasp/strategicplan.pdf

Advocacy

Advocating for policies and practices that result in the best outcomes for students is part of our responsibility as school psychologists.

There are three main types of advocacy:

- professional advocacy to improve practice at the building and district levels,
- individual advocacy on behalf of specific students
- and legislative advocacy at the local, state and national levels to influence policy and legislation that shape practice.

All are important and require effective teamwork and collaboration across various stakeholders

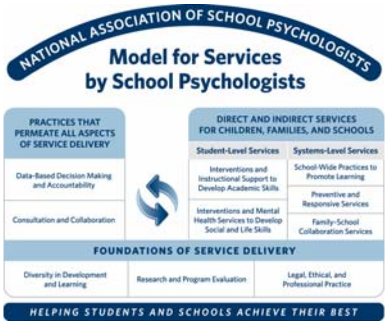
Highlighting NASP Priorities focusing on advocacy and leadership

- Equip school psychologists at the state and local levels to promote their services and role
- Promote understanding and adoption of NASP Practice Model to enhance our services to children, schools, and families

NASP Priorities (cont.)

- Increase cultural competence and cultural and linguistic diversity of school psychologists
- Enhance leadership development and resources alignment to effectively serve NASP members and the interests of children, families and schools

Collaborating With A Purpose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FOUNDATIONS OF SERVICE DELIVERY
Diversity in Development and Learning
Research and Program Evaluation
Legal, Ethical, and Professional Practice
HELPING STUDENTS AND SCHOOLS ACHIEVE THEIR BEST

Develop a plan

- What activities are needed to meet this goal?
- What is a realistic timeline?
- Which team member is responsible for each activity?
- What resources do you need?
- What allied stakeholders or groups could help you?
- What are the anticipated outcomes?

Many thanks…

- The content of this presentation is part of a series developed in conjunction with NASP's 2013 School Psychology Awareness Week theme, "We're All In! Teams Work," in addition to topics written about in Communique articles on cultural competency.
- For tip sheets on this topic of advocacy, visit the NASP website (www.nasponline.org/communications/spaw/2013).
- Advocacy content was written by Kelly Vaillancourt, NASP Director of Government Relations.

References

- **Guerrero, C. and Leung, B. Communicating Effectively With Culturally and Linguistically Diverse Families. Communiuque, Vol 36,8**
- Jones, J.M., **What Do You Know About Cultural Styles? Communique, Vol38, 7.**
- National Center for Cultural Competence of Georgetown University
- *Sullivan, A.L. andA'Vant, E.* CQ Vol. 38, #3 - The Need for Cultural Responsiveness, Communique, Vol 36, 3
- Advocacy content was written by Kelly Vaillancourt, NASP Director of Government Relations.

NASP Resources

- NASP has many resources available to assist school psychologists and other mental health providers in schools communicate effectively with parents from CLD backgrounds.
- NASP's Culturally Competent Practice web page www.nasponline.org/resources/cultural competence
- NASP Cultural Competence–Defining Culture www.nasponline.org/resources/cultural competence/definingculture.aspx
- The Provision of Culturally Competent Services in the School Settingwww.nasponline.org/resources/culturalcompetence/provision_cultcompsvcs.aspx
- Culturally Competent Consultation in Schools: Information for School Psychologists and School Personnelwww.nasponline.org/resources/culturalcompetence/cc_consultation.aspx
- All Children Can Learn: The Premise of Effective Educationwww.nasponline.org/communications/spawareness/spweek_allchildren.aspx
- Effective (and Easy) Communications: Tips for School Psychologistswww.nasponline.org/communications/spawareness/ Effective%20Communications-Tips%20for%20School%20Psychologists%2005-06.doc
- Truth In Labeling; Disproportionality in Special Education, a guide for educators from the National Education Association (NEA) in collaboration with NASP; available from NASP Publications, www.nasponline.org/publications

Recommended Reading

- **Recommended Reading**
- Ancis, J. R. (2003). *Culturally responsive interventions: Innovative approaches to working with diverse populations.*New York: Brunner-Routledge.
- Berry, J. W., Kim, U., Power, S., Young, M., & Bujaki, M. (1989). Acculturation attitudes in plural societies. *Applied Psychology: An International Review*, 38, 185–206.
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- Rogers, M. R., Ingraham, C. L., Bursztyn, A., Cajigas-Segredo, N., Esquivel, G., Hess, R. S., et al. (1999). Best practices in providing psychological services to racially, ethnically, culturally, and linguistically diverse individuals in the schools. *School Psychology International*, 20(3), 243–264.
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NATIONAL ASSOCIATION OF SCHOOL PSYCHOLOGISTS

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Q-interactive
Assessment, evolved.

Assessment Evolving:
An Overview of Q-Interactive

John A. Hanson, Ph.D. LP
Q Interactive Assessment Consultant
Pearson Clinical Assessment

Disclosure

John A. Hanson, Ph.D. LP works for Pearson Clinical Assessment, which developed and sells Q-interactive the digital assessment system

Agenda

1. Trends in Technology
2. Introduction to Q-interactive
3. Product Development
4. Demonstration
5. Psychometric Studies (including Equivalency)
6. Security
7. Pricing
8. Hardware Requirements
9. Your Turn!

A Brief History

- First Psychological Test

Historians note that rudimentary forms of testing date back to at least 2200 B.C. when the Chinese emperor had his officials examined every third year to determine their fitness for office

A Brief History

- First Psychological Test Battery

Psychological testing in its modern form originated more than one hundred fifty years ago in laboratory studies of sensory discrimination, motor skills, and reaction time. The British genius Francis Galton (1822–1911) invented the first battery of tests, a peculiar assortment of sensory and motor measures,

Trends in Technology

Adopting Technology

Q: How long did it take for 80% of Americans to adopt the telephone?

A: 62 years

Q: How long did it take for 80% of Americans to adopt the cell phone?

A: 15 – 20 years

Q: How long did it take for 80% of Americans to adopt the smartphone?

A: <15 years

Adopting Technology

- 1951 – Release of first commercially available computer
  - By 2010 (~60 years), ~77% of households had one or more
- 1996 – First commercially available text messaging
  - By 2007 (11 years), 74% of all mobile phone users texted
- 2010 - Apple announces first iPad, starts tablet PC race
  - By 2011 (1 year), >10% of households had one or more
  - By 2012 (2 years), 30% of internet users accessed it via tablet

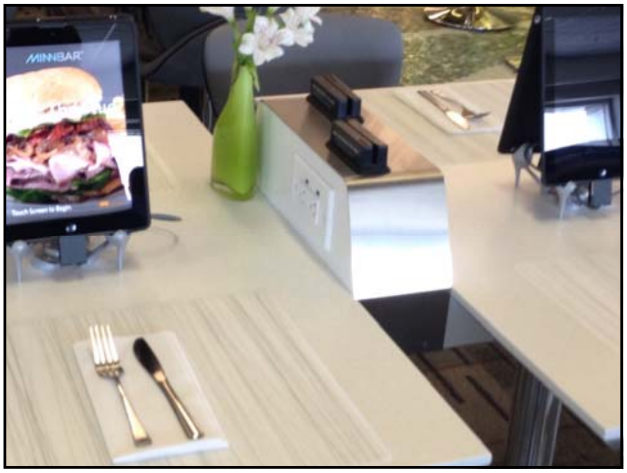
Adopting Technology

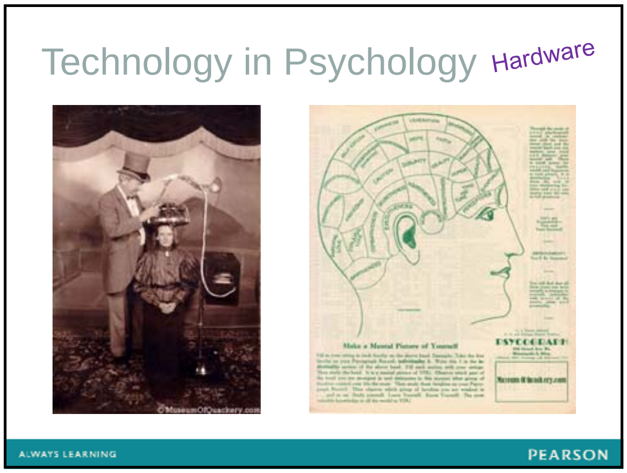
Facebook launched in Feb 2004

Growth in users:

- End of 2004 – 1 million
- End of 2006 – 5.5 million
- End of 2008 – 100 million
- End of 2010 – 608 million
- End of 2012 – 1,000 million (1 billion)

Minneapolis Airport





Technology in Psychology *Hardware*

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Technology in Psychology *Hardware*

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Technology in Psychology *Software*

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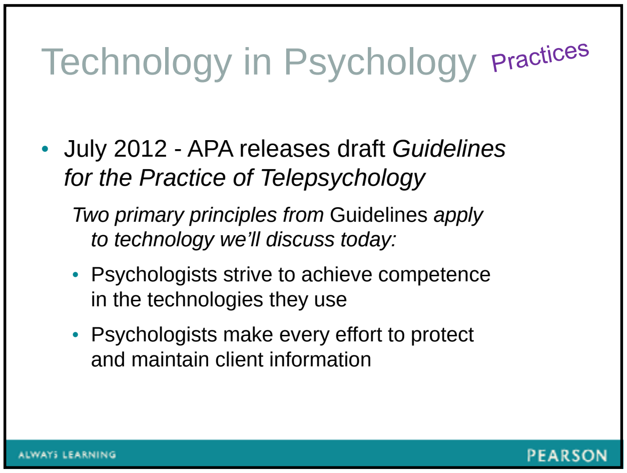

Technology in Psychology *Practices*

- July 2012 - APA releases draft *Guidelines for the Practice of Telepsychology*

  Two primary principles from Guidelines *apply to technology we'll discuss today:*

  - Psychologists strive to achieve competence in the technologies they use
  - Psychologists make every effort to protect and maintain client information

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Changing Times

The Paper/Pencil World

vs.

The Digital World

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What is Q-interactive?

(and why should I care)

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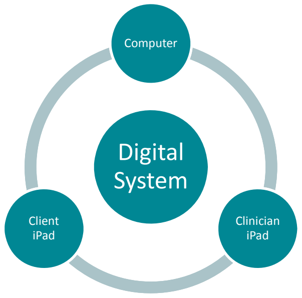
Q-interactive is a . . .

- Comprehensive digital assessment system
  - Where you can create client-centric batteries at both the instrument and subtest level
- Time-saving tool that provides:
  - Computer-adaptive testing
  - Real time scoring
  - Administration accuracy and speed
- Game-changer in individually-administered clinical assessments

Q-interactive is a Platform

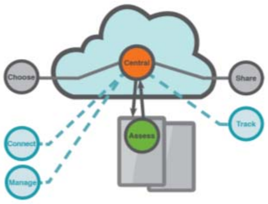


Q-interactive

Digital platform with two primary components

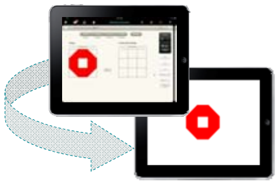
Q-i CENTRAL

Browser-based function for generating client profiles, building test batteries, creating assessment sessions, and sharing results



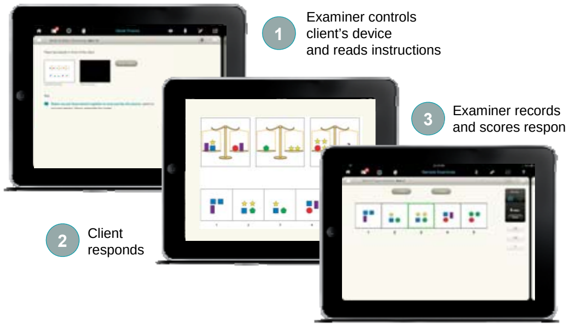
Q-i ASSESS

Application that lets an examiner administer a test via two tablets connected by Bluetooth



Q-interactive

Q-i Assess Process



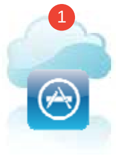
1 Examiner controls client's device and reads instructions

2 Client responds

3 Examiner records and scores responses

How Does it Work?

1



Access iTunes App Store to download free Q-interactive Assess app

2

Log into app using Q-interactive ID

3

Test content is delivered to the device upon authentication by the Q-interactive web application

System retrieves content based on user ID and corresponding qualifications

4

Data are stored securely using encryption on the iOS file system

Q-interactive is Ready When You Are

Portability
Traditional Assessment World

MEMORY & LEARNING

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Portability
Digital Assessment World

Lightweight

Easy to set up
and administer

Minimal
test components

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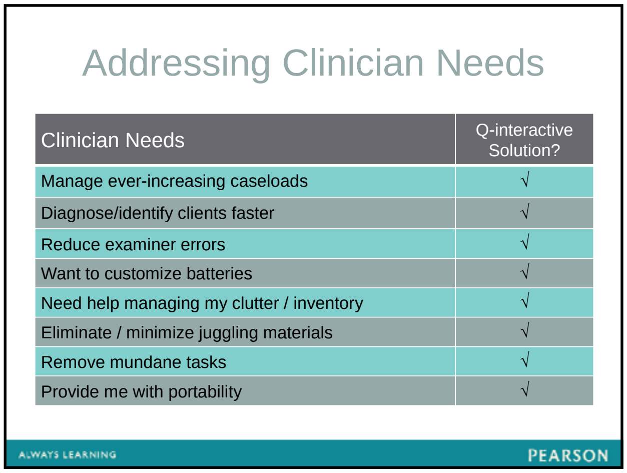

Addressing Clinician Needs

Clinician Needs	Q-interactive Solution?
Manage ever-increasing caseloads	√
Diagnose/identify clients faster	√
Reduce examiner errors	√
Want to customize batteries	√
Need help managing my clutter / inventory	√
Eliminate / minimize juggling materials	√
Remove mundane tasks	√
Provide me with portability	√

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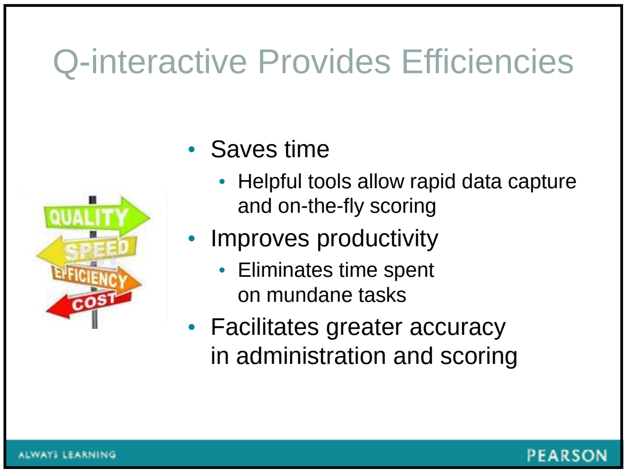

Q-interactive Provides Efficiencies

- Saves time
  - Helpful tools allow rapid data capture and on-the-fly scoring
- Improves productivity
  - Eliminates time spent on mundane tasks
- Facilitates greater accuracy in administration and scoring

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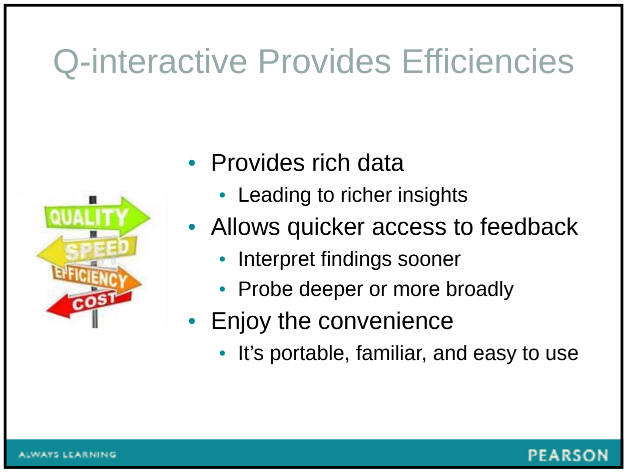

Q-interactive Provides Efficiencies

- Provides rich data
  - Leading to richer insights
- Allows quicker access to feedback
  - Interpret findings sooner
  - Probe deeper or more broadly
- Enjoy the convenience
  - It's portable, familiar, and easy to use

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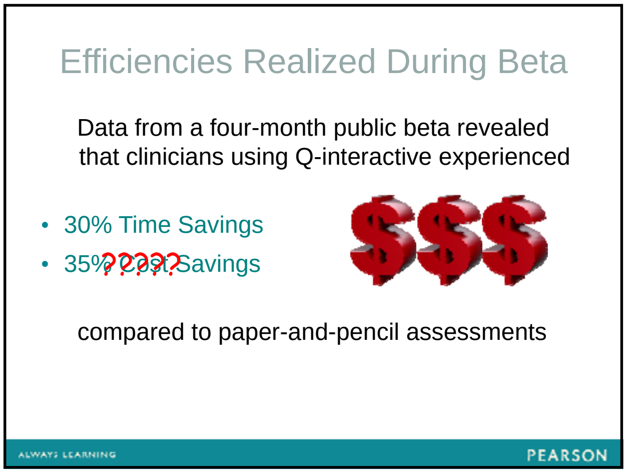

Efficiencies Realized During Beta

Data from a four-month public beta revealed that clinicians using Q-interactive experienced

- 30% Time Savings
- 35% ????? Cost Savings

compared to paper-and-pencil assessments

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Development of Q-interactive

Goal

Dramatically improve the assessment experience
by incorporating innovative technology
and a user interface
that deliver on core values:

- Efficiency
- Access
- Clinical Utility
- Accuracy
- Ease of Use
- Portability

And result in:

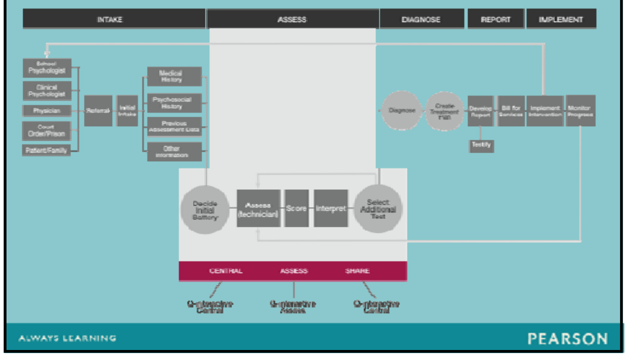
A digital assessment platform that is intuitive, innovative, and enables clinicians to be clinicians

Customers Have Been Involved Throughout Development

Development Overview

- Gain a deep understanding of clinician workflow
- Design iterations involving:
  - Clinicians
  - User interface experts
  - Psychologists
  - Test authors
- Equivalency testing
- Beta testing

Workflow
# of the Assessment Process


INTAKE
ASSESS
DIAGNOSE
REPORT
IMPLEMENT
School Psychologist
Clinical Psychologist
Physician
Court Order/Prison
Patient/Family
Referral
Initial Intake
Medical History
Psychosocial History
Previous Assessment Data
Other information
Diagnose
Create Treatment Plan
Develop Report
Bill for Services
Implement Intervention
Monitor Progress
Testify
Decide Initial Battery
Assess (technician)
Score
Interpret
Select Additional Test
CENTRAL
ASSESS
SHARE
Q-interactive Central
Q-interactive Assess
Q-interactive Central

Guiding Principles

N
W E
S

- Keep me (clinician) in control
- Let me focus on my client
  - Don't allow technology to become a barrier
- Save me time
- Assist with proper administration
- Needs to feel familiar, but make it better
  - Capture flexibility is key
- Keep it simple
- Equivalency matters
  - When migrating existing content

Development and Design

Overview of Current Goals

- Ultimate goal is to provide tests that:
  - Are designed for the digital system
  - Utilize the full potential of digital devices to deliver new scores, constructs, etc.
- However, all tests in initial release are pre-existing paper products
- Thus, initial design is intentionally conservative to preserve current response processes and enable use of existing paper-pencil norms
  - E.g., manipulatives (such as blocks) and response booklets are retained

---

Development and Design

Two Primary Steps in Current Development Process

1. Design tests in a way that minimizes digital effects
   - Group tests based on common features
   - Identify how particular features might impact raw scores
   - Develop interfaces for each ‘group’ that minimize those impacts
2. Conduct studies to establish raw score equivalency between paper and digital versions
   - Verify that goals in Step 1 are being realized
   - Allow for use of pre-existing norms, as well as reliability and validity information

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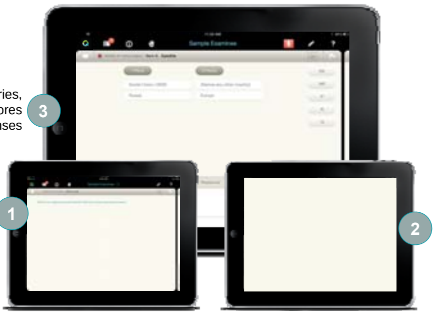
Q-interactive Screen Types

Verbal Picklist (e.g., WAIS-IV Information)



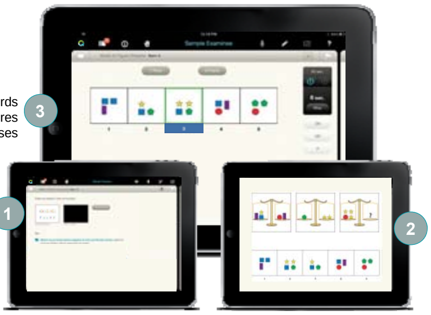
Examiner queries, records and scores responses ③

Examiner reads the item ①

② Client screen blank

Q-interactive Screen Types

Select Images (e.g., WAIS-IV Figure Weights)



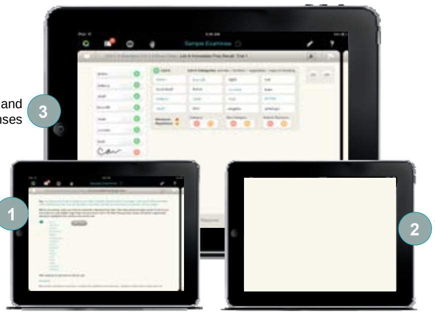
Examiner records and scores responses ③

Examiner controls client’s device and reads instructions ①

② Client responds

Q-interactive Screen Types

Word List Generation (e.g., CVLT-II)



Examiner records and scores responses ③

Examiner reads the instructions and list of words ①

② Client screen blank

Test Design

Why is it important to group tests based on features?

- Consistent interface design provides continuity for test user
  - Reduces learning curve
- Helps focus equivalency study design on areas of concern

  Study designs depend in part on:
  - Extent to which digital interface alters interactions with test content
  - Whether changes are primarily seen on examiner or examinee device
- Provides opportunity to generalize equivalency results to future tests in the same design ‘group’

Test Design

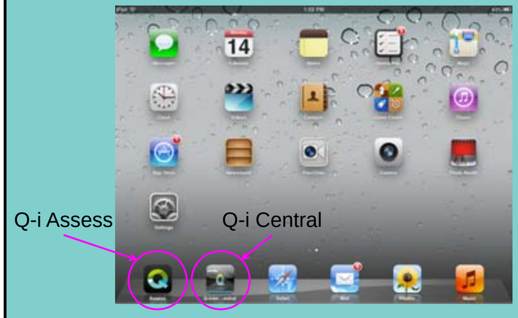
What are the potential causes of digital effects?

- Examinee interaction with the tablet
  - E.g., viewing stimuli, selecting responses, etc.
- Examiner interaction with the tablet
  - E.g., recording or scoring responses, accessing information for instructions, prompts, etc.
- Interactions of the first two
  - In early prototype, keyboard used for verbal response capture
    - Examinees would truncate responses to “help” slower examiners

Assessments Now Available

WISC-IV	Full Battery	WMS-IV	Full Battery
WAIS-IV	Full Battery		
WIAT-III	Full Battery		
NEPSY-II	7 Subtests: Animal Sorting, Inhibition, Word Generation, Memory for Design, Fingertip Tapping, Design Copying, Picture Puzzles		
D-KEFS	4 Subtests: Trail Making Test, Verbal Fluency, Design Fluency, Color Word Interference Test		
CMS	2 Subtests: Dot Locations, Picture Locations		
CVLT-C	Full Battery		
CVLT-II	Full Battery		

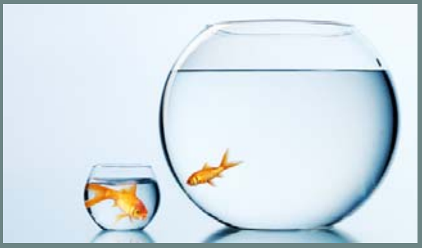
Let’s go live!



Going live!

Q-i Central
14

Psychometric Studies



Psychometric Support

> *“If a test is designed so that more than one method can be used for administration or for recording responses…then the manual should clearly document the extent to which scores arising from these methods are interchangeable. If the results are not interchangeable, this fact should be reported, and guidance should be given for the interpretation of scores obtained under the various conditions or methods of administration.”*

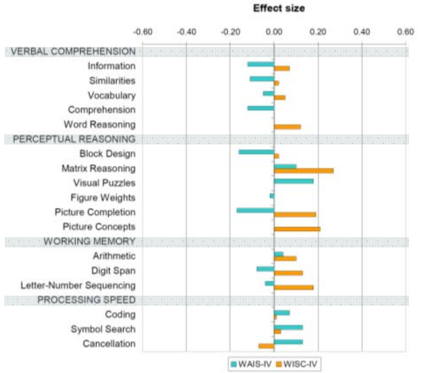
Standard 6.11, *Standards for Educational and Psychological Testing (1999).*

Equivalency Studies

Process

- Develop efficient study designs
  - Choice dependent on interface, test constructs, etc.
- Set a standard for equivalence:
  - Effect size < .20
    - Slightly more than ½ scaled score point on Wechsler subtests
- Extensive training of examiners
- Video recording of data collection
- Investigations of any observed format effects:
  - Deeper dive into data
  - Review videos for changes in examinee or examiner behavior
  - Analyze user interface for potential problems

WAIS-IV & WISC-IV



Summary of Equivalency

Implications of Results

- In general, digital presentation did not affect performance of nonclinical examinees on these tests
- Small benefit of digital presentation for children on WISC-IV Matrix Reasoning and Picture Concepts
- These effects should be kept in mind when interpreting results, but no score adjustment recommended
  - Overall effects on subtests very low
    - .5 - .75 scaled score points
  - Impact on index scores and FSIQ minimal
    - 0.1 point lower on WAIS-IV
    - 1.5 points higher on WISC-IV

Summary of Equivalency

Lessons Learned and Future Directions

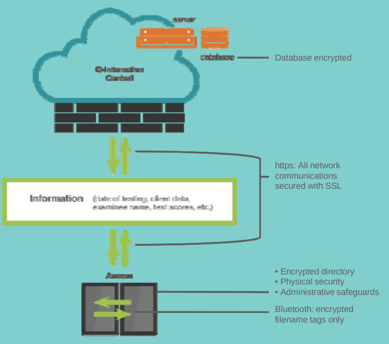
- Training is important
  - Examiners found digital format easy to learn, but needed multiple practice administrations to become proficient
- Once proficient, digital administrations were efficient and accurate
  - Supports hypothesized benefits of computer-assisted administration
- Study methodology was robust across samples and designs
  - Suggests that in the future, these findings can be generalized to tests that share common design features

Lessons from Beta

- Practice, practice, practice!
  - System user-friendly and intuitive, but . . .
  - No replacement for hands-on experience
- Individuals vary in:
  - Level of comfort with technology
  - Training needs
- Institutions often have specialized technical requirements that are important to understand

Security

Q-interactive Security


server
database
Q-interactive Central
Information (date of testing, client data, examinee name, test scores, etc.)
Assess

Database encrypted

https: All network communications secured with SSL

- Encrypted directory
- Physical security
- Administrative safeguards

Bluetooth: encrypted filename tags only

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Q-interactive Security

Safeguards are in place at every level:

When you access the system:	The "https" Q-interactive site and its database are password protected
During administration:	Data is saved in an encrypted directory on the iPad
Through secure transmission:	Q-interactive periodically syncs encrypted data from encrypted iPad directory to web application over a secure industry-standard Secure Socket Layer (SSL) internet connection
With stored data:	Pearson dedicated hosting facility protects data via encryption, physical security, and administrative safeguards

Details available in white paper at:
http://www.helloq.com/content/dam/ped/ani/us/helloq/media/White%20Paper_Q-interactive%20Data%20Security_061413.pdf

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Q-interactive Security

- Compliant with:
  - HIPAA
  - FERPA
  - HITECH Act

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New Content Schedule

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Coming in 2014

WPPSI-IV
WECHSLER PRESCHOOL AND PRIMARY SCALE OF INTELLIGENCE — FOURTH EDITION

PPVT4

KTEA-3

WISC-V

Including digital-only subtests

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WISC-V Digital-Only Content

- Digitally native subtests
  - Visual working memory
    - Spatial Span
    - Location Recall
  - Reaction time
    - Simple Reaction Time
    - Choice Reaction Time
- Additional scores
  - Complex processing speed: latency and response times from various subtests
  - Intra-individual variability on processing speed tasks

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Speech and Language Measures (2014)

CELF5
Clinical Evaluation of Language Fundamentals

PPVT4

Goldman Fristoe 2
Test of Articulation

EVT2
Expressive Vocabulary Test, Second Edition

Hardware Requirements

What You Need

- Two (2) Apple® full-size iPads® (iPad 2 or newer)
- One (1) capacitive-enabled stylus

Recommended for an optimal experience:

- Computer with internet access (for Q-i Central)
- Antiglare screen covers
- Durable protective cases
- Home button cover for client iPad

Pricing

Q-interactive Pricing

Two Components to Price

Platform Access (License)	**Content Usage**
-Digital delivery of assessment -On-the-fly scoring -Platform features -Data storage	-Assessment/subtest administrations -Scores and normative data -Administration and scoring information

Annual License Includes . . .

- Free Starter Kits
  - Contain all of consumables necessary to administer subtests
- Unlimited usage for 30 days
  - Initiated with sending of Q-i Welcome Email
- Free access to new assessments for first 30 days they are available on Q-i
- Access to NEPSY-II and Children's Memory Scale
  - Charged only for subtest administration
- Training
  - Including webinars, videos, and helpful tips
- Unlimited access to Tech Support
- Data storage within Pearson's secure Q-i environment

Individual License Pricing (Private Practitioners)

- Total cost based on Access + Usage
- Pricing is based on:
  - Number of test measures (instruments) you can access
  - Annual subtest usage

Individual License Access Pricing

Annual License

INDIVIDUAL LICENSE

	“C” LEVEL PSYCHOLOGICAL TESTS		
COST PER USER	1-3 INSTRUMENTS	4-6 INSTRUMENTS	7-10 INSTRUMENTS
EACH USER	$200	$250	$300

- Includes free Starter Kits

Individual License Usage Pricing

Subtest Options

Pay-as-you-go, billed monthly	Cost per subtest
Academic Assessments (WIAT-III, KTEA-3)	$0.75
Comprehensive Assessments (WISC-IV, WAIS-IV, NEPSY-II, D-KEFS, CELF-5, etc.)	$1.50
Large, Single Assessments (CVLT-II, CVLT-C, PPVT-4, GFTA-2)	$4.50

Site License Pricing (School Districts)

- Like Individual License, total cost based on Access + Usage
- Pricing is based on:
  - **Number of users**
  - Number of test measures (instruments) you can access
  - Annual subtest usage **(volume pricing)**

Site License Access Pricing

Annual License

SITE LICENSE

	“C” LEVEL PSYCHOLOGICAL TESTS		
COST PER USER	1-3 INSTRUMENTS	4-6 INSTRUMENTS	7-10 INSTRUMENTS
1 – 4 USERS	$200	$250	$300
5 – 24 USERS	$175	$225	$275
25+ USERS	$150	$200	$250

- Includes free Starter Kits for each user

Site License Usage Pricing

Subtest Options

Prepay annually for volume pricing	Cost per subtest
You should estimate your annual subtest usage based on your administration history for all users of the site license. A good guideline is 10 subtests per comprehensive instrument. Please note that "Large, Single Assessments" will be equivalent to 3 subtests and "Academic Assessments" will be equivalent to .5 (or 1/2) of a subtest.	
Up to 750 subtests	$1.50
Up to 5,000 subtests	$1.25
5,001 subtests and above	$1.00

Q-interactive Training Tools

- Webinar series
  - Basics of Q-interactive and proper iPad settings
  - Setting up clients and batteries in Q-interactive Central
  - Assessing clients with Q-interactive
  - Reviewing scores, archiving, and exporting data
- On-your-own video tutorials
  - At www.qiactive.com
  - On Support tab of Q-i Central
- User Guide
  - For step-by-step overview of Q-interactive

Your Turn!

Possibly Helpful Mnemonics

EPPP

- Everybody need to practice
- Practice administrating Q-interactive
- Practice taking notes with stylus
- Practice scoring, archiving, integrating results

Administration Mnemonic

PTSD

- Picture
- Timer
- Swipe
- Document
  - Time
  - Score
  - Notes

Need more information?

John A. Hanson, Ph.D. LP
QI Assessment Consultant
john.a.hanson@pearson.com
715.410.0576

Learn more about Q-interactive
at:
www.HelloQ.com/home

WISCONSIN SCHOOL PSYCHOLOGISTS ASSOCIATION

WSPA Student Session"You're hired!": Tips to a Successful First Year as a School Psychologist

Student Session

C. Neddenriep

2014

SPRING CONVENTION; Baraboo, WI

I. Planning for Your Internship Year

A. Question: How did you prepare to enter the job market?

B. Question: Who did you ask to write letters of recommendation for you?

II. Finding an Internship

A. Question: What strategies did you use to find an internship? Which were most effective?

B. Question: What things might an applicant want to consider in choosing to apply to various districts?

C. Question: When are jobs typically posted?

D. Question: What were some of the challenges you encountered when applying for internships/jobs?

E. *Question: What do you wish you had known when you were applying for internships?*

III. The Interview:

A. *Question: When you think of a successful interview that you had, what contributed to your success?*

B. *Question: What are employers looking for in the candidates they interview?*

C. *Question: What questions should I be prepared to answer? (See potential interview questions at the end of this handout.)*

D. *Question: What can I do to make myself stand out from other applicants?*

E. *Question: What types of experiences should I be sure to highlight in the interview?*

F. *Question: What kind of reports should I include in an interview portfolio?*

G. *Question: What are some questions you asked of the employer (or wished you would have asked) at the interview? (See potential questions to ask employer at the end of this handout.)*

IV. Accepting an Offer

A. *Question: What considerations should enter into my decision making with regard to an offer of employment?*

B. *Question: What contributed to your success on the job as an intern?*

V. Additional Questions:

A. *What did you feel unprepared to do when you started your internship?*

B. *What were you most surprised about during your internship?*

C. *How have you overcome teacher resistance to changes in education (RtI)?*

D. *When did you feel confident in your position as a school psychologist?*

Potential Interview Questions: School Psychology

1. What aspects of this position are most attractive to you?
2. What do you personally see as the most challenging aspects of this position?
3. What skills do you have (both personally and professionally) that would contribute to our school district?
4. Why should we hire you over other equally qualified candidates?
5. What strategies/techniques are you familiar with to assist a student who has difficulty reading? Writing? Completing math problems?
6. Describe your approach to consultation.
7. How would you handle a parent request for testing that you believe is unnecessary or inappropriate?
8. With what kind of student do you like to work the most?
9. With what kind of student do you like to work the least?
10. Think about a problem you experienced during practicum. How did you resolve it?
11. Describe your role with regard to assessment of mental health.
12. Describe your role with regard to curriculum development.
13. Our teachers are expressing reservations about the RtI process. How do you view the role of the school psychologist within an RtI model? How would you explain your role to staff?
14. How do you view your role as a counselor? How would you negotiate your role with the counselors in your buildings?
15. Describe your experience working with diverse cultural groups.

Potential Questions to Ask of Potential Employers?

1. What opportunities are there to participate in professional development activities?
2. What is the typical number of schools (or students) served by each psychologist?
3. Describe the working relationship among school psychologists in the district.
4. How are the school psychologists typically viewed in the school?
5. What resources are available to support my work (e.g., staff, computers, office)? What allowances are provided for supplies and materials?
6. What are some of the initiatives the district is working toward?
7. What advancement opportunities are available to me as a school psychologist?
8. What would a typical day look like in your district as a school psychologist?
9. What are the opportunities for future growth in this community and its schools?
10. How are parents involved in your school?

Practical Strategies for School Psychologists Presenting Systems-Level Data

2014 WSPA Spring Convention
March 27, 2014

Dan Hyson, Ph.D., NCSP
Data Management Coordinator
Hiawatha Valley Education District
Winona, MN

Agenda

1. What questions were you hoping I would address?
2. What roles can school psychologists play in presenting systems-level data?
3. How can technology tools help school psychologists in fulfilling these roles?
    a. Microsoft Excel, Power Point and Word
    b. Data management systems and data warehouses
4. What key issues should school psychologists consider in creating systems-level data presentations?
5. How may effective use of systems-level data contribute to a decrease in the number of students identified with learning disabilities?
6. Questions?

Objectives

Attendees will come away from this presentation:

1. Being able to use Microsoft Excel, Word and Power Point, and data management and warehouse systems, to more quickly and easily create systems-level data presentations that they can share with teachers, other Specialized Instructional Support Personnel (SISP), administrators and school board members.
2. Understanding key issues they should consider in creating these presentations so that they are user-friendly, build the capacity of users to be able to access and use data more independently in the future, can best be understood within the context of systems-level initiatives and school improvement goals currently in place within a school or district, and can contribute to meaningful change in instruction.

1. What questions were you hoping I would address?

2. What roles can school psychologists play in presenting systems-level data?

- Integrated within several domains of NASP Practice Model
- 2 primary roles
    - Facilitation of systems-level problem solving
        - Data displays should tell story
        - Problem solving model provides story-telling framework (Tilly, 2002)
            - Can be used just as effectively at systems level as at individual student level
    - Assessment role within RtI system

Integrated within several domains of NASP Practice Model

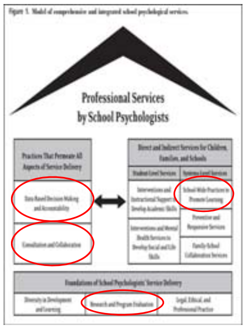
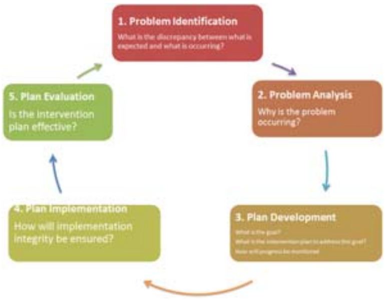


Figure 1. Model of comprehensive and integrated school psychological services.
Professional Services by School Psychologists
Practices That Permeate All Aspects of Service Delivery
Data-Based Decision Making and Accountability
Consultation and Collaboration
Direct and Indirect Services for Children, Families, and Schools
Student-Level Services
Systems-Level Services
Interventions and Instructional Support to Develop Academic Skills
Interventions and Mental Health Services to Develop Social and Life Skills
School-Wide Practices to Promote Learning
Preventive and Responsive Services
Family–School Collaboration Services
Foundations of School Psychologists' Service Delivery
Diversity in Development and Learning
Research and Program Evaluation
Legal, Ethical, and Professional Practice

Facilitation of systems-level problem-solving


1. Problem Identification
What is the discrepancy between what is expected and what is occurring?
2. Problem Analysis
Why is the problem occurring?
3. Plan Development
4. Plan Implementation
How will implementation integrity be ensured?
5. Plan Evaluation
Is the intervention plan effective?

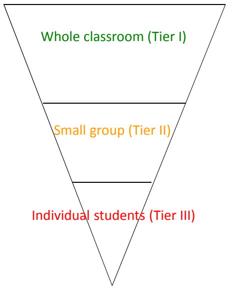
Assessment role within RtI system

Assessment

- Screen all students at least 2-3 times/year
- If Tier I curriculum meeting needs of most students, use results of screenings to identify students not responding to Tier I curriculum

- Monitor progress of those students not responding more frequently (at least 1x/month)
- Using the results of this strategic monitoring, identify students still not responding to Tier II interventions

- Monitor progress of students not responding more frequently (at least 1x/week)
- Using the results of this progress monitoring, identify students still not responding to Tier III interventions


Whole classroom (Tier I)
Small group (Tier II)
Individual students (Tier III)

Intervention

- Ensure that Tier I curriculum meeting needs of most students (ideally 80-90%)
- Monitor integrity of implementation of Tier I curriculum

- Implement Tier II interventions with students not responding to Tier I curriculum
- Monitor integrity of implementation of Tier II interventions

- Implement Tier III interventions with students not responding to Tier II interventions
- Monitor integrity of implementation of Tier III interventions

---

3. How can technology tools help school psychologists in fulfilling these roles?

a. Microsoft Excel, Power Point and Word
b. Data management systems and data warehouses

Sample file

- Download from conference handouts webpage
- De-identified AIMSweb Winter screening data

NOTE

- I will be demonstrating the use of features in the Office 2010 for PC version of Microsoft Excel.
- If you use either Office 2007 or the beta version of Office 2013 for PC, the features should be very similar.
- If you use Office 2011 for mac, below is a link that explains some of the features I will be discussing and how to access them using that version of Microsoft Excel: http://www.microsoft.com/mac/excel/whats-new

---

Microsoft Excel

- Simple features that will ***make your systems-level data management life easier***
  - Re-orienting column headers
  - Freezing panes
  - Filtering
  - Sorting
  - Formulas
  - Conditional Formatting
- Another feature that will ***change your life*** (!)---at least in terms of systems-level data management ☺
  - Pivot tables and charts

Pivot tables and charts

- Selecting data
- Adding fields to table
- Creating a chart
- Pivoting
- Formatting the chart

Inserting pivot charts and graphs from other sources into Microsoft Word or Power Point documents

- Copying
- Pasting
- Resizing
- Cropping

4. What key issues should school psychologists consider in creating systems-level data presentations?

- One example of a systems-level data presentation: Hiawatha Valley Education District's (MN) yearly ***"Data Book Power Points"***

4. What key issues should school psychologists consider in creating systems-level data presentations?

Effective presentations should:

- Be ***user-friendly*** for school psychologists to create and for consumers to understand and use
- ***Build capacity*** of consumers to access and interpret the data themselves in the future
- Include ***key questions and systems-level goals*** to guide interpretation
- Highlight ***connections among assessment, intervention and problem-solving and system organization***

User-friendly

- Create in Power Point so can easily present to staff, school board, community
- Include hyperlinks within Table of Contents so can easily locate section addressing specific question

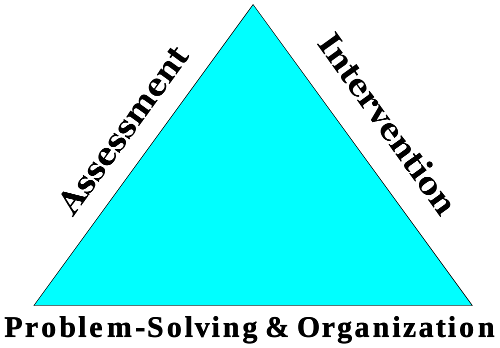
Build capacity

- Primarily include data displays users have access to themselves
- Add links to directions, recorded webinars
- Don't interpret data for them

Key questions and systems-level goals

- Frame data with guiding questions
- Review functions of assessment within comprehensive assessment system
- Include activity to help review own assessment system
- Insert RtI-related 80% proficiency goal line in graphs

Connections among assessment, intervention and problem-solving and system organization (Bollman et al., 2007)



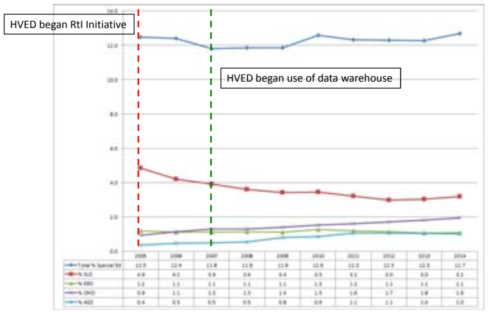
Connections among assessment, intervention and problem-solving and system organization

- Share recommendations for data teaming, link to recorded webinar
- Include links to intervention resources connected with assessment data
- Suggest key questions to ask in interpreting data, identifying appropriate interventions

5. How may effective use of systems-level data contribute to a decrease in the number of students identified with learning disabilities?

- Special Education child count in HVED member districts since implementation of RtI and increase in use of technology tools for systems-level data driven-decision-making

HVED percent of students identified with learning disabilities 2005-2014



UNANSWERED QUESTIONS: How might data on the problem solving process help us explain this trend?

- How many students were referred to problem solving teams?
- How many demonstrated significant progress in response to Tier 2 or Tier 3 interventions?
- How long did students receive Tier 2 or Tier 3 interventions?
- How many students were eventually referred for Special Education evaluation?
- How many students were identified as eligible for Special Education services?

6. Questions?

Contact information

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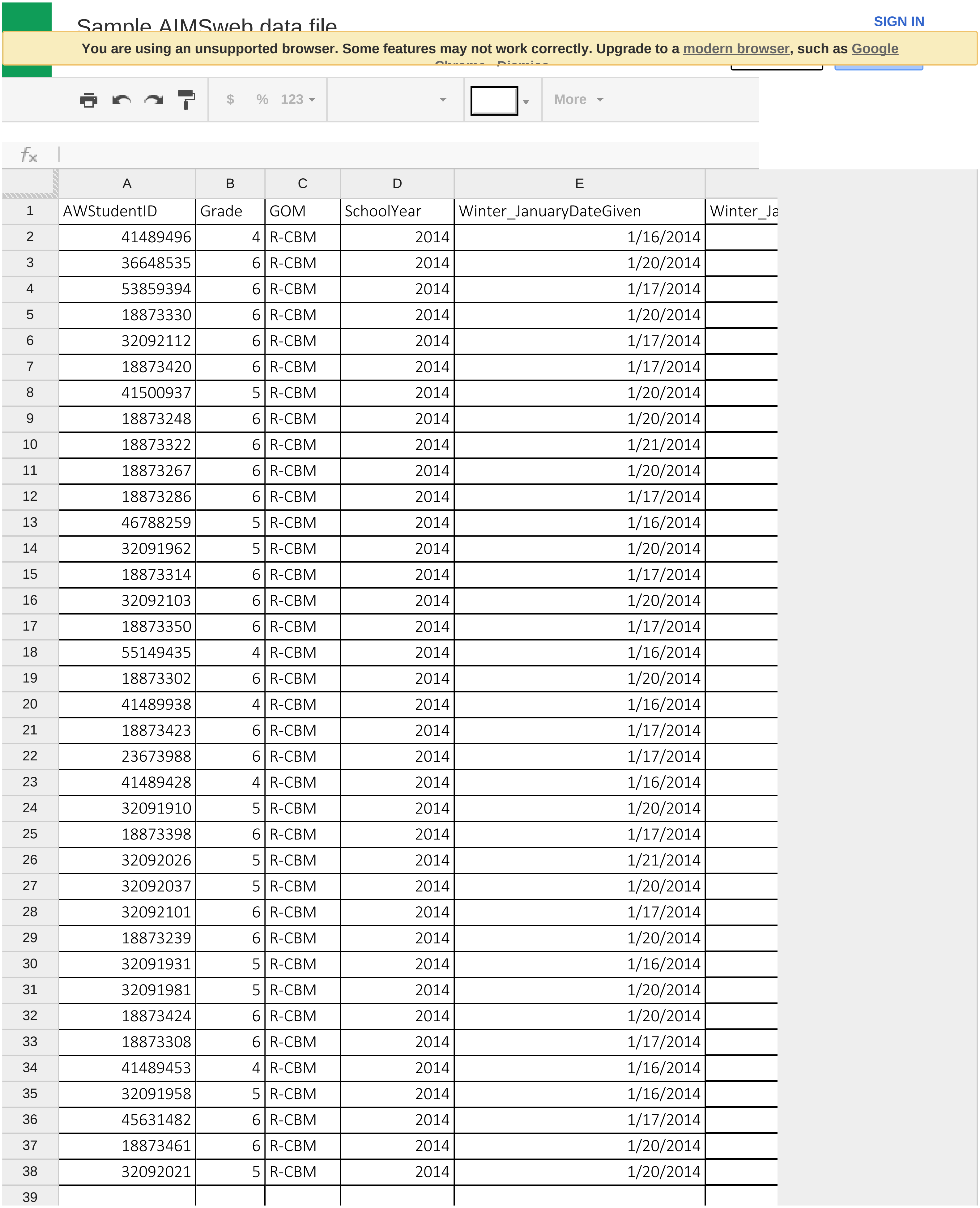
Data Management section of HVED website: *www.hved.org/index.php/programs-services/data-management*

Editing of Google Docs presentations is not supported in your browser. Learn more Dismiss

2013 Data Book Power Point

Dan Hyson
HVED Data Management Coordinator

* NOTE: To access Internet hyperlinks included, must view Power Point in slide show format and have Internet access



You are using an unsupported browser. Some features may not work correctly. Upgrade to a modern browser, such as Google

	A	B	C	D	E	
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3	36648535	6	R-CBM	2014	1/20/2014	
4	53859394	6	R-CBM	2014	1/17/2014	
5	18873330	6	R-CBM	2014	1/20/2014	
6	32092112	6	R-CBM	2014	1/17/2014	
7	18873420	6	R-CBM	2014	1/17/2014	
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9	18873248	6	R-CBM	2014	1/20/2014	
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100	41489410	4	R-CBM	2014	1/16/2014	

Sheet 1

Microsoft Excel

Simple features that will make your systems-level data management life easier

2010 Version

I. Re-orienting column headers

A. Allows you to adjust all the column headers at once. This is useful when you are unable to read the entire header, or it is taking up too much space on the data sheet.
   (a) Highlight entire header row.
   (b) Click on Home tab.
   (c) Click Format.
   (d) Click Format Cells in the dropdown menu.
   (e) Choose Alignment.
   (f) Click and drag horizontal line to right of word “text” until word “text” is aligned the way you want headers aligned (e.g., diagonal, vertical).
   (g) Click in the “unlabeled” cell in the top left corner (in between the 1 & A cells). This should highlight everything on the spread sheet.
   (h) Next, go in between column “A” & “B” and hover over the divider line until you get a symbol which looks like a double sided arrow with a line between it.
   (i) Finally, double click on that symbol. This will adjust all the column headers so that the cells fit tight around the word(s) inside.

II. Freezing panes

A. Freeze panes locks columns or rows so that they are constantly visible to the user on screen. This tool is especially useful when dealing with large data sets.

B. Freezing first column/top row:
   (a) Go to the tab labeled VIEW and in the center there is a button labeled “freeze panes,” click on it.
      1. To freeze the first column, click on the bottom option, labeled as such.
      2. If you wish to freeze the top row, click on the center option.

C. Freezing other columns/rows:
   (a) Highlight the entire column to the RIGHT of the column you wish to freeze or highlight the entire row BELOW the row you wish to freeze.
   (b) Click on the VIEW tab. Then, click on the button labeled “freeze panes” and select the first option-freeze panes. This will freeze everything to the right or above the column or row that you selected.

D. Simultaneously freeze rows and columns:
   (a) Select the cell below the row you wish to freeze and to the right of the column you wish to freeze. Do NOT select an entire row or column, only a single cell.
   (b) Then, go to the tab labeled VIEW, select the button labeled “freeze panes,” and then click freeze panes. Now, a column and row are frozen.

E. To “unfreeze” columns or rows:
   (a) Make sure you are still in the VIEW tool bar, select freeze panes again. Then, click “unfreeze panes.” This will unfreeze the panes that you had frozen.

III. Filtering

A. Allows you to view or create different subsets of your original data quickly. It also allows you to sort by ascending, descending, and/or color.
   (a) Go to the DATA tab, click on filter and then click Filter. Now, in the header of each column you should see a drop down arrow.
   (b) Clicking on the drop down arrow will allow you to see every value within that column. By un-checking the boxes next to any of the values, you can temporarily hide rows with those values within the data set.
   (c) This also allows you to check your data to see if you have any unexpected out-of-range values or missing data.
   (d) To remove filtering, click Filter again.

IV. Sorting

A. This allows you to change the order of your data set so that it is easier for you to find a particular student's name or score.
   (a) First, highlight all of the data by clicking in the cell in the top lefthand corner of the workbook, between the A and 1 cells.
   (b) Then, go to DATA and click on "Sort".
   (c) Using the drop down menus in the new window that appears, chose which column(s) you would like to sort by.
   (d) Next, chose whether you would like to sort the column ascending/A to Z or descending/Z to A.
   (e) Finally click "OK" and the data will sort.

WSPA Student Poster Session
Wisconsin Dells, WI
March 27, 2014

Name:	Margaret R. Altschaefl
Program:	University of Wisconsin- Madison
Faculty Advisor:	Dr. Thomas R. Kratochwill
Contact Information:	altschaefl@wisc.edu

Title: **Promoting Treatment Integrity of Parent- and Teacher-delivered Math Fluency Interventions: An Adult Behavior Change Intervention**

Treatment integrity is the extent to which an intervention is implemented as planned. Research with teachers has shown decreasing trends in treatment integrity within days of initiating interventions, and limited data show similar trends with parent tutoring interventions. Accurate implementation and meaningful parent involvement increase the likelihood of student academic success. Implementation Planning, an adult behavior change intervention from the health psychology literature, is currently being used to support teacher and parent implementation of a math fluency intervention in the context of Conjoint Problem-Solving Consultation and evaluated with a multiple baseline single-case design. Implications for evidence-based intervention implementation are discussed.

……………………..

Name:	Danica Ashbeck
Program:	University of Wisconsin- Whitewater
Faculty Advisor:	Dr. Christine Neddenriep
Contact Information:	joostenDF26@uww.edu

Title: **Early Literacy and the Connection to Spelling: Using Sound Partners to Improve Reading and Spelling**

Literacy is a concern across the United States as more children are failing to meet the goal of being able to read at a proficient reading level or higher. This study will use 3 first-grade students who were found to be at-risk based on screening. Sound Partners will then be implemented and progress will be monitored through the use of AIMSweb Test of Early Literacy and a Spelling Curriculum-Based Measure. My hypothesis is that the use of Sound Partners will not only improve the early literacy ability of first-grade students who are struggling, but will also improve their spelling ability.

……………………..

Name: Nina Bild
Program: University of Wisconsin- Whitewater
Faculty Advisor: Dr. Tracey Scherr
Contact Information: Bildnc07@uww.edu

Title: **The Relationship Between Immigration and Bullying in a Midwestern School**

Children who are bullied due to targets of prejudice such as race, religion, gender, disability, or sexual orientation are often at higher risk for mental health and substance abuse issues compared to other bullied children. One group that has been largely ignored in bullying research, however, is students of immigrant status. Through a survey, the present study seeks to better understand the relationship between student immigrant status and bullying. Participants will be 4th-8th grade students in an urban Midwestern school with a significant population of students of immigrant status.

……………………

Name: Rosie Bliss
Program: University of Wisconsin- Whitewater
Faculty Advisor: Dr. Christine Neddenriep
Contact Information: blissm02@uww.edu

Title: **Video Modeling as an Intervention for Children with Autism Spectrum Disorders**

Research shows that video modeling is an evidence-based intervention for individuals with autism spectrum disorders. Video modeling effectively helps individuals with autism to learn functional life skills, as well as conversation and social skills. Video modeling is cost-effective, time-effective, and is generally easy to implement. This research uses a single-case, multiple-baseline across behaviors design to evaluate the effectiveness of The Model Me Kids video series as a commercially-made video modeling intervention. Participants will be evaluated on the frequencies in which they use the skills that were modeled in the video clips.

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Name:	Leah M. Bortz
Program:	University of Wisconsin- Whitewater
Faculty Advisor:	Dr. Kimberly Knesting-Lund
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Title: **Student and Teacher Perceptions of Social Support for LGBTQ Students**

Lack of support and understanding is linked to higher rates of bullying and discrimination toward lesbian, gay, bisexual, transgender, and questioning (LGBTQ) students propagated by students and teachers. The mismatch of perceptions could result in less effective educational strategies, lower rapport between staff and students, and lower levels of comfort in schools. This research will address the possible mismatch of perceptions between these groups in a single school district. Results of this study could increase understanding of how the perceptions of teachers and students relate in order educate and add support programs for LGBTQ students and staff in the school.

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Name:	Megan Galdes
Program:	University of Wisconsin- La Crosse
Faculty Advisor:	Dr. Jocelyn H. Newton
Contact Information:	galdes.mega@uwlax.edu

Title: **Consultation Skills of School Psychologists: Impacting Teacher RtI Practices**

As the RtI model of service delivery becomes widely used, it is critical that School Psychologists adapt to meet the changing demands of their role. This study examined the predictive relationship between school psychologists' consultation skills and teacher RtI beliefs. This study aimed to increase knowledge about teacher buy-in for the RtI process by highlighting effective consultation strategies. Results will help school psychologists gain knowledge about how to best provide support within a RtI framework.

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Name:	Lucas Gerber
Program:	University of Wisconsin- La Crosse
Faculty Advisor:	Dr. Robert Dixon
Contact Information:	gerber.luca@uwlax.edu

Title: **An examination of teachers' acceptance to consultation with school psychologists**

There is a considerable need to identify and implement interventions to help students succeed within the classroom. The effectiveness of these interventions often depends greatly on the consultation relationships between the school psychologists and teachers within the schools. This study examines the characteristics that teachers find most effective in school psychology consultation in order to better meet the problem solving needs of the teachers. Implications for educators and school psychologists will be discussed.

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Name:	Katie Goulet
Program:	University of Wisconsin- La Crosse
Faculty Advisor:	Dr. Jocelyn Newton
Contact Information:	goulet.kati@uwlax.edu

Title: **The Reading Gender Gap: Influences of Parent Gender-Role Stereotypes**

Early literacy skill development is critical to later academic outcomes. One factor that may impact early literacy development is the endorsement of parent gender-role stereotypes. This study will examine whether children's early literacy skills differ significantly as a function of their gender and/or parent's gender-role stereotypes. Study results will provide implications for School Psychologists working with parents and their children.

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Name: Brittany Harn
Program: University of Wisconsin- La Crosse
Faculty Advisor: Dr. Robert J. Dixon
Contact Information: harn.brit@uwlax.edu

Title: **Homework Completion: Student Perspectives in a Standards-Based Era**

The debate among educators and parents on homework lies within the intended role and purpose to a student’s academic learning and/or the development of responsibility, autonomy and time management. It is important to gain the students’ voice on the reasons they complete homework. This study examines middle school student’s perspectives on homework and will determine which factors contribute to homework completion in order to provide implications for educators on how to accomplish this important goal.

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Name: Sarah Jacobson
Program: University of Wisconsin- La Crosse
Faculty Advisor: Dr. Betty DeBoer
Contact Information: jacobson.sara@uwlax.edu

Title: **Burnout: Predicting Job Satisfaction Among School Psychologists**

Expectations of school psychologists are expanding quickly. New demands can lead to burnout and may negatively impact professional performance by increasing absenteeism and decreasing work quality, motivation, and the quality of services school psychologists provide. This study builds on previous research that examines mental health providers and extends it to predictors of job satisfaction for school psychologists. Results will be used to make recommendations on how school psychologists can avoid burnout and increase job satisfaction.

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Name: Kristin Mariano
Program: University of Wisconsin- Whitewater
Faculty Advisor: Dr. Tracey Scherr
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Title: **Check In-Check Out as a Targeted Positive Behavioral Intervention and Support**

In the push to have "no child left behind," schools must address the educational, emotional, and behavioral needs of their students. The Check In-Check Out (CICO) intervention is for students who require more intensive strategies to address their behavioral needs. The purpose of this study is to replicate past research conducted in the rural Pacific Northwest and investigate whether the positive outcomes of CICO will occur in a midwestern suburban elementary school. Using a multiple baseline across students design, the student researcher will investigate whether the implementation of CICO is linked to a decrease in problem behaviors.

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Name: Katelyn Oellerich
Program: University of Wisconsin- Whitewater
Faculty Advisor: Dr. Knesting-Lund
Contact Information: johnsonkj02@uww.edu

Title: **A School Based Intervention for a Child with Attention and Organizational Concerns**

This study examined the effects of an organizational skills training program on a fourth grade student with attention and organizational concerns. The Homework Organization and Planning Skills (HOPS) training created by Langberg et al. (2011) was used to teach materials organizational and self-management techniques. A review of organizational skills data indicated that the HOPS program was related to an increase in organizational skills. However academic performance data indicated that there was no noticeable change between pre and post performance. Further research should consider maintenance of student organizational skills across time.

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Name: Alissa Otto
Program: University of Wisconsin- La Crosse
Faculty Advisor: Dr. Betty DeBoer
Contact Information: otto.alis@uwlax.edu

Title: **Autism Stressors and Reliefs: A qualitative study of parents' perspectives**

Parents of children with Autism Spectrum Disorder (ASD) have been identified as having elevated stress, which can negatively impact a child's functioning. Schools can serve as a source of support, making collaboration critical. Results examine the daily stressors associated with parenting a child with ASD and how schools can play a role in providing support to parents. Information will assist educators by allowing them to better understand this population's needs to collaborate more effectively.

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Name: Amanda Palmer
Program: University of Wisconsin- Whitewater
Faculty Advisor: Dr. Kimberly Knesting-Lund
Contact Information: palmera08@uww.edu

Title: **Perceived Support from Significant Relationships in Adolescence and the Impact on Academic Success**

Previous research has indicated that the perceived support from important relationships in a child's life can have a noticeable impact on students' level of academic achievement. The Child and Adolescent Social Support Survey (CASSS) will be distributed to 10th grade students at an urban Midwestern high school to determine if differences exist in students' perceptions of the frequency and importance of support from parents, teachers, and classmates. The researchers expect to find that the more support a student perceives, from more sources, the higher their academic success will be. Gender differences will also be investigated to determine if males and females differ in how much support they perceive as well as how important they rate support from each group.

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Name: Katy Riederer
Program: University of Wisconsin- Whitewater
Faculty Advisor: Dr. Christine Neddenriep
Contact Information: nowickikl23@uww.edu

Title: **Video Modeling and Reducing Social Anxiety**

Social anxiety is prevalent among individuals with Autism. Levels of social anxiety were examined during a video modeling intervention. Social skills including: starting a conversation, maintaining a conversation, and ending a conversation, were taught to one elementary school participant with Autism. The participant completed six weeks of the intervention with a new skill being taught every two weeks. Twice a week the participant was observed and given a social anxiety measure (LSAS-CA, Liebowitz, 2003) once per week. Data was collected to establish baseline and progress monitoring data. The participant showed progress by learning the social skills, while also reducing the level of social anxiety.

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Name: Nick Wasmund
Program: University of Wisconsin- Whitewater
Faculty Advisor: Dr. Kimberly Knesting-Lund
Contact Information: wasmundnl20@uww.edu

Title: **Teacher Time & Support for Students At-Risk for Dropping Out**

Research has illustrated the protective factors of positive teacher-student relationships for students who are at-risk of dropping out, such as increased academic performance, school belongingness, and motivation. However, few studies have investigated a teacher's perspective on supporting these students and obstacles they may face. Using a survey, the present study seeks to better understand the relationship between teachers' perceptions of what their role is in dropout prevention, their beliefs about how important dropout prevention is to their school, and if they see themselves engaging in dropout prevention practices within their classrooms.

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Update on DSM 5 Changes

Ryan Byrne, M.D.

Medical College of Wisconsin

Kathleen Koth, D.O.

Medical College of Wisconsin

Peggy Scallon, M.D.

UW School of Medicine and Public Health

Thank you for inviting us!!

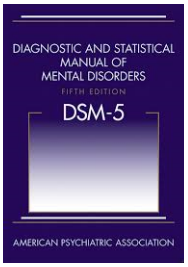
- We are grateful for the chance to speak with Wisconsin’s school psychologists!
- The important role of mental health knowledge in schools

Overview of lecture

- We will review the DSM 5 changes in the order that they appear in the manual.
- None of us have financial disclosures to report

We are all here for kids

DSM -5



DIAGNOSTIC AND STATISTICAL MANUAL OF MENTAL DISORDERS

FIFTH EDITION

DSM-5

AMERICAN PSYCHIATRIC ASSOCIATION

DSM 5- Process of development

- DSM 5 published in May 2013
- A joint effort of the APA, NIMH and WHO
- The product of 5+ years of intensive work (2007-12)
- 300 international experts
- 13 workgroups and 6 study groups.
- Assessed and analyzed data and made updates
- Lots of controversy. Little transparency

The History of the DSM

History of DSM

- DSM I (Diagnostic and Statistical Manual of Mental Disorders) was published in 1952.
- DSM I was influenced by the US Army and VA in order to classify servicemen post WWII
- DSM undergone 5 major revisions
- DSM III (1980) first to use diagnostic criteria- a bestseller!
- DSM IV was published in 1994
- DSM has reflected cultural beliefs and impacted attitudes and trends related to mental health issues

Why change from the DSM IV ?

- High use of NOS category
- Some classifications no longer fit
- Wanted to integrate new data and findings

DSM 5 Goal

- Wanted to make it a “living document”
- Anticipate frequent updates (every 2 years?)
- Want it to advance with the state of research
- The name is DSM 5 (not DSM V) in order to title future updates (DSM 5.1)
- DSM 5 tried to emphasize a dimensional, rather than categorical, perspective
- Reliability (consistency) & validity (accuracy, meaning)

Why classify?

- To see patterns
- To identify relationships
- To communicate, using the same language
- To stimulate the search for explanations
- To enhance recall
- To improve understanding of diagnosis and accurate prognosis
- Naming something enhances sense of control, and decreases isolation

In the DSM 5, no Multi-Axial system, and no “NOS” diagnoses

- Multi-Axial system was too psychiatry specific (not understood by medical colleagues)
- The Multi-Axial system implied that psychiatric diagnosis is different from medical diagnosis
- In DSM 5, Axes I, II, and III all got folded together
- “Not Otherwise Specified (NOS)” diagnoses no longer exist in DSM 5. “Other Specified” or “Unspecified” diagnoses may replace NOS.

Overview of our DSM 5 review-Thursday

- Autistic Spectrum Disorders
- Intellectual Disability
- Specific Learning Disability
- ADHD
- Schizophrenia and other Psychotic Disorders
- Depressive Disorders
- Anxiety Disorders
- Obsessive-Compulsive and Related Disorders

Overview of DSM 5 review-Friday

- Trauma and Stressor-Related Conditions
- Somatic Symptom and Related Disorders
- Eating Disorders
- Sleep-Wake Disorders
- Sexual Dysfunctions
- Gender Dysphoria
- Disruptive, Impulse Control and Conduct Disorders

Overview of DSM 5 review-Friday (continued)

- Substance Related and Addictive Disorders
- Major and Mild Neuro-cognitive Disorders
- Personality Disorders
- Paraphilic Disorders
- Movement Disorders
- Other
- Wrap-up

Neurodevelopment Disorders

Intellectual Disability

Communication Disorders

Autism Spectrum Disorders

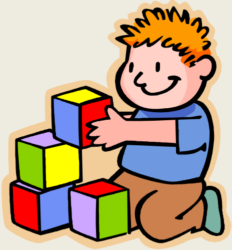
Specific Learning Disorders

Attention Deficit Hyperactivity Disorder

Developmental Coordination Disorder

Stereotypic Movement Disorder

Tic Disorders



Onset is in the "Developmental Period"

These change the trajectory of development

Pervasive Developmental Disorders (PDD) are now Autism Spectrum Disorders (ASD)

-Rett's syndrome and Childhood Disintegrative Disorder have been removed

-For autism all the previous diagnosis have been merged into one, behaviorally defined disorder

-Three diagnostic domains are now two

-For others where there is an etiologic subtype are described with the qualifiers: **Associated with Known Medical or Genetic Condition or Environmental Factor**

Single Autism Diagnosis
But continues to recognize variability within

Autism Spectrum Disorder

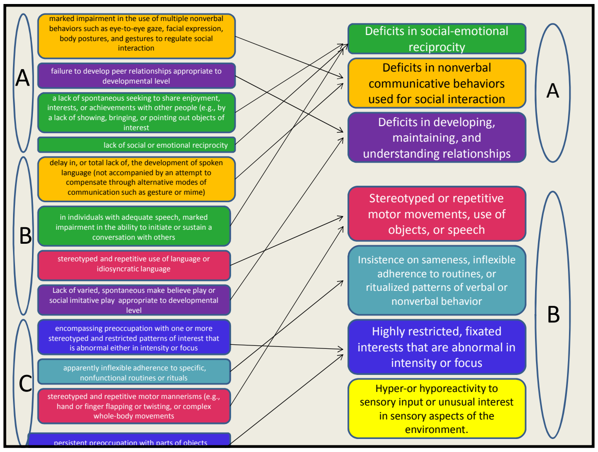
A. **Persistent deficits in social communication and social interaction across multiple contexts, as manifested by the following, currently or by history:**
   1. Deficits in social-emotional reciprocity
   2. Deficits in nonverbal communicative behaviors used for social interaction
   3. Deficits in developing, maintaining, and understanding relationships

B. **Restricted, repetitive patterns of behavior, interests, or activities, as manifested by at least two of the following, currently or by history:**
   1. Stereotyped or repetitive motor movements, use of objects, or speech
   2. Insistence on sameness, inflexible adherence to routines, or ritualized patterns of verbal or nonverbal behavior
   3. Highly restricted, fixated interests that are abnormal in intensity or focus
   4. Hyper-or hypo-reactivity to sensory input or unusual interest in sensory aspects of the environment.

C. **Symptoms must be present in the early developmental period** (but may not become fully manifest until social demands exceed limited capacities, or may be masked by learned strategies later in life).

D. **Symptoms cause clinically significant impairment in social, occupational, or other important areas of current functioning.**

E. **These disturbances are not better explained by intellectual disability or global developmental delay.** Intellectual disability and autism spectrum disorder frequently co-occur; to make co-morbid diagnoses of autism spectrum disorder and intellectual disability, social communication should be below that expected for general developmental level.



A

marked impairment in the use of multiple nonverbal behaviors such as eye-to-eye gaze, facial expression, body postures, and gestures to regulate social interaction

failure to develop peer relationships appropriate to developmental level

a lack of spontaneous seeking to share enjoyment, interests, or achievements with other people (e.g., by a lack of showing, bringing, or pointing out objects of interest

lack of social or emotional reciprocity

B

delay in, or total lack of, the development of spoken language (not accompanied by an attempt to compensate through alternative modes of communication such as gesture or mime)

in individuals with adequate speech, marked impairment in the ability to initiate or sustain a conversation with others

stereotyped and repetitive use of language or idiosyncratic language

Lack of varied, spontaneous make believe play or social imitative play appropriate to developmental level

C

encompassing preoccupation with one or more stereotyped and restricted patterns of interest that is abnormal either in intensity or focus

apparently inflexible adherence to specific, nonfunctional routines or rituals

stereotyped and repetitive motor mannerisms (e.g., hand or finger flapping or twisting, or complex whole-body movements

persistent preoccupation with parts of objects

A

Deficits in social-emotional reciprocity

Deficits in nonverbal communicative behaviors used for social interaction

Deficits in developing, maintaining, and understanding relationships

B

Stereotyped or repetitive motor movements, use of objects, or speech

Insistence on sameness, inflexible adherence to routines, or ritualized patterns of verbal or nonverbal behavior

Highly restricted, fixated interests that are abnormal in intensity or focus

Hyper-or hyporeactivity to sensory input or unusual interest in sensory aspects of the environment.

Specify if:

-Use modifiers to indicate issues that are co morbid or play a role:

-With or without intellectual impairment
-With or without structural language impairment
-Associations with known medical disorder, genetic disorder, or environmental factor
-Associations with known other neuro-developmental, mental, or behavioral disorder (now with ADHD, catatonia, etc)
-With catatonia

Severity Level	Social Communication	Restricted, repetitive behaviors
Level 3: 'Requiring very substantial support'	Severe deficits in verbal and nonverbal social communication skills cause **severe impairments in functioning**; very limited initiation of social interactions and minimal response to social overtures from others.	Inflexibility of behavior, extreme difficulty coping with change, or other restricted/repetitive behaviors **markedly interfere with functioning in all spheres**. Great distress/difficulty changing focus or action.
Level 2: 'Requiring substantial support'	**Marked deficits** in verbal and nonverbal social communication skills; **social impairments apparent even with supports in place**; limited initiation of social interactions and reduced or abnormal response to social overtures from others.	Inflexibility of behavior, difficulty coping with change, or other restricted/repetitive behaviors appear frequently **enough to be obvious to the casual observer** and interfere with functioning in a variety of contexts. Distress and/or difficulty changing focus or action.
Level 1: 'Requiring support'	**Without supports in place, deficits in social communication cause noticeable impairments**. Has difficulty initiating social interactions and demonstrates clear examples of atypical or unsuccessful responses to social overtures of others. May appear to have decreased interest in social interactions.	Inflexibility of behavior causes **significant interference with functioning in one or more contexts**. Difficulty switching between activities. Problems of organization and planning hamper independence.

Why Combine Them?

Scientific Validity

-Lack of sensitivity and specificity between diagnosis
-Lack of history around early speech leads one to use current language as the measure (language is trainable)
-When Verbal IQ is controlled for there is an overlap in samples between categories
-Recognition that 'social' and 'communication' were one set of symptoms

Access for Services

-Many states deny services for Asperger's and PDD NOS

The JAMA Network

From: **A Multisite Study of the Clinical Diagnosis of Different Autism Spectrum Disorders**

Arch Gen Psychiatry. 2012;69(3):306-313. doi:10.1001/archgenpsychiatry.2011.148

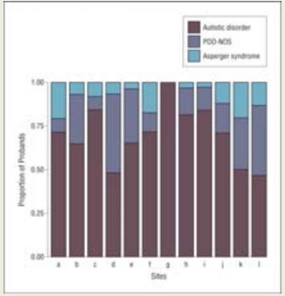


Figure 1. Best-estimate clinical diagnoses across 12 university-based sites (ie, autism service providers) for 2102 probands assigned to 3 autism spectrum disorder diagnostic categories (autistic disorder, Asperger syndrome, and pervasive developmental disorder–not otherwise specified [PDD-NOS]).

Date of download: 8/23/2013 Copyright © 2012 American Medical Association. All rights reserved.

DSM-5 Criteria Maybe MORE Sensitive

More higher functioning impairments included, including:

-Failure to develop peer relationships and abnormal social play now reads difficulties adjusting behavior to suit different social context.

No longer must have symptoms before age 3

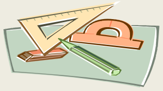
-Symptoms must begin in "early childhood"
-Caveat that symptoms may not be fully manifest until social demands exceed capacity

Supported thus far in diagnosis of toddlers on the spectrum. (Guthrie et all, 2013)

Intellectual Disabilities

(Intellectual Developmental Disorders)

Changes include:



-Title from Mental Retardation to Intellectual Disability

-Emphasis of importance of **functioning** rather than IQ score

-Keeps the same severity levels, but changes the criteria for them from IQ score to three adaptive domains: **social, practical, and conceptual**

Intellectual Disabilities

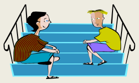
A. Deficits in intellectual functions, such as reasoning, problem solving, planning, abstract thinking, judgment, and academic learning and learning from experience, confirmed by both clinical assessment and individualized, standardized intelligence testing.

B. Deficits in adaptive functioning that result in failure to meet developmental and socio-cultural standards for personal independence and social responsibility. Without ongoing support, the adaptive deficits limit functioning in one or more activities of daily life, such as communication, social participation, and independent living, and across multiple environments, such as home, school, work, and recreation.

C. Onset of intellectual and adaptive deficits during the developmental period.

Intellectual Disabilities

Severity Domains:



-Conceptual or Academic – competency in memory, language, reading, writing, math, acquisition of practical knowledge, problems solving, and judgment in novel situations

-Social – awareness of others' thoughts, feelings, and experiences including empathy, interpersonal communication skills, friendship abilities, and social judgment

-Practical – self management skills across settings including ADLs, money management, recreation, self-management of behavior, job responsibilities

No longer any IQ criteria for these domains

Severity Level	Conceptual Domain	Social Domain	Practical Domain
Mild	For preschool children, there may be no obvious conceptual differences. For **school-age children and adults, there are difficulties in learning academic skills** involving reading, writing, arithmetic, time, or money, with support needed in one or more areas to meet age-related expectations**. In adults, abstract thinking, executive function** (i.e., planning, strategizing, priority setting, and cognitive flexibility), and **short-term memory, as well as functional use of academic skills** (e.g., reading, money management), are impaired. There is a **somewhat concrete approach** to problems and solutions compared with age-mates.	Compared with typically developing age-mates, the individual is **immature in social interactions**. For example, there may be **difficulty in accurately perceiving peers' social cues**. Communication, conversation, and language are more concrete or immature than expected for age. There may be **difficulties regulating emotion and behavior in age-appropriate fashion**; these difficulties are **noticed by peers** in social situations. There is limited understanding of risk in social situations**; social judgment is immature for age, and the person is at risk of being manipulated by others** (gullibility).	The individual may function age-appropriately in personal care. Individuals **need some support with complex daily living tasks in comparison to peers**. In adulthood, **supports typically involve grocery shopping, transportation, home and child-care organizing, nutritious food preparation, and banking and money management**. Recreational skills resemble those of age-mates, although judgment related to well-being and organization around recreation requires support. In adulthood, competitive employment is often seen in jobs that do not emphasize conceptual skills. Individuals generally need support to make health care decisions and legal decisions, and to learn to perform a skilled vocation competently. Support is typically needed to raise a family.

Severity level	Conceptual domain	Social domain	Practical domain
Moderate	All through development, the individual's conceptual skills lag markedly behind those of peers. For **preschoolers, language and pre-academic skills develop slowly**. For **school-age children, progress in reading, writing, mathematics, and understanding of time and money occurs slowly** across the school years and is markedly limited compared with that of peers. **For adults, academic skill development is typically at an elementary level,** and support is required for all use of academic skills in work and personal life. **Ongoing assistance on a daily basis is needed to complete conceptual tasks of day-to-day life**, and others may take over these responsibilities fully for the individual.	The individual shows marked differences from peers in social and communicative behavior across development. **Spoken language is typically a primary tool for social communication** but is much less complex than that of peers. Capacity for relationships is evident in ties to family and friends, and the individual may have successful friendships across life and sometimes romantic relations in adulthood. However, **individuals may not perceive or interpret social cues accurately**. **Social judgment and decision-making abilities are limited**, and caretakers **must assist the person with life decisions**. Friendships with typically developing peers are often affected by communication or social limitations. **Significant social and communicative support is needed in work settings for success.**	The **individual can care for personal needs** involving eating, dressing, elimination, and hygiene as an adult, although an **extended period of teaching and time is needed for the individual to become independent in these areas, and reminders may be needed**. Similarly, participation in all household tasks can be achieved by adulthood, although an extended period of teaching is needed, and ongoing supports will typically occur for adult-level performance. Independent employment in jobs that require limited conceptual and communication skills can be achieved, but **considerable support from co-workers, supervisors, and others is needed to manage social expectations, job complexities, and ancillary responsibilities** such as scheduling, transportation, health benefits, and money management. A variety of recreational skills can be developed. These typically require additional supports and learning opportunities over an extended period of time. Maladaptive behavior is present in a significant minority and causes social problems.

Severity level	Conceptual domain	Social domain	Practical domain
Severe	Attainment of **conceptual skills is limited**. The individual generally has **little understanding of written language** or of concepts involving numbers, quantity, time, and money. **Caretakers provide extensive supports for problem solving** throughout life.	**Spoken language** is quite **limited in terms of vocabulary and grammar**. Speech may be single words or phrases and may be supplemented through augmentative means. Speech and communication are focused on the here and now within everyday events. Language is used for social communication more than for explication. **Individuals understand simple speech and gestural communication.** Relationships with family members and familiar others are a source of pleasure and help.	The individual **requires support for all activities of daily living**, including meals, dressing, bathing, and elimination. The individual **requires supervision at all times**. The individual **cannot make responsible decisions regarding well-being of self or others. In adulthood, participation in tasks at home, recreation, and work requires ongoing support and assistance**. Skill acquisition in all domains involves long-term teaching and ongoing support. Maladaptive behavior, including self-injury, is present in a significant minority.

Severity level	Conceptual domain	Social domain	Practical domain
Profound	**Conceptual skills generally involve the physical world rather than symbolic processes**. The individual may use objects in goal-directed fashion for self-care, work, and recreation. **Certain visuo-spatial skills**, such as matching and sorting based on physical characteristics, **may be acquired.** However, co-occurring motor and sensory impairments may prevent functional use of objects.	The individual has **very limited understanding of symbolic communication in speech or gesture**. He or she may understand some simple instructions or gestures. The individual **expresses his or her own desires and emotions largely through nonverbal, non-symbolic communication**. The individual enjoys relationships with well-known family members, caretakers, and familiar others, and initiates and responds to social interactions through gestural and emotional cues. Co-occurring sensory and physical impairments may prevent many social activities.	The individual is **dependent on others for all aspects of daily physical care, health, and safety,** although he or she may be able to participate in some of these activities as well. Individuals without severe physical impairments may assist with some daily work tasks at home, like carrying dishes to the table. **Simple actions with objects may be the basis of participation in some vocational activities with high levels of ongoing support**. Recreational activities may involve, for example, enjoyment in listening to music, watching movies, going out for walks, or participating in water activities, all with the support of others. Co-occurring physical and sensory impairments are frequent barriers to participation (beyond watching) in home, recreational, and vocational activities. Maladaptive behavior is present in a significant minority.

Learning Disorders

Merged four previous subcategories into one

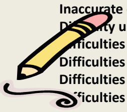
Minimum age changed
-should be evident during school years but may become evident when demands exceed capacity

Added: must be persistent and resistant to intervention

Low Academic Achievement – now defined as substantially below average according to standardized assessment for age, education, and culture.
-excludes need for discrepancy between IQ and academic achievement

Excludes diagnosis in presence of intellectual disability

Specific Learning Disorder



A. Difficulties learning and using academic skills, as indicated by the presence of at least one of the following symptoms that have persisted for at least 6 mos, despite provision of interventions that target the difficulties:
Inaccurate or slow and effortful word reading
Di ty understanding the meaning of what is read
fficulties with spelling
Difficulties with written expression
Difficulties mastering number sense, number facts, or calculation
fficulties with mathematical reasoning

B. The affected academic skills are substantially and quantifiably below those expected for the individual's chronological age, based on appropriate standardized measures, and cause significant interference with academic or occupational performance or with activities of daily living.

C. The learning difficulties begin during school-age years but may not become fully manifest until learning demands exceed the individual's limited capacities.

D. The learning difficulties are not better accounted for by: intellectual disabilities, global developmental delay, uncorrected visual or auditory acuity, other mental or neurological disorders, psychosocial adversity, lack of proficiency in the language of academic instruction, or inadequate educational instruction.

Learning Disorder Specifiers:

Code all that are applicable:

With impairment in reading
With impairment in written expression
With impairment in mathematics

Mild, Moderate, severe

Communication Disorders

- Language Disorder

(Note: no longer subtypes of "Expressive" and "Mixed Expressive-Receptive")

- Speech Sound Disorder
- Childhood-Onset Fluency Disorder (Stuttering)
- Social (Pragmatic) Communication Disorder
- Unspecified Communication Disorder

Social (Pragmatic) Communication Disorder

1) Persistent difficulties in the social use of verbal and nonverbal communication as manifest by deficits in all of the following:
– Deficits in using communication for social purposes, in a manner that is appropriate for the social context
– Impairment in the ability to change communication to match context or the needs of the listener
– Difficulties following rules for conversation and storytelling
– Difficulties understanding what is not explicitly stated

2) Deficits result in functional limitations in effective communication, social participation, social relationships, academic achievement, or occupational performance.

3) Deficits must be present in the early developmental period, but may not become fully manifest until social communication demands exceed limited capacities.

4) Deficits are not better explained by autism spectrum disorder, intellectual disability (intellectual development disorder), global developmental delay, or another mental disorder or medical condition.

ADHD

-Symptoms before age 12

-Adults need five of both inattentive and hyperactive/impulsive symptoms to get the diagnosis

-No more exclusion of the diagnosis of ADHD when Autism Spectrum Disorder is present

-Specify:

-Combined Presentation
-Predominately inattentive presentation
-Predominantly hyperactive/impulsive presentation

-In partial remission

-Mild, Moderate, severe

-Other Specified ADHD
-Unspecified ADHD

Motor Disorders

Developmental Coordination Disorder

Stereotypic Movement Disorder

Specify: with or without self injurious behavior
Specify: associated with a known medical or genetic condition,
  neuro-developmental disorder or environmental factor ie Lesch-Nyhan
Specify: current severity: mild, Moderate, severe

Tic Disorders

Tourette's Disorder
Persistent (Chronic) Motor or Vocal Tic Disorder
Provisional Tic Disorder
Other Specific Tic Disorder
Unspecified Tic Disorder

Other Neurodevelopmental Disorders

Other Specified Neurodevelopmental Disorder

-Symptoms characteristic of a neurodevelopmental disorder that cause impairment in social, occupational, or other important areas of functioning but do not meet full criteria for any of the disorders in this chapter

-The other use is when the clinician chooses to communicate the specific reason that the presentation does not meet the criteria by following this diagnosis by a specifier. "neurodevelopmental disorder associated with prenatal alcohol exposure"

Unspecified Neurodevelopmental Disorder

- Do not meet the criteria and the clinician chooses not to specify the reason including that there is insufficient information to make a more specific diagnosis at that time.

Elimination Disorders

New chapter of its own in the manual after feeding and eating disorders

No significant changes in the diagnosis, just moved out of chapter for first diagnosed in infancy, childhood, or adolescence.

Enuresis
Encopresis
Other Specified Elimination Disorder
Unspecified Elimination Disorder

Chapter:
Schizophrenia Spectrum and other Psychotic Disorders

Schizophrenia

-eliminated special attribution of bizarre delusions or Schneiderian
-added that patient must have at least one of the following:
  delusions, hallucinations, and disorganized speech

-eliminated subtypes (paranoid, disorganized, cationic, undifferentiated, and residual)

-section III includes a dimensional approach of severity rating for all in this spectrum

Specify:
First Episode, currently in acute episode
First Episode, currently in partial remission
First Episode, Currently in full remission
Multiple Episodes, currently in acute episode
Multiple Episodes, currently in partial remission
Multiple Episodes, Currently in full remission
Continuous
Unspecified
With catatonia

Schizoaffective

-Addition that a major mood episode be present for a majority of the disorder's total duration after Criteria A are meet

Delusional Disorder

-Eliminate that delusions must be non bizarre
-Addition – symptoms may not be better explained by OCD or body dysmorphic disorder
-Eliminate the separation with shared delusional disorder
-Specifiers:
  Erotomanic type
  Grandiose type
  Jealous type
  Persecutory type
  Somatic type
  Mixed type
  Unspecified type

Specify if : with bizarre content
Specify with episode first or multiple and with current state as in schizophrenia

---

Brief Psychotic Disorder

Unchanged

Schizophreniform Disorder

Unchanged

Schizophrenia Cont

Catatonia

-Same criteria is now used no matter whether the context is psychosis, mood, or medical related. Specifiers are used for these
-All require three symptoms

Substance/Medication Induced Psychotic Disorder

While there are only two codes in ICD-9 for this (291.9 for alcohol and 292.9 for all other substances) in ICD-10 there are separate codes for each substance

Specifiers: With use disorder, mild
  With use disorder, moderate to severe
  Without use disorder
    ICD -10 codes change for each substance with each of these

Specify if: With onset during intoxication
  With onset during withdrawal
Specify current severity

Psychotic Disorder due to Another Medical Condition
Other Specified Schizophrenic Spectrum and Other Psychotic Disorder
Unspecified Schizophrenic Spectrum and Other Psychotic Disorder

---

End of the Chapter Diagnosis:

Psychotic Disorder due to Another Medical Condition

Other Specified Schizophrenic Spectrum and Other Psychotic Disorder

Unspecified Schizophrenic Spectrum and Other Psychotic Disorder

---

Depressive Disorders

Four Significant changes in Depressive Disorders

- Added Disruptive Mood Dysregulation Disorder
- Elimination of the Bereavement Specifier
- Name change from Dysthymia to Persistent Depressive Disorder
- Added Premenstrual Dysphoric Disorder

DMDD

- A new diagnosis in the Depressive Disorders category of DSM 5
- Expressly developed to stop the over-diagnosis of pediatric bipolar disorder in children, and to decrease the prescribing of atypical antipsychotics to these kids
- 40-fold increase in the pediatric bipolar disorder diagnosis in past 18 years for many reasons

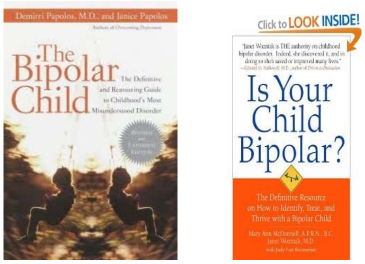
Why the huge increase in the pediatric bipolar disorder diagnosis?

- Researchers in the field were being compensated by pharmaceutical companies who sell atypical antipsychotics
- Shorter office visits with psychiatrists
- Lack of resources for the therapies these kids need
- Blurred use of the criteria for bipolar disorder in kids (eg. grandiosity, racing thoughts).
- Disregard for the time criteria for bipolar disorder (4 days-hypomania, 7 days-mania). "A broad phenotype"

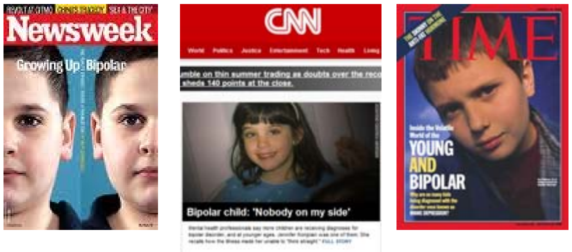
Why the huge increase in the pediatric bipolar disorder diagnosis?

- Well-intentioned reasons as well, there is a wish to de-stigmatize psychiatric disorders
- NAMI, a patient advocacy group, for example, is largely funded by pharmaceutical companies, and often supports a biological model of illness
- Resulted in a "reductionistic" approach to treating serious pediatric behavioral and mood disorders
- And many other media, marketing, cultural and familial trends

Books for parents: "The Bipolar Child" and others


Demitri Papolos, M.D., and Janice Papolos
The Bipolar Child
Click to LOOK INSIDE!
Is Your Child Bipolar?

The effect of the media


Newsweek
Growing Up Bipolar
CNN
Bipolar child: 'Nobody on my side'
TIME
YOUNG AND BIPOLAR

Marketing practices: atypical antipsychotic medications

These medications have been heavily marketed to physicians and patients

Confusion about pediatric bipolar disorder

- As a result, the diagnosis of pediatric bipolar disorder has become over-used, misunderstood, and confusing for clinicians, patients and the public

Credibility flaws in the pediatric bipolar disorder diagnosis

- Has not been described historically.
- Hard to distinguish from normal development (ex. grandiosity, euphoria)
- Considerable overlap with other disorders.
- Described almost exclusively in the US.
- The validity of this diagnosis is not holding up over time. Falling apart with further studies and scrutiny.
- Thought leaders couldn't agree: "irritability vs. euphoria"

Irritability much more common than mania in kids

- DSM 5 work groups had to decide how to classify severe, chronic irritability in kids
- Chronic irritability in children is common, but mania is very rare.
- Chronically irritable kids (without discrete episodes of mania) do not meet criteria for bipolar disorder.

DSM 5 work-group deliberations

- The DSM 5 work group created the new DMDD diagnosis, to describe kids with severe chronic irritability and frequent, severe tantrums, and placed DMDD in the Depressive Disorders category
- DMDD has elements of ODD, ADHD, anxiety and depression
- In follow-up studies, kids with severe, chronic irritability go on to have depressive and anxiety disorders

Bipolar Disorder- DSM 5

- The bipolar disorder diagnosis requires an ***episode*** of mania lasting at least one week, and present most of the day, nearly every day –DSM 5
- The "non-episodic" language describing DMDD is significant, and contrasts with the bipolar disorder criteria.
- DSM 5 explicitly emphasized that the mood symptoms in bipolar disorder are episodic.

DMDD-Diagnostic Criteria

A. DMDD- persistent, severe, non-episodic irritability; and frequent episodes of extreme behavioral dys-control

B. And severe recurrent temper outbursts, grossly out of proportion to the situation or provocation.

C. The temper outbursts are inconsistent with developmental level

DMDD Diagnostic Criteria

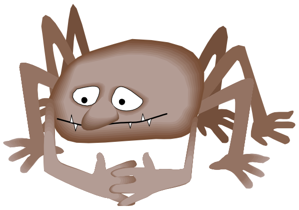
C. The temper outbursts occur three or more times per week.

D. Irritable mood most of the day, nearly every day, observable by others

E. The age at onset is before 10 years, but the diagnosis should not be made before age 6, or after age 18.

F. Impairment from DMDD is often severe, and the frequency of hospitalization is comparable to that in bipolar disorder

Anxiety Disorder



Major Chapter Changes:

Anxiety disorders: no longer includes OCD which is in its own grouping
no longer includes PTSD which is in its own grouping

However these related chapters are grouped closely together to signify their close relationships with each other

Separation Anxiety Disorder

Moved from former Disorders First Diagnosed in Infancy, Childhood, or Adolescence.

Largely Unchanged

Added: some wording has been changed to more adequately represent the expression of separation anxiety in adulthood

-Attachment figure can be children of an adult with separation anxiety

-Avoidance behaviors can be evident at the workplace and school

Eliminated: No longer must be before 18 yo

Added: Duration criteria – typically lasing 6 months or longer to minimize transient fears.

Selective Mutism

Move from former Disorders First Diagnosed in Infancy, Childhood, or Adolescence.

Diagnostic criteria largely unchanged

Specific Phobia

Core features unchanged

Eliminated the need for people 18yo or older to recognize that fear and anxiety are excessive or unreasonable

Added – Duration requirement no applies to all ages (6 months or longer)

Individual types of specific phobias are specifiers:
- Animal
- Natural environment
- Blood-injection-injury (in ICD-9 300.29 but in IDC-10 will be F40.23 fear of blood, F40.231 fear of injections and transfusions, F40.232 fear of other medical care, F40.233 fear of injury)
- Situational
- Other (for ICD-10 code all that apply)

Social Anxiety Disorder

formerly Social Phobia

Eliminate – that people over 18 must recognize fear and anxiety as excess or unreasonable

Added - all ages must have symptoms for 6 months or longer

Eliminate – the Generalized specifier

Added – Performance specifier: If fear is restricted to speaking or performing in public

Panic Disorder

Unlinked from Agoraphobia

Criterion A. Recurrent unexpected panic attacks.

Panic Attack Specifier

-Criteria are for the purpose of defining a panic attack
-NOT a coded mental disorder
-Can be added to any mental disorder (mood, anxiety, PTSD, etc)
-Can be expected or unexpected
eliminate the previous different types of panic attacks

Agoraphobia

Separate from panic

Recognized that large number of people with agoraphobia do not have panic

Added – endorsement of fears from two or more agoraphobia situations required

Added – some criteria that makes it more in line with other anxiety disorders

ie. clinician judgment of the fears as being out proportion to the actual danger, with typically a 6 month or more duration.

Generalized Anxiety Disorder

Unchanged

Substance/medication-Induced Anxiety Disorder

IDC-9: all coded 292.89
ICD-10: various codes for different substances and meds

Specifiers:
with onset during intoxication
with onset during withdrawal
with onset during medication use

Anxiety Disorder Due to Another Medical Condition
Other Specified Anxiety Disorder
Unspecified Anxiety Disorder

Introducing a new chapter:

Obsessive- Compulsive and Related Disorders

Obsessive-Compulsive Disorder

Largely unchanged

-Added –with good or fair insight
-with poor insight
-with absent insight/delusional

-Added – tic related specifier
current or past history of tic disorder

Body Dysmorphic Disorder

Now in this chapter

Specifier : "with muscle dysmorphia" has been added
 reflects growing literature on the diagnostic validity and clinical utility of this distinction
Specifiers: with good or fair insight
 -with poor insight
 -with absent insight/delusional

In DSV-IV this was correctly coded as both BDD and a delusional disorder

In DSM-5 it is coded as BDD only with the absent insight/delusional beliefs specifier

Hoarding Disorder

A. Persistent Difficulty discarding or parting with possessions, regardless of their actual value.
B. This difficulty is due to a perceived need to save the items and to distress associated with discarding them.
C. The difficulty discarding possessions results in the accumulation of possessions that congest and clutter active living areas and substantially compromises their intended use.
D. The hoarding causes clinically significant distress or impairment
E. The hoarding is not attributable to other medical condition (Prader-Willi)
F. The hoarding is not better explained by another mental disorders

Specify if :
With excessive acquisition
With good/fair insight,
With poor insight or
With absent insight/delusional beliefs.

Trichotillomania (Hair-Pulling Disorder)

Hair loss does not need to be noticeable

Tension and gratification (criterian B&C) are gone.

Excoriation (Skin-Picking) Disorder

A. Recurrent skin picking resulting in skin lesions
B. Repeated attempts to decrease or stop skin picking
C. The skin picking causes clinically significant distress or impairment in social, occupational, or other areas of functioning
D. The skin picking is not attributable to the physiological effects of a substance
E. The skin picking is not better explained by other mental disorder

End of the chapter additions - OCD

Substance/medication induced obsessive-compulsive and related disorder
 Again coding will change with ICD-10
 Specifiers for onset during intoxication, withdrawal or after medication use

Obsessive- compulsive and related disorder due to another medical condition

Other Specified obsessive-compulsive and related disorder

Unspecified obsessive-compulsive and related disorder

Trauma and Stressor Related Disorders

Trauma and Stressor Related Disorders

- A new chapter in DSM 5 which includes PTSD, Acute Stress Disorder, Reactive Attachment Disorder, Disinhibited Social Engagement Disorder, Adjustment Disorders. All have the presence of a stressor or a trauma
- PTSD now specifically includes pre-school and older children, and recognizes their symptoms from a developmental perspective. Will help with recognition of PTSD and trauma in kids

PTSD

- DSM 5 identifies 4 domains of PTSD (expanded from 3 in the DSM IV):
- 1) exposure to trauma, 2) intrusive re-experiencing, 3) avoidance of stimuli associated with the trauma, 4) negative cognitions and mood associated with the trauma (#4 is new)
- Specifier about "dissociative symptoms" (depersonalization, derealization)
- Removed the subjective emotional reaction to the trauma

PTSD in young children

- New, developmental criteria recognizes that repetitive play may include themes of the trauma
- It is likely that the child does not verbally associate hyper-arousal symptoms to the trauma.
- Irritability, temper tantrums, physical aggression, poor sleep, poor concentration, poor behavior, or relationship disturbances may be the observable symptoms that result from trauma

Reactive Attachment Disorder

Reactive Attachment Disorder

- DSM 5 abandoned previous "inhibited and dis-inhibited" RAD subtypes and re-defined them as RAD and Dis-inhibited Social Engagement Disorder.
- These 2 disorders share the requirement for neglect or loss of, or limited exposure to attachment figures during childhood
- The neglect ***results in*** the child's limitation to form healthy interpersonal attachments

DSM 5-Reactive Attachment Disorder

- An inhibited pattern of relating to adult caregivers
- Emotionally withdrawn, not responsive
- Child rarely seeks or responds to comfort when distressed
- Minimal responsiveness to others, limited positive affect, unexplained sadness, irritability, fearfulness with adult caregivers

Disinhibited Social Engagement Disorder

- Child shows too little wariness with unfamiliar adults; wanders away without checking back; or is willing to go off with an unfamiliar adult with minimal hesitation
- Not limited to impulsivity from ADHD
- Related to history of social neglect and lack of stable adult caregivers

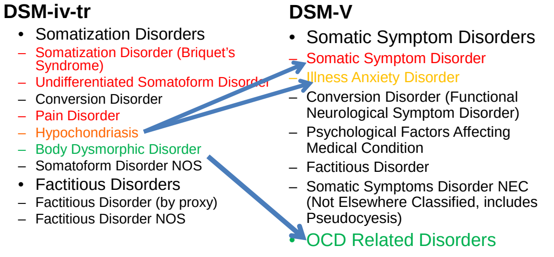
Somatic Symptom and Related Disorders

HYPOCHONDRIAC CAMEL
A LUMP!

Somatic Symptom and Related Disorders

- Consolidation of disorders due to significant overlap in DSM-IV
- Deemphasizing the use of medically unexplained symptoms to make a diagnosis of somatic symptoms
  - Somatic symptoms can be present in diagnosed medical disorder
  - Reliability of medically unexplained symptom is limited
  - Grounding a diagnosis in absence of an explanation reinforces mind-body dualism
  - Now classification is based on positive symptoms (thoughts, feelings, and behaviors related to symptoms)
  - Medically unexplained symptoms do remain a key feature in conversion disorder and pseudocyesis because it is possible to demonstrate definitively that symptoms are not consistent with medical pathophysiology
- Elimination of Pain Disorder
  - Lack of evidence that distinction between psychogenic pain and biologic pain can be established
  - Divided into somatic symptom disorder, psychological factors affecting medical condition, or adjustment disorder based on psychogenic-biologic spectrum

Changing diagnoses



DSM-iv-tr

- Somatization Disorders
  - Somatization Disorder (Briquet's Syndrome)
  - Undifferentiated Somatoform Disorder
  - Conversion Disorder
  - Pain Disorder
  - Hypochondriasis
  - Body Dysmorphic Disorder
  - Somatoform Disorder NOS
- Factitious Disorders
  - Factitious Disorder (by proxy)
  - Factitious Disorder NOS

DSM-V

- Somatic Symptom Disorders
  - Somatic Symptom Disorder
  - Illness Anxiety Disorder
  - Conversion Disorder (Functional Neurological Symptom Disorder)
  - Psychological Factors Affecting Medical Condition
  - Factitious Disorder
  - Somatic Symptoms Disorder NEC (Not Elsewhere Classified, includes Pseudocyesis)
- OCD Related Disorders

Somatic Symptom Disorder vs Somatization Disorder

- "Attempt to better recognize the complexity of the interface between psychiatry and medicine"
- High symptom count for somatization disorder did not recognize spectrum between somatic symptoms and psychopathology
- Undifferentiated somatoform disorder was too vague and arbitrary
- Somatic symptom disorder attempts to better define psychopathology NOT symptom count

Somatization disorder – DSM IV-TR

A. A history of many physical complaints beginning before age 30 that occur over a period of several years and result in treatment being sought or significant impairment in social, occupational, or other important areas of functioning

B. Each of the following criteria must have been met, with individual symptoms occurring at any time during the course of the disturbance:

1) Four pain symptoms
2) Two gastrointestinal symptoms (other than pain)
3) One sexual system (other than pain)
4) One pseudoneurological symptom

C. Either (1) or (2)

1) Each symptom cannot be "fully explained" by a known medical condition or direct effects of a substance
2) When there is a medical condition, physical complaints are in excess or what would be expected

D. The symptoms are not intentionally produced or feigned

What a mess!

Somatic symptom Disorder – DSM 5

A. One or more somatic symptoms that are distressing or result in significant disruption of daily life.
B. Excessive, thoughts, feelings, or behaviors related to the somatic symptoms or associated health concerns as manifested by one of the following:
    1. Disproportionate and persistent thoughts about seriousness of one's symptoms
    2. Persistently high level of anxiety about health or symptoms
    3. Excessive time and energy devoted to these symptoms or health concerns
C. Although any one somatic symptom may not be continuously present, the state of being symptomatic is persistent (typically more than 6 months)

Illness Anxiety Disorder

A. Preoccupation with having or acquiring a serious, undiagnosed medical illness
B. Somatic symptoms are not present, or if present, are only mild in intensity
C. High level of anxiety about health, and the individual is easily alarmed about personal health status
D. Individual performs excessive health-related behaviors or exhibits maladaptive avoidance (doctors or hospitals)
E. Illness preoccupation has been present for at least 6 months, but the specific illness that is feared may change over that period of time
F. Not explained by another anxiety disorder, somatic disorder, OCD/related disorders or psychotic disorder

Conversion Disorder Changes

- Stresses that clinical findings indicate incompatibility between symptom and pathophysiology
- Elimination of psychological factors as a criteria, as these are often minimized initially in disease course

Conversion disorder – DSM IV-TR

A. One or more symptoms or deficits affecting voluntary motor or sensory function that suggest a neurological or other general medical condition
B. Psychological factors are judged to be associated with the symptom of deficit because the initiation or exacerbation of the symptom of deficit is preceded by conflicts or other stressors
C. The symptom or deficit is not intentionally produced or feigned
D. The symptom or deficit cannot be fully explained by a general medical condition, or by the direct effects of a substance, or as a culturally sanctioned behavior or experience
E. The symptom or deficit causes clinically significant distress or impairment
F. The symptom or deficit is not limited to pain or sexual dysfunction, does not occur exclusively during the course of Somatization Disorder, and is not better accounted for by another mental disorder.

Conversion disorder – DSM 5 (aka functional neurological symptom disorder)

A. One or more symptoms of altered voluntary motor or sensory function
B. Clinical findings provide evidence of incompatibility between the symptom and recognized neurological or medical conditions
C. The symptom or deficit is not better explained by another medical or mental disorder
D. The symptom or deficit causes clinically significant distress or impairment in social, occupational, or other important areas of functioning or warrants medical evaluation

Psychologic Factors Affecting Other Medical Conditions

- Previously in “Other Conditions That May Be a Focus of Clinical Attention”
- Essential feature is presence of psychological or behavioral factor that adversely affect a medical condition
- Factors can affect the condition via influencing treatment course (noncompliance) or directly impacting pathophysiology (asthma attack provoked by anxiety)
- Is not a psychologic response to diagnosis (Adjustment Disorder)
- No Major DSM Changes - only minor wording

Factitious Disorder

- Was previously in own chapter
- Now specified into “Imposed on Self” vs “Factitious Disorder Imposed on Another” (Munchausen By Proxy)
  - By Proxy was formerly included in Factitious Disorder NOS
- Adds criteria that the behavior is not better explained by another mental disorder

Factitious disorder – DSM 5

IMPOSED ON SELF	IMPOSED ON ANOTHER
A. Falsification of physical or psychological signs or symptoms, or induction of injury or disease, associated with identified deception	A. Falsification of physical or psychological signs or symptoms, or induction of injury or disease, in another, associated with identified deception
B. The individual presents himself or herself to others as ill, impaired, or injured	• The individual presents another individual (victim) to others as ill, impaired, or injured
C. The deceptive behavior is evident even in the absence of obvious external rewards	• The deceptive behavior is evident even in the absence of obvious external rewards
D. The behavior is not better explained by another mental disorder, such as delusional disorder or another psychotic disorder	• The behavior is not better explained by another mental disorder, such as delusional disorder or another psychotic disorder

Other Specified Somatic Symptom and Related Disorder

- Lumping of “other” somatic disorders that do not meet criteria of other somatic symptom disorder, all have same coding (300.89/ F45.8)
- Examples include:
  1. Brief somatic symptom disorder (less than 6 months)
  2. Brief illness anxiety disorder (less than 6 months)
  3. Illness anxiety disorder without excessive health-related behaviors (Don’t meet Criteria D)
  4. Pseudocyesis: A false belief of being pregnant that is associated with objective signs and reported symptoms of pregnancy

Unspecified Somatic Symptom Disoder

- Different code (300.82/F45.9) than “Other” specified somatic symptom and related disorder
- Same definition except diagnosis is made if: “there are decidedly unusual situations where there is insufficient information to make a more specific diagnosis”
- Lack of information vs lack of symptoms

Feeding and Eating Disorders

What's New

- Chapter includes several disorders from previous chapter "Disorders Usually First Diagnosed in Infancy, Childhood, or Adolescence"
- Feeding Disorder has become Avoidant/ Restrictive Food Intake Disorder
- Binge Eating Disorder has moved from an Appendix B diagnosis to a valid diagnosis

Pica and Rumination Disorder

- Very minor wording changes from DSM IV-TR
- Are no longer limited to infancy or childhood
- For ICD-10, Pica has two different codes for childhood (F98.3) and adult (F50.8)

Avoidant Restrictive Food Intake Disorder vs Feeding Disorder

- Not limited to young children
- Included with other eating disorders
- Expanded criteria
  - More detail on Cluster A symptoms
  - Not solely based on weight gain or loss
  - No age criteria

Feeding Disorder of Infancy/ Early Childhood DSM-IV-TR

A. Feeding disturbance as manifested by persistent failure to eat adequately with significant failure to gain weight or significant loss of weight over at least 1 month
B. The disturbance is not due to an associated GI or other medical condition
C. The disturbance is not better accounted for by another mental disorder or by lack of available food
D. Onset before age 6

Avoidant/Restrictive Food Intake Disorder

A. An eating or feeding disturbance as manifested by persistent failure to meet appropriate nutritional or energy needs associated with one of the following:
   1. Weight loss (or failure to achieve expected weight gain or faltering growth in children)
   2. Significant nutritional deficiency
   3. Dependence on enteral feeding
   4. Marked interference with psychosocial functioning
B. Disturbance is not better explained by lack of available food or culturally sanctioned practice
C. Does not occur with anorexia or bulimia, no disturbance in the way in which one's body weight is experienced
D. Not attributable to another medical or mental disorder

Anorexia Nervosa

- Minor changes with core criteria remaining
- Removal of amenorrhea as a criteria
  - Did not fit all patients (males, those on OCPs, premenarcheal females)
  - No clinical data that supports any clinical difference between patients with or without amenorrhea
- No specific body weight – was 85% of IBW
- Criterion B has expanded to include behavior that interferes with weight gain along with fear of gaining weight.

Anorexia Nervosa DSM 5

A. Restriction of energy intake relative to requirements leading to a “significantly low body weight” in the context of age, sex, developmental trajectory and physical health
- Significantly low weight is defined as a weight that is less than minimally normal or, for children and adolescents, less than minimally expected

B. Intense fear of gaining weight or of becoming fat, or persistent behavior that interferes with weight gain

C. Disturbance in the way in which one’s body weight or shape is experienced, undue influence of body weight, or persistent lack of recognition of the seriousness of the current low body weight

Anorexia Specifiers

- DSM IV-TR
  - Subtypes
    - Restricting
    - Binge-Eating/Purging
  - No Remission or severity scales

- DSM 5

Subtypes
- Restricting
- Binge-Eating/Purging

Remission specifiers
- Partial remission – A is no longer met but B or C are
- Full remission – no criteria are met for sustained period

Severity
- Based on BMI, but numbers given for adults
- May be increased to reflect symptoms, functional disability, and need for supervision

Bulimia Nervosa + Binge Eating

- Only change in Bulimia Nervosa criteria is reduction of frequency from 2/week to 1/week
- Binge eating disorder criteria is the same as purging component of bulimia nervosa

Bulimia nervosa

A. Recurrent episodes of binge eating. Defined by:
   A. Eating in a discrete period of time an amount of food that is definitely larger than what most individuals would eat
   B. Sense of lack of control over eating episode

B. Recurrent inappropriate compensatory behaviors (vomiting, laxatives, exercise, fasting, etc.)

C. Once a week for 3 months
- Was twice a week

D. Self-evaluation is unduly influenced by body shape and weight

E. Does not occur during anorexia nervosa

Binge-eating disorder

A. Recurrent episodes of binge eating. Defined by:
   A. Eating in a discrete period of time an amount of food that is definitely larger than what most individuals would eat
   B. Sense of lack of control over eating episode

B. Binge eating episodes are associated with 3 (or more) of the following:
   1. Eating much more rapidly
   2. Eating until uncomfortable full
   3. Eating large amounts when not hungry
   4. Eating alone because of feeling embarrassed
   5. Feeling disgusted by oneself

C. Marked distress regarding binge eating

D. Occurs 1/week for 3 months

E. Not associated with bulimia (compensatory behavior) or anorexia

Bulimia Specifiers

- DSM IV-TR specifiers
  - Subtypes
    - Purging Type
    - Nonpurging type
  - No remission or severity specifiers

- DSM 5 Specifiers

Eliminated distinction between purging and nonpurging

Remission
- Partial remission – some but not all critera met
- Full remission – no criteria met for sustained time

Severity
- Based on number of compensatory behaviors per week
- Level may be adjusted to reflect other symptoms
- Mild: 1-3
- Moderate: 4-7
- Severe: 8-13
- Extreme: 14 or more

Sleep-Wake Disorders

http://come.to/csn23

Paradigm shift in the way sleep medicine has conceptualized

Removed: sleep disorders due to another mental disorder and sleep disorders due to a general medical condition

Primary insomnia has also been renamed insomnia disorder to avoid the differentiation between primary and secondary insomnia.

Narcolepsy, which is now know to be related to a hypocretin deficiency is distinguished from other forms of hypersomnia.

Pediatric and developmentally appropriate text are added when appropriate.

Insomnia Disorder

A. A predominant complaint of dissatisfaction with sleep quantity or quality, associated with one (or more) of the following symptoms:
  -Difficulty initiating sleep. **(In children, this may manifest as difficulty initiating sleep without caregiver intervention.)**
  -Difficulty maintaining sleep, characterized by frequent awakenings or problems returning to sleep after awakenings. **(In children, this may manifest as difficulty returning to sleep without caregiver intervention.)**
  -Early-morning awakening with inability to return to sleep.

Specifiers:
- with non-sleep disorder mental comorbidity (including substance use)
- with other medical comorbidity
- with other sleep disorder

Specifiers:
- episodic
- persistent
- recurrent

Narcolepsy

Specifiers:
- Narcolepsy without cataplexy but with hypocretin deficiency:
- Narcolepsy with cataplexy but without hypocretin deficiency
- Autosomal dominant cerebellar ataxia, deafness, and narcolepsy
- Autosomal dominant narcolepsy, obesity, and type 2 diabetes
- Narcolepsy secondary to another medical condition
  (for ICD-9-CM code 347.10 only): Code first the underlying medical condition (e.g., 040.2 Whipple's disease; 347.10 narcolepsy secondary to Whipple's disease).

Specifiers:
- mild
- moderate
- severe

New Sub section: Sleep-Related Breathing Disorders

Three disorders:

Obstructive Sleep Apnea Hypopnea
  Specify: Mild, moderate, Severe

Central Sleep Apnea
- idiopathic central sleep apnea
- Cheyne-strokes breathing
- Central sleep apnea comorbid with opioid use

Sleep-Related hypoventilation
- idiopathic
- congenital conteral alveolar hypoventilation
- comorbid sleep-related hypoventilation

All require polysomnograpy for diagnosis

Circadian Rhythm Sleep-Wake Disorders

Expanded to include five types:

Delayed Sleep Phase Type
  specify if familial or overlapping with non-24 hour sleep wake cycle

Advanced Sleep Phase Type
  Specify if familial

Irregular sleep-wake Type

Non-24 hour sleep wake Type

Shift work Type

For all specify: episodic, persistent, recurrent

Parasomnias

Non-Rapid Eye Movement Sleep Arousal Disorder
    Specify: Sleep walking type
        Sleep terror type
    Specify: With Sleep-Related Eating
        With Sleep-Related Sexual Behavior

Nightmare Disorder
    Specify if: during sleep onset
    specify if: with associated non-sleep disorder including substances
        with associated other medical condition
        with associated other sleep disorder
    Specify if: Acute, subacute, or persistent
    Specify if: mild, moderate, severe

Rapid Eye Movement Sleep Behavior Disorder
    moved from Sleep disorder NOS in DSM-IV
    repeated episodes of arousal during sleep associated with vocalization and/or complex motor behaviors during REM

Restless Leg Syndrome
    moved from Sleep disorder NOS in DSM-IV

Other disorders:

Hyper-somnolence Disorder

Substance/Medication – Induced Sleep Disorder

Other specified Insomnia Disorder
Unspecified Insomnia Disorder
Other specified Hyper-somnolence Disorder
Unspecified Hyper-somnolence Disorder
Other Specified Sleep-Wake Disorder
Unspecified Sleep-Wake Disorder

Sexual and Gender Identity Disorders
Changes in the DSM - 5

Kathleen A. Koth, DO

Category Changes

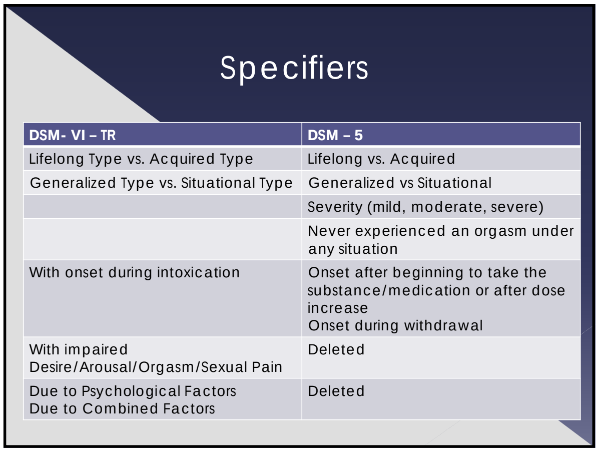
DSM-IV/IV-TR	DSM - 5
Sexual and Gender Identity Disorder	Sexual Dysfunction
Sexual Dysfunctions	Gender Dysphoria
Paraphilias	Paraphilic Disorders
Gender Identity Disorder	

Male Sexual Dysfunction

DSM- IV-TR	DSM-5
Male Orgasmic Disorder	Delayed Ejaculation
Male Erectile Disorder	Erectile Disorder
Hypoactive Sexual Desire Disorder	Male Hypoactive Sexual Desire Disorder
Premature Ejaculation	Premature (Early) Ejaculation
Sexual Aversion Disorder	Deleted
Sexual Dysfunction Due to a General Medical Condition Substance-Induced Sexual Dysfunction	Substance/Medication Induced Sexual Dysfunction
Sexual Dysfunction Not Otherwise Specified	Other Specified Sexual Dysfunction Unspecified Sexual Dysfunction

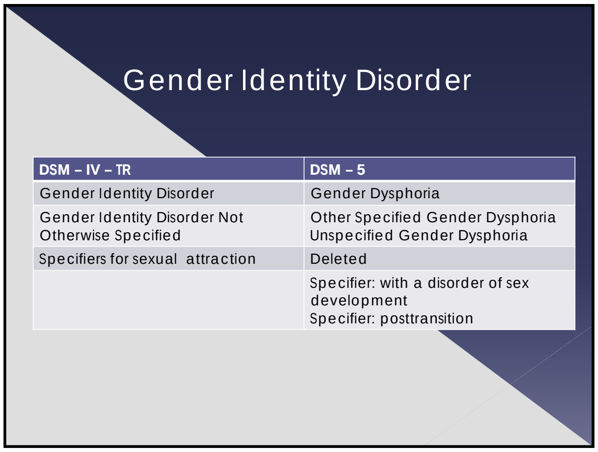
Female Sexual Dysfunction

DSM- IV – TR	DSM – 5
Female Orgasmic Disorder	Female Orgasmic Disorder
Hypoactive Sexual Desire Disorder Female Sexual Arousal Disorder	Female Sexual Interest/Arousal Disorder
Dyspareunia Vaginismus	Genito-pelvic pain/penetration Disorder
Sexual Dysfunction due to a general medical Condition Substance-Induced Sexual Dysfunction	Substance/Medication Induced Sexual Dysfunction
Sexual Aversion Disorder	Deleted
Sexual Dysfunction Not otherwise Specified	Other Specified Sexual Dysfunction Unspecified Sexual Dysfunction



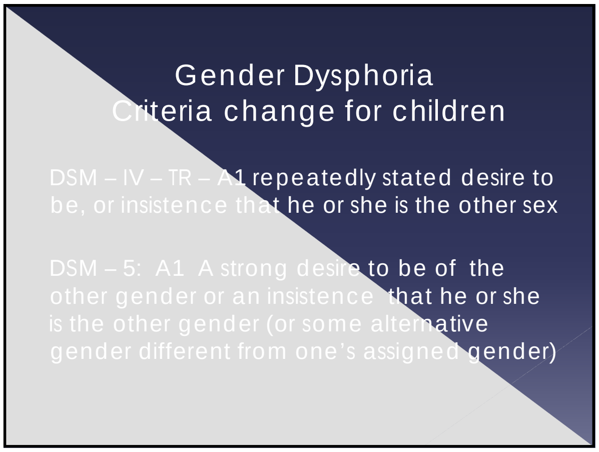
Specifiers

DSM- VI – TR	DSM – 5
Lifelong Type vs. Acquired Type	Lifelong vs. Acquired
Generalized Type vs. Situational Type	Generalized vs Situational
	Severity (mild, moderate, severe)
	Never experienced an orgasm under any situation
With onset during intoxication	Onset after beginning to take the substance/medication or after dose increase Onset during withdrawal
With impaired Desire/Arousal/Orgasm/Sexual Pain	Deleted
Due to Psychological Factors Due to Combined Factors	Deleted



Gender Identity Disorder

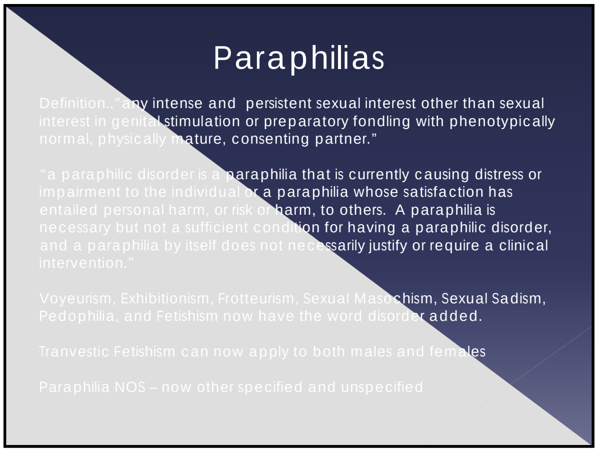
DSM – IV – TR	DSM – 5
Gender Identity Disorder	Gender Dysphoria
Gender Identity Disorder Not Otherwise Specified	Other Specified Gender Dysphoria Unspecified Gender Dysphoria
Specifiers for sexual attraction	Deleted
	Specifier: with a disorder of sex development Specifier: posttransition



Gender Dysphoria
Criteria change for children

DSM – IV – TR – A1 repeatedly stated desire to be, or insistence that he or she is the other sex

DSM – 5: A1 A strong desire to be of the other gender or an insistence that he or she is the other gender (or some alternative gender different from one's assigned gender)



Paraphilias

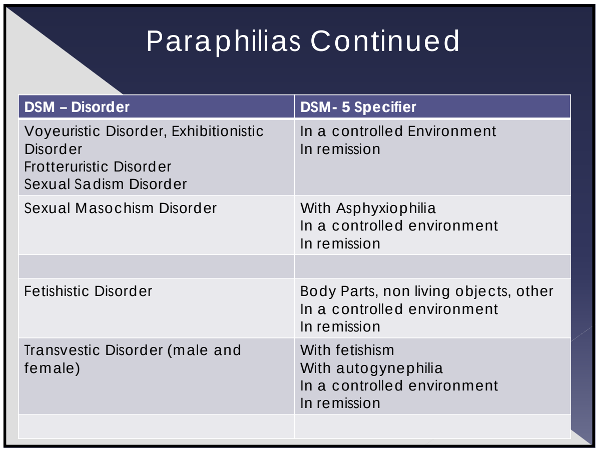
Definition..."any intense and persistent sexual interest other than sexual interest in genital stimulation or preparatory fondling with phenotypically normal, physically mature, consenting partner."

"a paraphilic disorder is a paraphilia that is currently causing distress or impairment to the individual or a paraphilia whose satisfaction has entailed personal harm, or risk or harm, to others. A paraphilia is necessary but not a sufficient condition for having a paraphilic disorder, and a paraphilia by itself does not necessarily justify or require a clinical intervention."

Voyeurism, Exhibitionism, Frotteurism, Sexual Masochism, Sexual Sadism, Pedophilia, and Fetishism now have the word disorder added.

Tranvestic Fetishism can now apply to both males and females

Paraphilia NOS – now other specified and unspecified



Paraphilias Continued

DSM – Disorder	DSM- 5 Specifier
Voyeuristic Disorder, Exhibitionistic Disorder Frotteruristic Disorder Sexual Sadism Disorder	In a controlled Environment In remission
Sexual Masochism Disorder	With Asphyxiophilia In a controlled environment In remission
Fetishistic Disorder	Body Parts, non living objects, other In a controlled environment In remission
Transvestic Disorder (male and female)	With fetishism With autogynephilia In a controlled environment In remission

Oppositional Defiant Disorder/Conduct Disorder

Disruptive, Impulse-Control, and Conduct Disorder

- ODD and Conduct D/O moved to this new chapter in DSM 5 that also contains Antisocial PD, Pyromania, Kleptomania, and Intermittent Explosive Disorder
- ODD did not change criteria, but grouped symptoms into “Angry/irritable mood”, “Argumentative/defiant behavior” and “Vindictiveness”
- ODD can now co-exist with Conduct Disorder
- ODD adds a severity rating based on pervasiveness across settings

Conduct Disorder

- DSM 5 maintained diagnostic criteria from DSM IV. Need to meet 3/15 criteria, which reflect pattern of violating the basic rights of others and major societal rules
- DSM 5 added a specifier- “with limited prosocial emotions”, which reflects capacity for empathy, and concern for the “feelings, wishes and well-being of others”, which may detect risk for Antisocial PD
- Specifiers: Mild, Moderate, Severe

Substance-Related and Addictive Disorders

Substance-Related and Addictive Disorders

- Now includes Gambling Disorder
- No separate diagnoses for abuse and dependence
  - Criteria are abuse and dependence criteria put together without legal effects that were in abuse plus cravings are added
- New diagnoses of Cannabis withdrawal and caffeine withdrawal
- Tobacco use disorder is the same for other substances (previously was no tobacco abuse)
- Severity scale is added
- No “polysubstance dependence”
- New remission specifiers “in a controlled environment” and “on maintenance therapy”

Various Substance Diagnoses

- All have a use disorder (except caffeine) that are same criteria
  - Mild: 2-3 symptoms
  - Moderate: 4-5 symptoms
  - Severe: 6 or more symptoms
- All have specific intoxication criteria based on effects (except tobacco)
- All have specific withdrawal criteria based on symptoms (except inhalants)
- Hallucinations have “Hallucinogen Persisting Perception Disorder”

DSM-IV-TR Substance Aubse

A. A pattern of substance use leading to significant impairment or distress, as manifested by one or more of the following during in the past 12 month period:
   1. Failure to fulfill major role obligations at work, school, home such as repeated absences or poor work performance related to substance use; substance-related absences, suspensions, or expulsions from school; neglect of children or household
   2. Frequent use of substances in situation in which it is physically hazardous (e.g., driving an automobile or operating a machine when impaired by substance use)
   3. Frequent legal problems (e.g. arrests, disorderly conduct) for substance abuse
   4. Continued use despite having persistent or recurrent social or interpersonal problems (e.g., arguments with spouse about consequences of intoxication, physical fights)

B. Symptoms have never met the criteria for Substance Dependence for this Class of Substance

DSM-IV-TR Substance Dependence

A. Dependence or significant impairment or distress, as manifested by 3 or more of the following during a 12 month period:

1. Tolerance or markedly increased amounts of the substance to achieve intoxication or desired effect or markedly diminished effect with continued use of the same amount of substance
2. Withdrawal symptoms or the use of certain substances to avoid withdrawal symptoms
3. Use of a substance in larger amounts or over a longer period than was intended
4. Persistent desire or unsuccessful efforts to cut down or control substance use
5. Involvement in chronic behavior to obtain the substance, use the substance, or recover from its effects
6. Reduction or abandonment of social, occupational or recreational activities because of substance use
7. Use of substances even though there is a persistent or recurrent physical or psychological problem that is likely to have been caused or exacerbated by the substance

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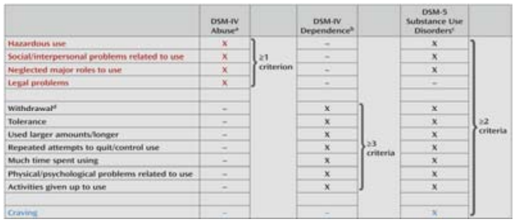
From: DSM-5 Criteria for Substance Use Disorders: Recommendations and Rationale

Am J Psychiatry. 2013;170(8):834-851. doi:10.1176/appi.ajp.2013.12060782



	DSM-IV Abuse[a]		DSM-IV Dependence[b]		DSM-5 Substance Use Disorders[c]	
Hazardous use	X	≥1 criterion	–		X	≥2 criteria
Social/interpersonal problems related to use	X		–		X	
Neglected major roles to use	X		–		X	
Legal problems	X		–		–	
Withdrawal[d]	–		X	≥3 criteria	X	
Tolerance	–		X		X	
Used larger amounts/longer	–		X		X	
Repeated attempts to quit/control use	–		X		X	
Much time spent using	–		X		X	
Physical/psychological problems related to use	–		X		X	
Activities given up to use	–		X		X	
Craving	–		–		X	

Figure Legend:

DSM-IV and DSM-5 Criteria for Substance Use Disorders[a] One or more abuse criteria within a 12-month period and no dependence diagnosis; applicable to all substances except nicotine, for which DSM-IV abuse criteria were not given.

[b] Three or more dependence criteria within a 12-month period.

[c] Two or more substance use disorder criteria within a 12-month period.

[d] Withdrawal not included for cannabis, inhalant, and hallucinogen disorders in DSM-IV. Cannabis withdrawal added in DSM-5.

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Substance Use Disorder

- A problematic pattern of “substance” use leading to clinically significant impairment or distress, as manifested by at least two of the following, occurring within a 12-month period:
    - Substance is often taken in larger amounts or over a longer period than was intended.
    - There is a persistent desire or unsuccessful efforts to cut down or control substance use.
    - A great deal of time is spent in activities necessary to obtain substance, use substance, or recover from its effects.
    - Craving, or a strong desire or urge to use substance.
    - Recurrent substance use resulting in a failure to fulfill major role obligations at work, school, or home.
    - Continued substance use despite having persistent or recurrent social or interpersonal problems caused or exacerbated by the effects of substance .
    - Important social, occupational, or recreational activities are given up or reduced because of substance use.
    - Recurrent substance use in situations in which it is physically hazardous.
    - Substance use is continued despite knowledge of having a persistent or recurrent physical or psychological problem that is likely to have been caused or exacerbated by alcohol.
    - Tolerance, as defined by either of the following:
        - – A need for markedly increased amounts of substance to achieve intoxication or desired effect.
        - – A markedly diminished effect with continued use of the same amount of substance.
    - Withdrawal, as manifested by either of the following:
        - – The characteristic withdrawal syndrome for substance
        - – Substance (or a closely related substance) is taken to relieve or avoid withdrawal symptoms.

Gambling Disorder

– Small changes include:
- 4/9 instead of 5/10 symptoms required
- Committing illegal acts is the symptom that is removed
- Name changed from “Pathological Gambling”

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Neurocognitive Disorders

Formerly: “Dementia, Delirium, Amnestic, and Other Cognitive Disorders”

Major Changes

- Amnestic Disorders and Dementias have been combined into new entity of Major Neurocognitive Disorder
    - – The term dementia may still be used where standard
- Recognition of a less severe level of cognitive impairment: mild neuorocognitive disorder
    - – Although this is new to the DSM, its presence is consistent with its use in other fields of medicine
- More etiologic subtypes have been included

Delirium

- One set of criteria for delirium with specifiers for:
  - Substance intoxication
  - Substance withdrawal
  - Medication-induced
  - Due to another medical condition
  - Multiple etiologies
- DSM-IV-TR had different criteria for delirium from medical condition and substances
- Coding is complex
  - There are substance specific codes
  - More than one code may be used (medical condition and intoxication)

Delirium DSM-IV-TR

A. Disturbance in consciousness with reduced ability focus, sustain, or shift attention
B. A change in cognition or the development of a perceptual disturbance that is not better accounted for by a preexisting, established, or evolving dementia
C. The disturbance develops over a short period of time and tends to fluctuate over the course of a day
D. There is evidence from the history, physical, or laboratory findings that the disturbance is caused by the direct physiological consequences of a medical condition.

Delirium DSM 5

A. Disturbance in attention and awareness (consciousness criteria removed)
B. The disturbance develops over a short period of time and tends to fluctuate over the course of a day
C. An additional disturbance in cognition
D. The disturbances in A and C are not better explained by another preexisting, established or evolving neurocognitive disorder and do not occur in the context of a severely reduced level of arousal, such as coma
E. There is evidence from the history, physical, or laboratory findings that the disturbance is caused by the direct physiological consequences of a medical condition, substance intoxication or withdrawal.

Dementias and amnesias(IV-TR) vs Neurocognitive Disorders (5)

- DSM-IV-TR
  - Had specific criteria for Alzheimer's, Vascular, Substance-Induced, and "Other General Medical Conditions"
  - No specific criteria for "Other General Medical Conditions"
  - Amnestic Disorder Due to general medical condition, subtance-induced or NOS

- DSM 5

Major and Mild Neurocognitive Disorders

No Amnestic Disorders

Criteria specifically for:

- Alzheimer's disease
- Frontotemporal dementia
- Lewy body disease
- Vascular disease
- Traumatic Brain injury
- Substance/medication use
- HIV infection
- Prion disease
- Parkinson's disease
- Huntington's disease
- Another medical condition
- Multiple etiologies
- Unspecified

DSM-IV-TR Dementia of Alzheimer's Type

A. The development of multiple cognitive deficits manifested by both:
   1. Memory impairment
   2. One or more or the following cognitive disturbances:
      a. Aphasia (language disturbance)
      b. Apraxia (motor activities)
      c. Agnosia (recognize objects)
      d. Disturbance in executive functioning
B. Cognitive deficits cause significant impairment in social or occupational functioning and represent a significant decline from previous level of functioning
C. Course is characterized by gradual onset and continuing cognitive decline
D. Cognitive deficits are not due to:
   1. Other CNS condition
   2. Systemic conditions
   3. Substance-induced
E. Deficits do not occur solely in delirium
F. Disturbance is not explained by another Axis I disorder

DSM 5 – Major Neurocognitive Disorder

A. Evidence of significant cognitive decline from a previous level of performance in one or more of cognitive domains (complex attention, executive function, learning and memory, language, perceptual-motor, or social cognition) based on:
   1. Concern of the individual, a knowledgeable informant, or the clinician that there has been a significant decline in cognitive function
   2. A substantial impairment in cognitive performance, preferably documented by standardized neuropsychological testing or, in its absence, another quantified clinical assessment
B. Cognitive deficits interfere with independence in everyday activities
C. Deficits do not occur exclusively in the context of a delirium
D. Cognitive deficits are not better explained by another mental disorder

DSM 5 – Mild Neurocognitive Disorder

A. Evidence of modest cognitive decline from a previous level of performance in one or more of cognitive domains (complex attention, executive function, learning and memory, language, perceptual-motor, or social cognition) based on:
   1. Concern of the individual, a knowledgeable informant, or the clinician that there has been mild decline in cognitive function
   2. A modest impairment in cognitive performance, preferably documented by standardized neuropsychological testing or, in its absence, another quantified clinical assessment

B. Cognitive deficits do not interfere with capacity for independence in everyday activities

C. Deficits do not occur exclusively in the context of a delirium

D. Cognitive deficits are not better explained by another mental disorder

Major or Mild Neurocognitive Disorder Due to Alzheimer's Disease

A. Criteria are met for major or mild neurocognitive disorder

B. There is insidious onset and gradual progression of impairment in one or more cognitive domains

C. Criteria are met for either probable or possible Alzheimer's disease (probable if one is met, possible if none met)
   - **Major:**
   1. Evidence of a causative Alzheimer's disease genetic mutation from family history or genetic testing
   2. All three of following:
      a) Clear evidence of decline in memory, learning and one other cognitive domain
      b) Steadily progressive, gradual decline in cognition, without extended plateaus
      c) No evidence of mixed etiology (other medical findings)
   - **Minor:**
   - **Probable** is diagnosed if there is evidence of causative Alzheimer's by genetic testing or family history
   - **Possible** is diagnosed with all three of following:
      a) Clear evidence of decline in memory, learning and one other cognitive domain
      b) Steadily progressive, gradual decline in cognition, without extended plateaus
      c) No evidence of mixed etiology (other medical findings)

D. Disturbance is not better explained by another mental, neurologic, or systemic disorder.

The rest have a similar pattern

Personality Disorders

Major Changes

- New diagnosis for Personality Change Due to General Medical Condition
- After much discussion, no changes to specific criteria, though a new proposed system in section III
- No separate Axis
- Of note, language in chapter remains that individuals < 18 must have symptoms for > 1 year.
  - Antisocial PD still cannot be diagnosed below age 18

Personality Change Due to Another Medical Condition

A. A persistent personality disturbance that represents a change from the individual's previous characteristic personality pattern.
   - Note: in children involves a marked deviation from normal development or change in behavior lasting longer than 1 year

B. Evidence of another medical condition

C. Not explained by a mental disorder

D. Not during course of delirium

E. Causes impairment in social, occupational or other functioning

Personality Change Due to Another Medical Condition

A. Subtypes include
  A. Labile type
  B. Disinhibited type
  C. Aggressive type
  D. Apathetic type
  E. Paranoid type
  F. Other type
  G. Combined type
  H. Unspecified type

Section III Alternative

- Introduction of a new approach to “address numerous shortcomings of the current approach to personality disorders”
  - Patients may meet criteria for several personality disorders
  - Many times the best diagnosis is other or unspecified personality disorder
- Personality disorders in the new model are defined by
  - Impairments in personality functioning
    - defined more specifically by a table (must be at least moderately impaired)
  - Pathological personality traits
    - Defined as 25 traits in 5 domains (Negative affectivity, Detachment, Antagonism, Disinhibition, Psychoticism)

Section III Alternative

- There are then criteria based on traits for:
  - Antisocial, avoidant, borderline, narcissistic, obsessive-compulsive, and schizotypal
- If these criteria are not met but the patient does have impaired functioning, pervasive symptoms, and no other explanation, the patient can be diagnosed as Personality Disorder – Trait Specified
- Other traits can also be added to a criteria based diagnosis (e.g. Borderline Personality Disorder – with psychoticism – severely impaired)

Paraphilic Disorders

Major Changes

- Addition of Specifiers
- Change of name from paraphilia to paraphilic disorder
  - Seems minor but is thoughtful
  - Paraphilia - qualitative nature of sexual thoughts
  - Paraphilic disorder - requires negative consequences
  - Does not label “nonnormative sexual behavior” as a disorder.
- No significant criteria changes

Other Mental Disorders

- Essentially a “catch all” for psychiatric symptoms that cause impairment but do not meet criteria for a specific disorder
- Include:
  - Other Specified Mental Disorder Due to Another Medical Condition (example - dissociation in seizures)
  - Unspecified Mental Disorder Due to Another Medical Condition
  - Other Specified Mental Disorder
  - Unspecified Mental Disorder

Medication-Induced Movement Disorders and Other Adverse Effects of Medication

Major Changes

- Seperated from “Other Conditions That May Be a Focus of Clinical Attention”
  - Importance in medication management
  - Differential diagnosis of mental disorders
- Term neuroleptic retained over antipsychotic because of dopamine receptor blocking agents used for other indications (nausea)

Diagnostic changes

- Other Medication-Induced Parkinsonism added
  - Neuroleptic induced parkinsonism remains a diagnosis
  - Not limited to neuroleptics
- Dystonia, Akathisia, and Tardive Dyskinesia were generalized to medication induced
  - Not specific for neuroleptics
- Antidepressant Discontinuation Syndrome added

Other Conditions That May Be a Focus of Clinical Attention

Other Conditions That May Be a Focus of Clinical Attention

- Problems that may be a focus of clinical attention or affect a patient’s mental disorder
- Coded as “V codes” which may allow insurance to cover tests or treatments
- Changes include many more specific issues

Relational Problems

- New Conditions
  - Upbringing Away From Parents
  - Child Affected by Parental Relationship Distress
  - Disruption of Family by Separation or Divorce
  - High Expressed Emotion Within Family
- Uncomplicated Bereavement
  - Normal reaction to death that individual seeks professional help for

Child Maltreatment and Neglect Problems

- Specifiers for Confirmed and Suspected Abuse
- Child Psychological Abuse
  - New listed Condition
  - Includes:
    - berating, disparaging, or humiliating the child
    - threatening to harm or abandon the child
    - Confining the child (tying or small room)

Adult Maltreatment and Neglect

- Specific Condition of Spouse or Partner Violence
  - Physical, Sexual, Neglect, and Psychological
    - Neglect requires a care role or cultural limitations (inability to communicate with others)
    - Again suspected and confirmed
- Adult abuse by Nonspouse or Nonpartner
  - Divided into confirmed, suspected and physical, psychological, and sexual

Other Conditions

- Educational and Occupational Problems
  - Includes “Problem Related to Current Military Deployment Status”
- Housing and Economic Problems
  - Interestingly ranges from homelessness to “discord with neighbor, lodger, or landlord”
  - Also includes “Problem Related to Living in a Residential Institution”
- Specific counseling codes
  - Sex counseling
  - Other counseling

Other Conditions

- Adult antisocial behavior
  - Antisocial acts without meeting personality disorder (“thieves, racketeers, or dealers in illegal substances”)
- Child or Adolescent Antisocial Behavior
  - Isolated acts (not a pattern of behavior)
- Non adherence to medical treatment
  - Discomfort, expense, religious beliefs, mental disorder
- Malingering
  - Intentional production of false or grossly exaggerated physical or psychological symptoms motivated by external incentives
  - Can be adaptive (Avoid abuse)
- Wandering associated with a mental disorder
  - Most often with neurocognitive disorder
- Borderline Intellectual Functioning
  - Vague, refers back to intellectual disability section

What will these changes bring?

Welcome to
The Future

Section III of the DSM 5

- Section III of DSM-5 lists conditions warranting more research before inclusion in the main book as formal disorders.
- Non-Suicidal Self-Injury defines self-harm without the intention of suicide.
- Internet Gaming Disorder is the compulsive preoccupation with online games, often to the exclusion of other needs and interests

Potential Implications of DSM 5 CAP Changes

- The new DMDD diagnosis is significant, and causes us to look contextually, (contrasted with the pediatric bipolar diagnosis)
- A developmental look at PTSD symptoms will identify more kids with the disorder, and recognize trauma
- Further development of RAD and attachment will enhance the understanding of the importance of security of relationships in early childhood

Potential Implications of DSM 5 Changes

- ASD-better reliability
- Intellectual Disability-less perjorative word
- Learning Disability-simplified categories, no age, and intervention
- ADHD- more inclusive- up to age 12, and for adults
- Gender Dysphoria-language change, and took it out of paraphilias
- ODD/Conduct-can coexist, and added specifiers
- Substance Use Disorders-removed distinction between abuse and dependence
- Neurocognitive Disorders-recognize mild, early symptoms, and subtypes

Potential Implications of DSM 5 Changes

- Improve clarity of diagnoses
- Draw relationships where helpful
- Enhance effective treatments and supports
- Drive research
- Help us better help children

How do school psychologists use this info?

- Be aware of major diagnoses for children and teens
- Be aware of trends in the field
- Big changes in the areas of ASD, DMDD, PTSD, RAD
- Be aware of the role of trauma in kids' behavior
- School psychologists provide education, modeling, sources of information, screening, triage services
- Keep up the important work supporting kids, families, teachers and staff

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Zucker, Kenneth J Sexual and Gender Identity Disorders, Chair of the DSM-5 workgroup on Sexual and Gender Identity Disorders, as part of the DSM-5: What you need to know Master Course, American Psychiatry Association Annual Meeting, 5/18/13 .

Wisconsin School Psychologists Association
Spring 2014
March 28, 2014

School Psychology and the Management of Concussion

Daniel Krenzer, PhD, NCSP
UW-Stout

WSPA
Wisconsin School Psychologists Association, Inc.

Game Plan for the Morning

-Define Concussion
-What's the big deal?
-Support Teams
-Symptoms
-Problems after concussi
-Making return to play/learn cisions
-Problem Solving and Monitoring Progress
-Addressing persistent problems with concussion

March is Brain Injury Awareness Month!
Brain Injury Assoc. of America

Definition

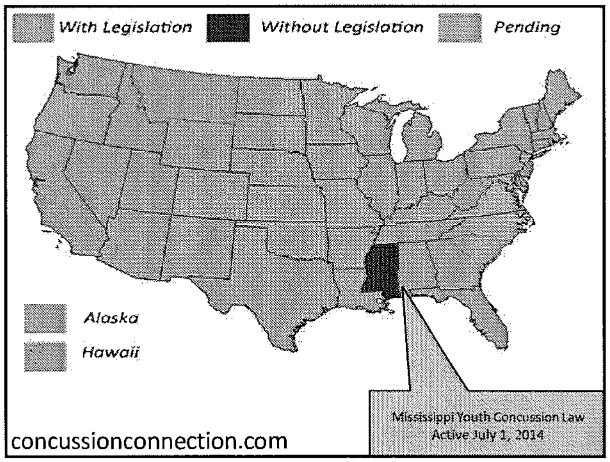
-A type of injury that interferes with normal functioning of the brain, changes how the cells in the brain normally work.

-Generally, synonymous with mTBI

-Caused by a bump, blow, or jolt to the head or body.

-Any force that is transmitted to the head causing the brain to literally bounce around or twist within the skull

-A disruption at the cellular level not at the structural level



Mississippi Youth Concussion Law Active July 1, 2014

concussionconnection.com

2011 Wisconsin Act 172
Assembly Bill 259

-Does not cover college athletics or accidents

-Development of guidelines to educate coaches, athletes, parents about the nature and risk of head injury in athletics

-The person operating a athletic activity shall distribute information regarding risks of concussion

-No person can participate without a returned information form by parent

-Player will be removed from activity if official, coach, or health care provider suspects symptoms assoc. with concussion

-Player removed from play cannot return until given written clearance by health care provider

Sports related TBI

-CDC estimates 300,000 sports related concussions each year.

Included only cases with loss of consciousness.
LoC only account for 8-19.2% of sports related concussion.

Athletes tend to under-report

Therefore, approx. 1.6-3.8 million sports related concussions per year.

Langlois et al. (2006)

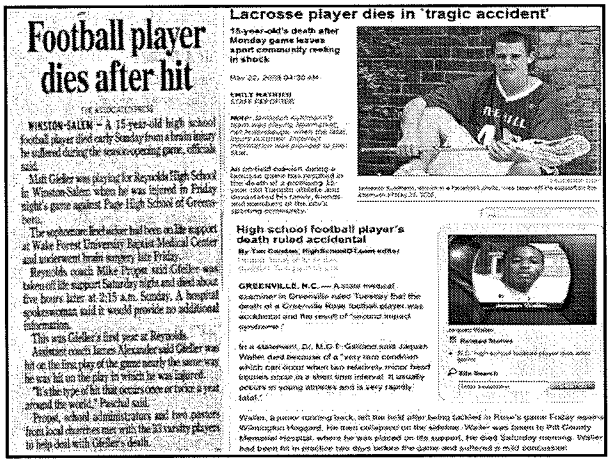
What's the big deal?

Brand and Age of Football Helmets Make No Difference in Concussions
Concussions were no less frequent or severe among players with newer and more costly equipment. U of Wisconsin-Madison tested various mouth guard brands, as well as new and older football helmets worn by 1,332 high school football players from 36 different schools. The researchers found that there was no significant difference in the frequency of concussions among players, regardless of the brand or age of the helmets they wore

NFL, players reach proposed $765M settlement of concussion-related lawsuits

Frontline:
League of Denial

Young Football Players Take Adult-Size Hits
RELATIVELY SPEAKING, THE MAGNITUDE IS THE SAME AS FOR OLDER PLAYERS



Football player dies after hit

WINSTON-SALEM – A 15-year-old high school football player died early Sunday from a brain injury he suffered during the season-opening game, officials said.

Matt Gfeller was playing for Reynolds High School in Winston-Salem when he was injured in Friday night's game against Page High School of Greensboro.

The sophomore linebacker had been on life support at Wake Forest University Baptist Medical Center and underwent brain surgery late Friday.

Reynolds coach Mike Propst said Gfeller was taken off life support Saturday night and died about five hours later at 2:15 a.m. Sunday. A hospital spokeswoman said it would provide no additional information.

This was Gfeller's first year at Reynolds.

Assistant coach James Alexander said Gfeller was hit on the first play of the game nearly the same way he was hit on the play in which he was injured.

"It's the type of hit that occurs once or twice a year around the world," Paschal said.

Propst, school administrators and two pastors from local churches met with the 53 varsity players to help deal with Gfeller's death.

Lacrosse player dies in 'tragic accident'

15-year-old's death after Monday game leaves sport community reeling in shock

May 22, 2008 04:30 AM

EMILY MATHIEU
STAFF REPORTER

An on-field collision during a lacrosse game has resulted in the death of a promising 15-year-old Toronto athlete and devastated his family, friends and members of the city's sporting community.

High school football player's death ruled accidental

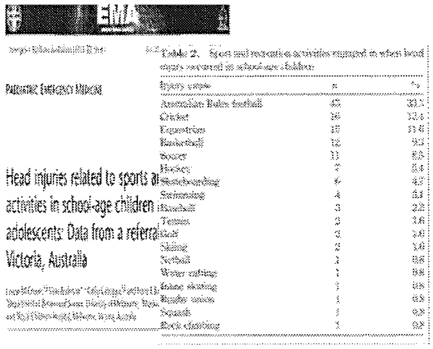
By Tim Gordon, HighSchoolOT.com editor

GREENVILLE, N.C. — A state medical examiner in Greenville ruled Tuesday that the death of a Greenville Rose football player was accidental and the result of "second impact syndrome."

In a statement, Dr. M.G.F. Gilliland said Jaquan Waller died because of a "very rare condition which can occur when two relatively minor head injuries occur in a short time interval. It usually occurs in young athletes and is very rapidly fatal."

Waller, a junior running back, left the field after being tackled in Rose's game Friday against Wilmington Hoggard. He then collapsed on the sideline. Waller was taken to Pitt County Memorial Hospital, where he was placed on life support. He died Saturday morning. Waller had been hit in practice two days before the game and suffered a mild concussion.

Its not just here...



Pediatric Emergency Medicine

Head injuries related to sports a… activities in school-age children … adolescents: Data from a referral… Victoria, Australia

Helmets and Mouth Guards

-Helmets prevent skull fractures

-Helmets do not prevent concussions, they cause concussions

-Mouth guards prevent dental injuries

-Mouth guards do not prevent concussions

- Perceived quality of helmets and mouth guards doesn't seem to matter regarding concussion prevention

(Brooks, McGuine, McCrea, 2013)

High School Concussions

-Over 50% of concussed high school football athletes do NOT report their injury

-Concussion rates were higher in college, but concussions were a higher proportion of all high school athletic injuries

-16.8 % of concussed athletes had suffered a previous concussion in that season or in a prior season

-Greater than 20% of concussions in boys' and girls' basketball were recurrent concussions

-Girls took longer than boys to recover

McCrea, M., Hammeke, T., Olsen, G., Leo, P., and Guskiewicz, K.M. (2004). Unreported concussion in high school football players: implications for prevention. Clin. J Sport Med. 14

High School Concussions

Concussion rate per 1000 athlete-exposures

Football	0.47
Girl's soccer	0.36
Boy's soccer	0.22
Girl's basketball	0.21
Boy's basketball	0.07

Concussion 5.5% of total injuries

Football	63.4%
Wrestling	10.5%
Girls Soccer	6.2%
Boys Soccer	5.7%
Girls Basketball	5.2%
Boys Basketball	4.2%
Softball	2.1%
Baseball	1.2%
Field Hockey	1.1%
Volleyball	0.5%

Gessel LM et al. "Concussions Among United States High School and Collegiate Athletes" Journal of Athletic Training 2007; 42:495-503

JAMA. 1999 Sep 8;282(10):989-91

What is going on in there?

-In a concussion, certain chemical levels are altered at the cellular level

-Blood supply to the brain decreases

-The brain's demand for glucose increases

-Mismatch in fuel supply and demand
  - Neuronal tissue vulnerability

-

So, the brain needs time to recover

Myths

-Non-athletes don't get concussed

-Must lose consciousness
  less than 10% blackout

-Brain is bruised or bleeding

-CT or MRI will tell you all you need to know

-Concussions must be a blow to the head

MYTHS

-Three concussions and career in sports is over (there isn't a magic number)

-Concussions determine risk of chronic traumatic Encephalopathy

-Boys suffer concussions more then
    -women were more likely to sustain concussions then men in soccer

-Mouth guards prevent concussions

-Concussion symptoms are obvious immediately

Perceptions

Survey 300 players, 100 coaches, 100 parents, 100 ATCs

If a player complains of a headache , should return to play?
  Players 55%, Coaches 33%, ATC 30%, Parents 24%

Percentage who would play a concussed star in a title game?
  Players 54%, ATC 9%, Parents 6.1%, Coaches 2.1%

Level of concern for concussions (1 = most concerned; 4 = least)
  Players 3.5, Coaches 2.4, Parents 2.1, ATC 1.6

Is a good chance of playing in the NFL worth a decent chance of permanent brain damage?
  Players 44.7%, Coaches 19.4%, Parents 15%, ATC 10%

Domains of concussion

-Physical: headaches, vision, nausea, noise/light sensitivity, motor difficulties, tired

-Cognitive: memory, learning, concentration, processing speed, word-finding

-Emotional: mood changes, motivation, irritable, impulsive, easily overwhelmed

-Sleep: more/less, difficulty getting to sleep

Behaviors You May See

-Appearing dazed & confused

-Slow responses

-Repeats questions

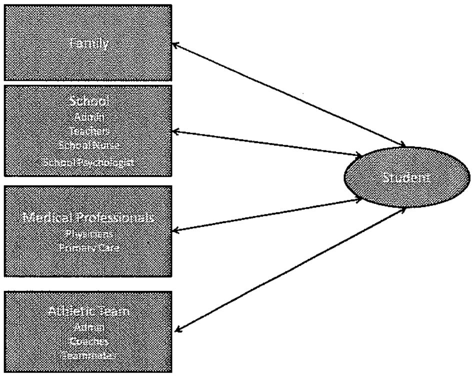
-Can't recall events prior to or immediately after event

-Behavior or personality changes

-Easily frustrated

-Impulsive behavior

SUPPORT TEAMS



Family

School
Admin
Teachers
School Nurse
School Psychologist

Medical Professionals
Physicians
Primary Care

Athletic Team
Admin
Coaches
Teammates

Student

Concussion's Effects on School Learning & Performance (Gioia & Collins, 2006)

Common experiences in school after concussion

Headaches interfering	71.3%
Can't pay attn in class	62.5%
HW taking much longer	59.5%
Difficulty studying for test/quiz	51.9%
Too tired	50.6%
Difficulty understanding material	44.0%
Difficulty taking notes	28.8%

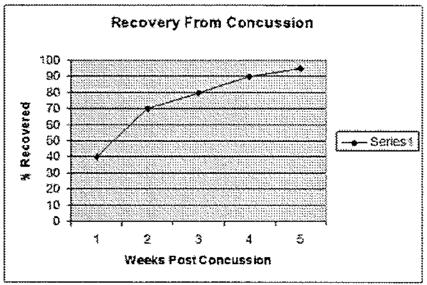
Concussion's Effects on School Learning & Performance (Gioia & Collins, 2006)

"Which classes are you having the most trouble with?"

(Percent reporting trouble in class)

	Parent	Student
Math	60.3%	73.7%
Reading/LA	38.1%	46.1%
Science	38.1%	47.4%
Soc Stud	38.1%	40.8%
Foreign Lang	38.1%	38.2%
Music	6.3%	17.9%
PE	7.9%	10.5%
Art	3.2%	5.3%
None	25.4%	6.6%

Typical Recovery



Collins M, Lovell MR, Iverson GL, et al. Examining concussion rates and return to play in high school football players wearing helmet technology: a three-year prospective cohort study. *Neurosurgery*. 2006;58(2):275–286

POST CONCUSSIVE SYNDROME

-If behaviors and symptoms persist for 3+ months, PCS may be present

-Headache & Dizziness (60%)
-Hearing loss (20%)
-Memory & Attention Problems may be persistent
(Cobb & Battin, 2004)

Less than 5% of cases meet criteria for PCS after 6 months (Iverson, 2005)

But, if academic difficulty is experienced for months, what may need to happen for the student?

Fatigue
Nausea
Irritability
Headache

Mood Changes
Social Difficulties
Academic Struggles
Cognitive Fogginess

Second Impact Syndrome

-An individual who receives a second concussion before symptoms from a previous one has healed may be at risk of developing a rare but deadly condition called SIS
(Buzzini & Guskwicz, 2006; Solomos 2002)

-Brain swells catastrophically after even a mild blow can cause the debilitating or deadly results

-SIS very rare, remains controversial (Cobb & Battin, 2004).

Second Impact Syndrome

Two examples of why concussion legislation is vital and that it includes that athletes must be taken out upon suspicion on concussion

-Zachary Lystedt suffered head injury in an eighth grade football game, returned to the field and finished game then collapsed on the field NOW DISABLED

-Preston Pleverete suffered SIS November 2005 playing football for LaSalle University. He received settlement for 7.5 million dollars, but currently struggles to walk and talk.

Who Gets Second Impact Syndrome?

-Any athlete who returns to a sports competition while still experiencing concussion-like symptoms is at risk

1.6 to 3.8 million sports related concussions occur every year.

Injury rate per 1 thousand exposures
Football (2.34)
Mens Ice Hockey(1.47)
Womens Soccer(1.42)
Wrestling (1.27)

Prevention of Second Impact Syndrome

-SIS has a higher mortality rate in young athletes.

-The key to preventing SIS is to ensure that athletes do no return to sport with any post-concussion symptoms.

-Athletes do not return to sport on the same day that they are concussed and they do not return to sport unless they have been cleared by a sports medicine professional.

-Education regarding the proper diagnosis and management of a concussion needs to occur throughout all communities.

What is Chronic Traumatic Encephalopathy?

-Sub-concussive hits.

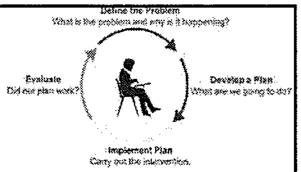
-CTE is a progressive neurodegenerative disease caused by repeated trauma to the head and characterized by the build up of a toxic protein called Tau.

-The abnormal protein (Tau) impairs normal functioning and eventually kills brain cells

-CTE symptoms:

Memory Impairment	Depression
Emotional Instability	Problems with impulse control
Erratic Behavior	Progresses to full grown dementia

What do we do?


Define the Problem
What is the problem and why is it happening?
Develop a Plan
What are we going to do?
Implement Plan
Carry out the intervention.
Evaluate
Did our plan work?

-Problem Solving Model

-Collaboration; health care professionals, athletics, parents, and student

-All school staff should be informed about the returning student's injury and symptoms

-School staff must assist with transition process and making accommodations for student

What do we do?
The nuts and bolts

-Conduct a reentry meeting with school team

-Consider the four domains, behaviors, symptoms

-Based on functioning of student, initiate a plan to reintegrate student to school

-Consider accommodations based on each of the domains

What do we do?
The nuts and bolts

-Train relevant school personnel on the plan

-Perhaps develop a checklist for the school team to ensure that accommodations are being followed and to track student behaviors/symptoms

-Schedule follow up meetings 5-7 school days after reentry & until full or near full recovery

Making Return to Play/Learn Decisions

Symptom free = return to play

Not all kids are athletes but all kids are students

Student does not need to be symptom free to return to learning

Return to Learn
Team Concept

-Medical team

-Family team

-School teams:
  - academic team
  - athletic team

Role of the Medical Team

-Educate the child and family on the nature and typical course of concussion, the importance of **REST**

-Verify symptoms that might interfere with learning and communicate with the school.

-Reassess the student as indicated based on family and school feedback.

-Eventually provide clearance to full return

Role of the School Teams

-Allow a student to rest and return to learning at a pace consistent with recommendations

-Designate a contact person who can serve as manager of communication between teams

-Report to family and medical team on how the student is managing symptoms of concussion with stressors of school.

-Work as a team to further transition student to school, slow transition plan, or stay the course.

Role of the Family

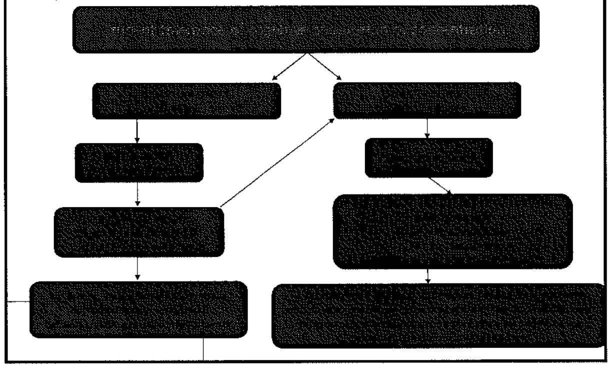
-Follow medical plan to include rest and reduce stimulation.

-Work with the school to develop a plan for return to learning

-Sign essential releases to allow communication between the school and the medical teams.

Guidance for Determining Student Readiness to Return to Learning

McCrory, Meeuwisse, Johnston, Dvorak, Aubry, Molloy & Cantu, 2008)



Tutoring Following Concussion

-Tutoring may be used for a student who can attend 20-30 min.

- -Work in the school library with teacher after hours
- -Avoid passing time in the halls
- -Avoid crowded areas, cafeterias, auditoriums, gymnasiums

-Tutoring may be used for a student who cannot leave home for reasons other than concussion, such as additional injuries.

Return to Learning Model Based on Six Step Return to Play Model

Step 1	Rest and recovery at home without any academics
Step 2	Light mental activity in quiet environment (30-45min.)
Step 3	More sustained mental activity in more stimulating environments for longer periods and shorter breaks
Step 4	Increased mental activity in regular school setting with continued adjustments only as needed
Step 5	Full day in all academic classes with adjustments as needed
Step 6	Regular school attendance full time with no restrictions

Graduated Return to Play

Rehab Stages (1-6)	Functional Exercise	Objective

Academic Adjustments

-Can be implemented immediately

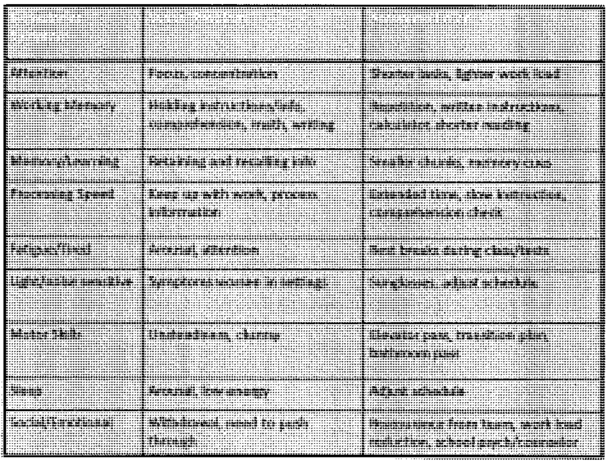
-Are temporary, for up to usually 3 weeks or less

-Are easily adjusted and changed based on need

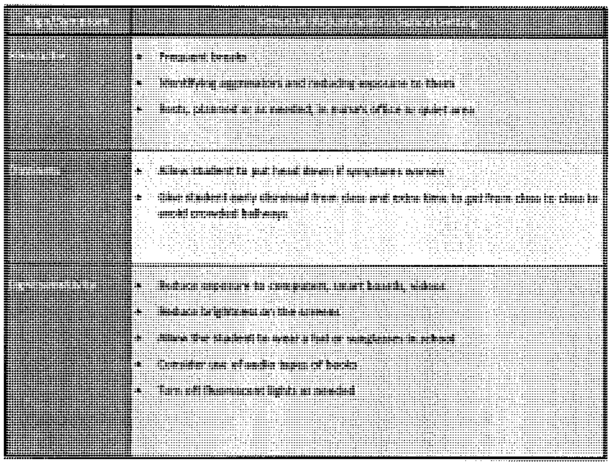
-Are done at building level by principal and teaching team

-Can address all aspects of instruction except standardized testing

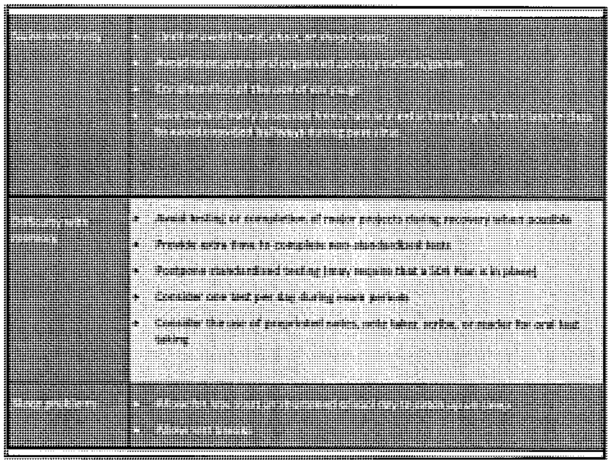
-Involves General Education



[illegible]	[illegible]	[illegible]
Attention	Focus, concentration	Shorter tasks, lighter work load
Working Memory	Holding instructions/info, comprehension, math, writing	Repetition, written instructions, calculator, shorter reading
Memory/Learning	Retaining and recalling info	Smaller chunks, memory cues
Processing Speed	Keep up with work, process information	Extended time, slow instruction, comprehension check
Fatigue/Tired	Arousal, attention	Rest breaks during class/tests
Light/noise sensitive	Symptoms worsen in settings	Sunglasses, adjust schedule
Motor Skills	Unsteadiness, clumsy	Elevator pass, transition plan, bathroom pass
Sleep	Arousal, low energy	Adjust schedule
Social/Emotional	Withdrawal, need to push through	Permission from team, work load reduction, school psych/counselor



[illegible]	[illegible]
[illegible]	- Frequent breaks - Identifying aggravators and reducing exposure to them - Rests, planned or as needed, in nurse's office or quiet area
[illegible]	- Allow student to put head down if symptoms worsen - Give student early dismissal from class and extra time to get from class to class to avoid crowded hallways
[illegible]	- Reduce exposure to computers, smart boards, videos - Reduce brightness on the screens - Allow the student to wear a hat or sunglasses in school - Consider use of audio tapes of books - Turn off fluorescent lights as needed



[illegible]	[illegible]
[illegible]	- Avoid testing or completion of major projects during recovery when possible - Provide extra time to complete non-standardized tests - Postpone standardized testing (may require that a 504 Plan is in place) - Consider one test per day during exam periods - Consider the use of preprinted notes, note taker, scribe, or reader for oral test taking
[illegible]	[illegible]

Response to Intervention

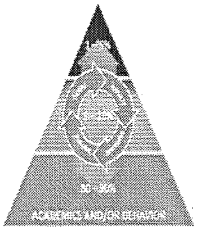
What I really meant was a Multi-tiered System of Support

Academic Systems

Tier III: Comprehensive and Intensive Interventions – *Few Students* (Students who need individualized interventions)

Tier II: Strategic Interventions – *Some Students* (Students who need more support in addition to the core curriculum)

Tier I: Core Curriculum – *All Students*



Behavioral Systems

Tier III: Intensive interventions – *Few Students* (Students who need individualized interventions)

Tier II: Targeted Group Interventions – *Some Students* (Students who need more support in addition to the core curriculum)

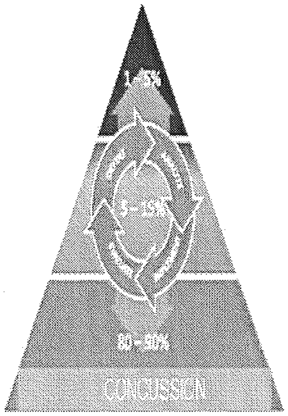
Tier I: Universal Inventions – *All Students, all settings*

Multi-tier System of Support Concussion Style

Tier III: Special Education/IDEA permanent brain damage = **Academic Modification** of curriculum, specialized instruction or placement

Tier II: Longer-term plan due to prolonged effects of concussion. May be a 504 Plan = **Academic Accommodations.** Still responsible for curriculum but will provide supports to environment, more targeted interventions for a longer period of time

Tier I: Typical recovery from concussion = **Academic Adjustments** Universal interventions, applied in general education, fast, fluid, flexible, put in place immediately and lifted regularly as symptoms improve daily



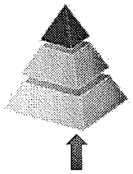
Interventions:	Provided in:	Affects:
Adjustments – Informal, flexible day-to-day interventions. Can be applied immediately and lifted easily when no longer needed.	General Education classroom. Student still required to progress through General Education curriculum.	80% to 90% of students with a concussion for the typical 3 week recovery. Apply for days to weeks.
Accommodations – More formal process for longer interventions; often called a 504 Plan. Requires a meeting to enter and exit.	General Education classroom; occasional extra support/targeted interventions outside of General Education. Student still required to progress through General Education curriculum with accommodations to the environment (i.e., extra time, large print, rest).	5% to 15% of students with prolonged symptoms from a concussion. Apply for weeks to months.
Modifications – Very formal process to document a chronic and permanent disability of brain injury; referred to as Special Education or Individuals with Disabilities Education Act (IDEA). Disability makes it so that student cannot benefit from General Education alone.	Primary services provided in Special Education classroom; student in General Education classroom as much as possible. Allows for modification of the General Education curriculum. Often requires specialized instruction and specialized placement.	1% to 5% of students with permanent brain damage; brain damage sustained as a concussion. Apply for months to years.

Recovery with Academic Adjustments 80% to 90%

Tips:

Don't be too prescriptive on these initial adjustments. Allow teachers to apply them as generously as they please and allow them to adjust depending upon student's:

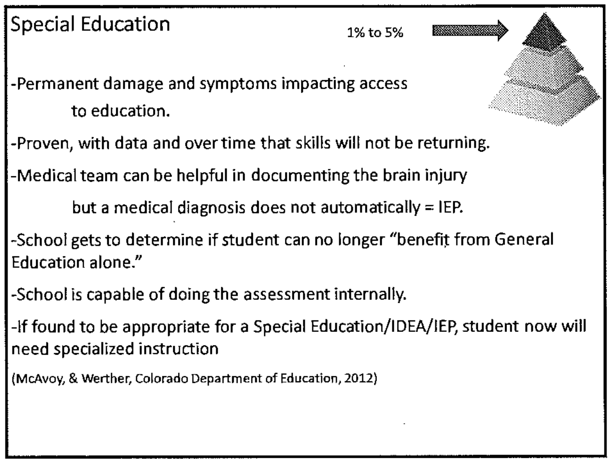
- -Type of symptoms
- -Type of content material
- -Type of teaching style
- -Areas of strengths and weaknesses
- -Time of day of class



80% to 90%

Allow teachers to apply and lift interventions as they see fit. Symptoms should start resolving from week 1 to week 2 to week 3. Academic adjustments should be lifted over the 3 weeks and the student with the typical concussion should be almost back to 100% pre-concussion learning level by 3 weeks.

(McAvoy, & Werther, Colorado Department of Education, 2012)



Special Education

1% to 5%

-Permanent damage and symptoms impacting access to education.

-Proven, with data and over time that skills will not be returning.

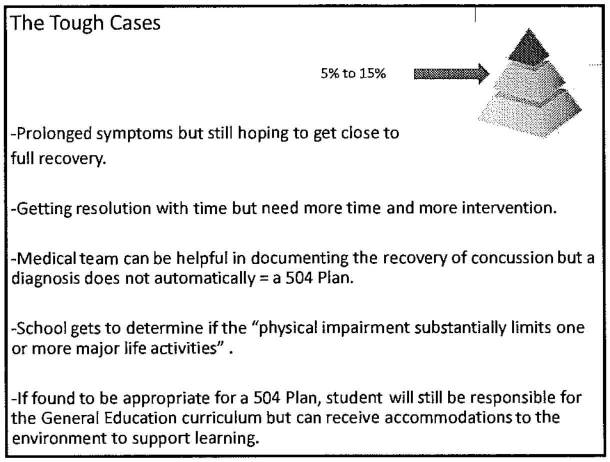
-Medical team can be helpful in documenting the brain injury but a medical diagnosis does not automatically = IEP.

-School gets to determine if student can no longer "benefit from General Education alone."

-School is capable of doing the assessment internally.

-If found to be appropriate for a Special Education/IDEA/IEP, student now will need specialized instruction

(McAvoy, & Werther, Colorado Department of Education, 2012)



The Tough Cases

5% to 15%

-Prolonged symptoms but still hoping to get close to full recovery.

-Getting resolution with time but need more time and more intervention.

-Medical team can be helpful in documenting the recovery of concussion but a diagnosis does not automatically = a 504 Plan.

-School gets to determine if the "physical impairment substantially limits one or more major life activities" .

-If found to be appropriate for a 504 Plan, student will still be responsible for the General Education curriculum but can receive accommodations to the environment to support learning.

504 Plans & Health Care Plans

-4 or more weeks into recovery, progress is promising, but slow, and you know recovery will take more time

-Concussed student has been placed on medication for prolonged symptoms and you know you cannot discontinue prescription for a number of months. A 504 Plan in this case will allow schools to provide specific accommodations longer while awaiting maximum effectiveness of the prescription.

-Both of the above uses of a 504 Plan help to "buy" more time for recovery and decrease the stress of the daily questions, "Are you better today? Can you take this test today?" It protects the student and the school.

-504 Plan should be specific to the existing symptom (i.e., "headaches, mental fatigue, etc.) and interventions should be chosen accordingly

A 504 Plan might not help when...

-When you are 4 to 6+ weeks into recovery and you know you are almost ready to turn the corner on the concussion—if the school is willing

-Excessive absences or truancy—If a student is excessively truant, consider underlying co-existing reasons (i.e., school avoidance, anxiety).

Symptoms, Accommodation, 504 Plan

SYMPTOMS:

headache/nausea
dizziness
balance problems
blurred vision/
photophobia
noise sensitivity
neck pain

[illegible]

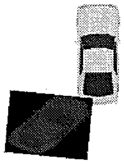
The fine print of concussion

A student with permanent brain damage, technically never returns 100% to pre-concussion state, technically never can get to Step 1 of graduated RTP, and therefore cannot RTP.

Depending upon symptoms and the effectiveness of the treatments and the possible need for a 504 Plan, getting to Step 1 of RTP steps is case by case and therefore, clearance is case by case. Technically a student on a 504 Plan is not 100% symptom-free, so technically a student cannot start the RTP steps if a 504 Plan is still needed.

A student who returns to learning within the typical amount of time with no complications will be at Step 1 of the graduated RTP steps in a reasonable amount of time and RTP seems justifiable.

EXAMPLE CASE



-Penny
-17 year old female student
-Working 3pm to 11pm shift
-Her car gets hit at an angle from the back on the way home
-Head hits the steering wheel and windshield
-Doesn't lose consciousness
-Physicians determine mTBI
-Hard to focus and think, is able to be mobile

In attendance:

Agenda:

1. **Review Student Strengths (2 minutes)**

Goal for the student: To return to school and to work at or near pre-accident levels

2. **What is the problem/challenge?**

3. **Develop Intervention Plan**

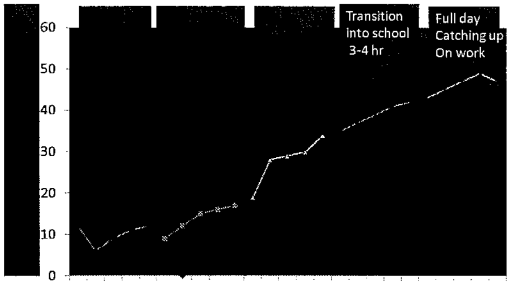
4. **Schedule Follow-Up Meeting**

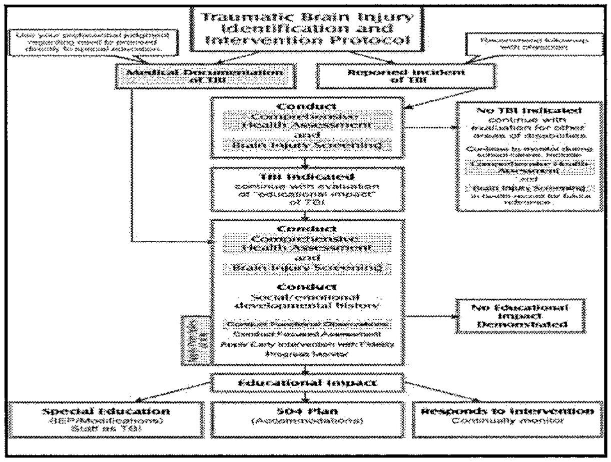
5. **If parent not present, Who will contact parent to review and send invite to next meeting? How/when will the parent be contacted?**

Self-Monitoring Sheet

Name:							
Date							
Location	Home School	Home School	Home School	Home School	Home School	Home School	Home School
Activity							
Time until feeling bad *Latency*							
Headache Intensity 0-10							
Energy Level 0-10							
Frustration Level 0-10							

What can this look like?




Traumatic Brain Injury Identification and Intervention Protocol
Medical Documentation of TBI
Reported Incident of TBI
Conduct Comprehensive Health Assessment and Brain Injury Screening
No TBI Indicated continue with evaluation for other areas of disabilities.
TBI Indicated continue with evaluation of "educational impact" of TBI
Conduct Comprehensive Health Assessment and Brain Injury Screening
Conduct Social/emotional developmental history
No Educational Impact Demonstrated
Educational Impact
Special Education
504 Plan (Accommodations)
Responds to Intervention Continually monitor

Child Sport Concussion Assessment Tool 3

-Child Maddocks questions

-Symptom Scale child-specific
- 4 point rating scale

-Parent rating of child's symptoms

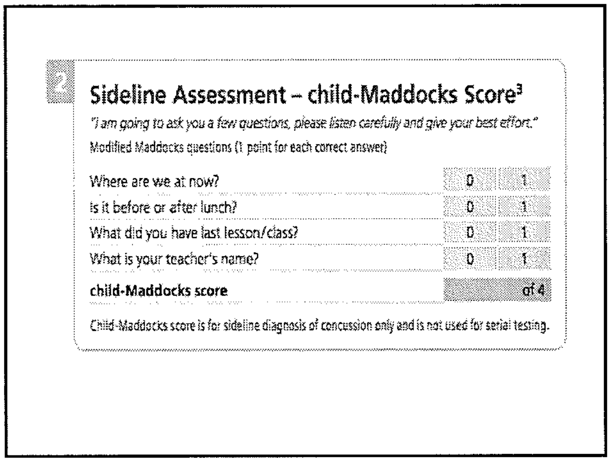
-Orientation
  -no time of day

-Concentration
  -start with 2 reverse digits

-Reverse days of the week

-Modified Balance activity
- no single leg stance

-Patient advice
- return to school



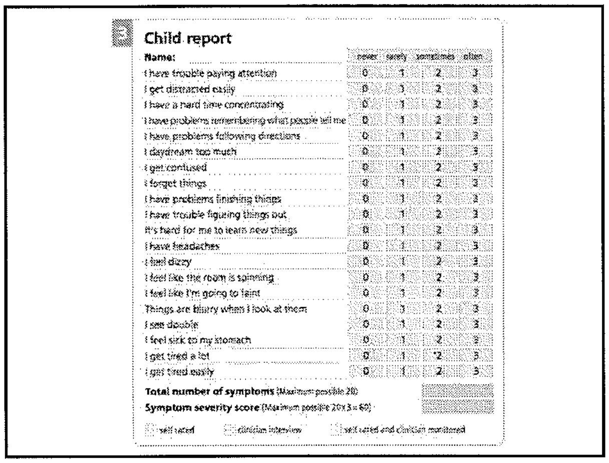
2 Sideline Assessment – child-Maddocks Score[3]

"I am going to ask you a few questions, please listen carefully and give your best effort."

Modified Maddocks questions (1 point for each correct answer)

Where are we at now?	0	1
Is it before or after lunch?	0	1
What did you have last lesson/class?	0	1
What is your teacher's name?	0	1
child-Maddocks score		of 4

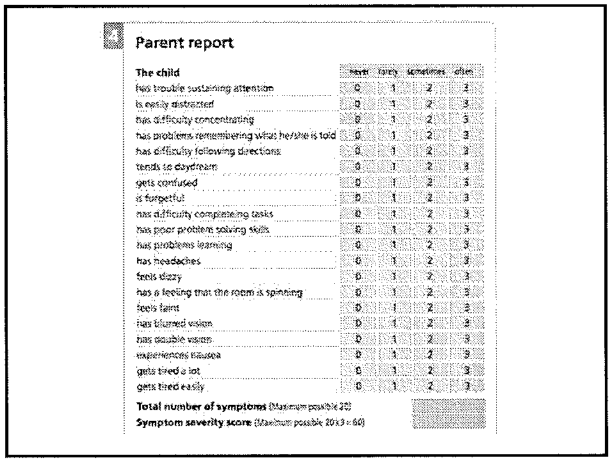
Child-Maddocks score is for sideline diagnosis of concussion only and is not used for serial testing.



3 Child report

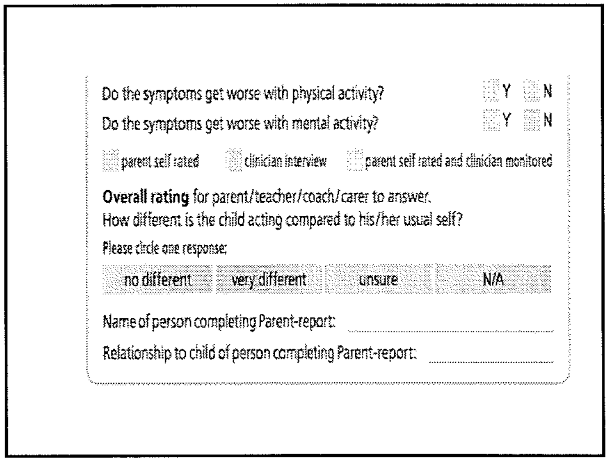
Name:	never	rarely	sometimes	often
I have trouble paying attention	0	1	2	3
I get distracted easily	0	1	2	3
I have a hard time concentrating	0	1	2	3
I have problems remembering what people tell me	0	1	2	3
I have problems following directions	0	1	2	3
I daydream too much	0	1	2	3
I get confused	0	1	2	3
I forget things	0	1	2	3
I have problems finishing things	0	1	2	3
I have trouble figuring things out	0	1	2	3
It's hard for me to learn new things	0	1	2	3
I have headaches	0	1	2	3
I feel dizzy	0	1	2	3
I feel like the room is spinning	0	1	2	3
I feel like I'm going to faint	0	1	2	3
Things are blurry when I look at them	0	1	2	3
I see double	0	1	2	3
I feel sick to my stomach	0	1	2	3
I get tired a lot	0	1	2	3
I get tired easily	0	1	2	3
Total number of symptoms (Maximum possible 20)				
Symptom severity score (Maximum possible 20 x 3 = 60)				

☐ self rated ☐ clinician interview ☐ self rated and clinician monitored



4 Parent report

The child	never	rarely	sometimes	often
has trouble sustaining attention	0	1	2	3
is easily distracted	0	1	2	3
has difficulty concentrating	0	1	2	3
has problems remembering what he/she is told	0	1	2	3
has difficulty following directions	0	1	2	3
tends to daydream	0	1	2	3
gets confused	0	1	2	3
is forgetful	0	1	2	3
has difficulty completing tasks	0	1	2	3
has poor problem solving skills	0	1	2	3
has problems learning	0	1	2	3
has headaches	0	1	2	3
feels dizzy	0	1	2	3
has a feeling that the room is spinning	0	1	2	3
feels faint	0	1	2	3
has blurred vision	0	1	2	3
has double vision	0	1	2	3
experiences nausea	0	1	2	3
gets tired a lot	0	1	2	3
gets tired easily	0	1	2	3
Total number of symptoms (Maximum possible 20)				
Symptom severity score (Maximum possible 20 x 3 = 60)				



Do the symptoms get worse with physical activity? ☐ Y ☐ N

Do the symptoms get worse with mental activity? ☐ Y ☐ N

☐ parent self rated ☐ clinician interview ☐ parent self rated and clinician monitored

Overall rating for parent/teacher/coach/carer to answer.

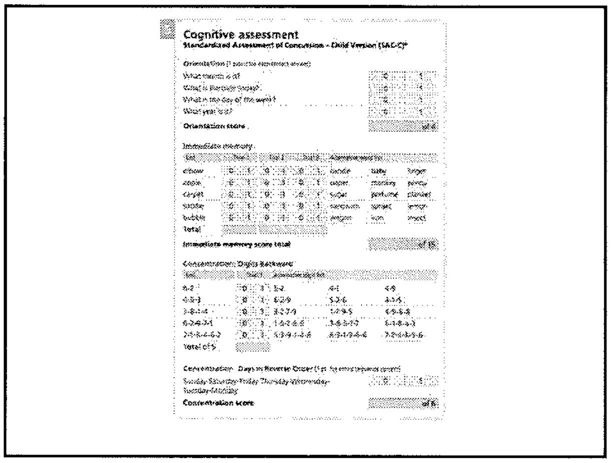
How different is the child acting compared to his/her usual self?

Please circle one response:

no different	very different	unsure	N/A

Name of person completing Parent-report:

Relationship to child of person completing Parent-report:



Cognitive assessment

Standardized Assessment of Concussion – Child Version (SAC-C)

Orientation

Orientation score

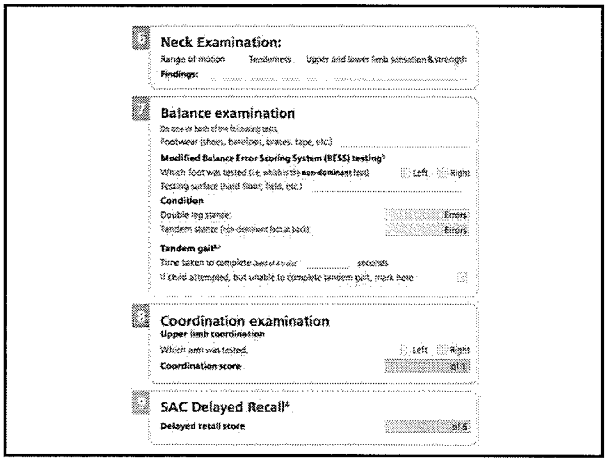
Immediate memory

Immediate memory score total

Concentration: Digits Backward

Concentration: Days in Reverse Order

Concentration score



Neck Examination:

Range of motion Tenderness Upper and lower limb sensation & strength

Findings:

Balance examination

Footwear (shoes, barefoot, braces, tape, etc.)

Modified Balance Error Scoring System (BESS) testing

Which foot was tested (i.e. which is the **non-dominant** foot) ☐ Left ☐ Right

Testing surface (hard floor, field, etc.)

Condition

Double leg stance: Errors

Tandem stance (non-dominant foot at back): Errors

Tandem gait

Time taken to complete ______ seconds

If child attempted, but unable to complete tandem gait, mark here ☐

Coordination examination

Upper limb coordination

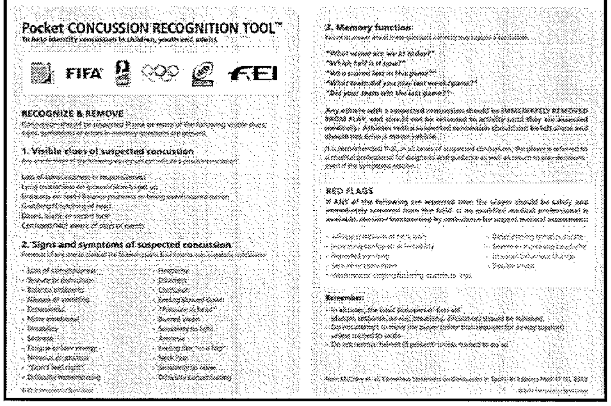
Which arm was tested: ☐ Left ☐ Right

Coordination score of 1

SAC Delayed Recall

Delayed recall score of 5

Pocket Concussion Recognition Tool



Pocket CONCUSSION RECOGNITION TOOL™

RECOGNIZE & REMOVE

1. Visible clues of suspected concussion

2. Signs and symptoms of suspected concussion

3. Memory function

RED FLAGS

Remember:

Conclusions

-COGNITIVE REST

-Concussion impacts learning and can impact concussion recovery.

- Collect data to make decisions of planning and accommodations

-Medical team identifies need and problem

-Family reinforces rest and determines/monitors readiness to return to learning

-School team work with the medical home and family to make immediate temporary adjustments to ensure a successful re-entry.

-Creativity and flexibility by the school is key to a full and speedy return to learn outcome

Conclusions

-Students will need academic adjustments in school.

-Given that most concussions resolve in 3 weeks, General Education interventions are recommended without formal plans such as a 504 Plan or IEP.

-Students with symptoms lasting 3 to 4 weeks may benefit from a more detailed assessment and consideration of a 504 Plan, but likely not an IEP.

-Full return to learn plan before considering return to play

-Additional research is necessary to strengthen evidence-based recommendations for appropriate academic adjustments for students following a concussion.

-Although medical team contributes a lot, it is the schools job to identify academic impact and students ability to access the curriculum before making 504 or IEP considerations.

References

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Collins M, Lovell MR, Iverson GL, et al. Examining concussion rates and return to play in high school football players wearing helmet technology: a three-year prospective cohort study. Neurosurgery. 2006;58(2):275–286

Langlois, J. A. Rutland-Brown, W., & Wald, M.M. (2006) The epidemiology and impact of traumatic brain injury: A brief overview. *Journal of Head Trauma and Rehabilitation, 21* (5), 375-378.

McAvoy, K & Werther, K. (2012) Colorado Department of Education Concussion Management Guidelines.

McCrory, P., Meeuwisse, W., Johnston, K., Dvorak, J., Aubry, M., Molloy. M., & Cantu, R. (2009). Consensus statement on concussion in sport: The 3rd international conference on concussion held in Zurich, November 2008. *Journal of Athletic Training,* 44 (4), 434-448.

Problem Solving

Meeting # _1_: Review and Develop Plan

Who Attends :

Agenda:

Goal for the student:

1. **Review Student Strengths (2 minutes)**

2. **What is the problem/challenge? (3 minutes)**

3. **Brainstorm and/or discuss possible interventions (5 minutes)**

4. **Develop Intervention Plan (5 minutes)**

   Who does what?

5. **Summarize Plan (2 minutes)**

6. **Schedule Follow-Up Meeting (1 minute)**

7. **If parent not present, Who will contact parent to review and send invite to next meeting? How/when will the parent be contacted? (1 min)**

Resources:

Downloaded from bjsm.bmj.com on March 17, 2014 - Published by group.bmj.com

Child-SCAT3™

Sport Concussion Assessment Tool for children ages 5 to12 years

For use by medical professionals only

What is childSCAT3?[1]

The ChildSCAT3 is a standardized tool for evaluating injured children for concussion and can be used in children aged from 5 to 12 years. It supersedes the original SCAT and the SCAT2 published in 2005 and 2009, respectively[2]. For older persons, ages 13 years and over, please use the SCAT3. The ChildSCAT3 is designed for use by medical professionals. If you are not qualified, please use the Sport Concussion Recognition Tool[1].Preseason baseline testing with the ChildSCAT3 can be helpful for interpreting post-injury test scores.

Specific instructions for use of the ChildSCAT3 are provided on page 3. If you are not familiar with the ChildSCAT3, please read through these instructions carefully. This tool may be freely copied in its current form for distribution to individuals, teams, groups and organizations. Any revision and any reproduction in a digital form require approval by the Concussion in Sport Group.
NOTE: The diagnosis of a concussion is a clinical judgment, ideally made by a medical professional. The ChildSCAT3 should not be used solely to make, or exclude, the diagnosis of concussion in the absence of clinical judgement. An athlete may have a concussion even if their ChildSCAT3 is "normal".

What is a concussion?

A concussion is a disturbance in brain function caused by a direct or indirect force to the head. It results in a variety of non-specific signs and/or symptoms (like those listed below) and most often does not involve loss of consciousness. Concussion should be suspected in the presence of any one or more of the following:

-Symptoms (e.g., headache), or
-Physical signs (e.g., unsteadiness), or
-Impaired brain function (e.g. confusion) or
-Abnormal behaviour (e.g., change in personality).

SIDELINE ASSESSMENT

Indications for Emergency Management

NOTE: A hit to the head can sometimes be associated with a more severe brain injury. If the concussed child displays any of the following, then do not proceed with the ChildSCAT3; instead activate emergency procedures and urgent transportation to the nearest hospital:

- Glasgow Coma score less than 15
- Deteriorating mental status
- Potential spinal injury
- Progressive, worsening symptoms or new neurologic signs
- Persistent vomiting
- Evidence of skull fracture
- Post traumatic seizures
- Coagulopathy
- History of Neurosurgery (eg Shunt)
- Multiple injuries

1 Glasgow coma scale (GCS)

Best eye response (E)	
No eye opening	1
Eye opening in response to pain	2
Eye opening to speech	3
Eyes opening spontaneously	4
Best verbal response (V)	
No verbal response	1
Incomprehensible sounds	2
Inappropriate words	3
Confused	4
Oriented	5
Best motor response (M)	
No motor response	1
Extension to pain	2
Abnormal flexion to pain	3
Flexion/Withdrawal to pain	4
Localizes to pain	5
Obeys commands	6
Glasgow Coma score (E + V + M)	of 15

GCS should be recorded for all athletes in case of subsequent deterioration.

Potential signs of concussion?

If any of the following signs are observed after a direct or indirect blow to the head, the child should stop participation, be evaluated by a medical professional and **should not be permitted to return to sport the same day** if a concussion is suspected.

Any loss of consciousness? ☐ Y ☐ N
"If so, how long?" ______
Balance or motor incoordination (stumbles, slow/laboured movements, etc.)? ☐ Y ☐ N
Disorientation or confusion (inability to respond appropriately to questions)? ☐ Y ☐ N
Loss of memory: ☐ Y ☐ N
"If so, how long?" ______
"Before or after the injury?" ______
Blank or vacant look: ☐ Y ☐ N
Visible facial injury in combination with any of the above: ☐ Y ☐ N

2 Sideline Assessment – child-Maddocks Score[3]

"I am going to ask you a few questions, please listen carefully and give your best effort."

Modified Maddocks questions (1 point for each correct answer)

Where are we at now?	0	1
Is it before or after lunch?	0	1
What did you have last lesson/class?	0	1
What is your teacher's name?	0	1
child-Maddocks score		of 4

Child-Maddocks score is for sideline diagnosis of concussion only and is not used for serial testing.

Any child with a suspected concussion should be REMOVED FROM PLAY, medically assessed and monitored for deterioration (i.e., should not be left alone). No child diagnosed with concussion should be returned to sports participation on the day of Injury.

BACKGROUND

Name: ______ Date/Time of Injury: ______
Examiner: ______ Date of Assessment: ______
Sport/team/school: ______
Age: ______ Gender: ☐ M ☐ F
Current school year/grade: ______
Dominant hand: ☐ right ☐ left ☐ neither
Mechanism of Injury ("tell me what happened"?): ______

For Parent/carer to complete:

How many concussions has the child had in the past? ______
When was the most recent concussion? ______
How long was the recovery from the most recent concussion? ______
Has the child ever been hospitalized or had medical imaging done (CT or MRI) for a head injury? ☐ Y ☐ N
Has the child ever been diagnosed with headaches or migraines? ☐ Y ☐ N
Does the child have a learning disability, dyslexia, ADD/ADHD, seizure disorder? ☐ Y ☐ N
Has the child ever been diagnosed with depression, anxiety or other psychiatric disorder? ☐ Y ☐ N
Has anyone in the family ever been diagnosed with any of these problems? ☐ Y ☐ N
Is the child on any medications? If yes, please list: ☐ Y ☐ N

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SYMPTOM EVALUATION

3 Child report

Name:	never	rarely	sometimes	often
I have trouble paying attention	0	1	2	3
I get distracted easily	0	1	2	3
I have a hard time concentrating	0	1	2	3
I have problems remembering what people tell me	0	1	2	3
I have problems following directions	0	1	2	3
I daydream too much	0	1	2	3
I get confused	0	1	2	3
I forget things	0	1	2	3
I have problems finishing things	0	1	2	3
I have trouble figuring things out	0	1	2	3
It's hard for me to learn new things	0	1	2	3
I have headaches	0	1	2	3
I feel dizzy	0	1	2	3
I feel like the room is spinning	0	1	2	3
I feel like I'm going to faint	0	1	2	3
Things are blurry when I look at them	0	1	2	3
I see double	0	1	2	3
I feel sick to my stomach	0	1	2	3
I get tired a lot	0	1	2	3
I get tired easily	0	1	2	3

Total number of symptoms (Maximum possible 20)

Symptom severity score (Maximum possible 20x3 = 60)

self rated clinician interview self rated and clinician monitored

4 Parent report

The child	never	rarely	sometimes	often
has trouble sustaining attention	0	1	2	3
Is easily distracted	0	1	2	3
has difficulty concentrating	0	1	2	3
has problems remembering what he/she is told	0	1	2	3
has difficulty following directions	0	1	2	3
tends to daydream	0	1	2	3
gets confused	0	1	2	3
is forgetful	0	1	2	3
has difficulty completeing tasks	0	1	2	3
has poor problem solving skills	0	1	2	3
has problems learning	0	1	2	3
has headaches	0	1	2	3
feels dizzy	0	1	2	3
has a feeling that the room is spinning	0	1	2	3
feels faint	0	1	2	3
has blurred vision	0	1	2	3
has double vision	0	1	2	3
experiences nausea	0	1	2	3
gets tired a lot	0	1	2	3
gets tired easily	0	1	2	3

Total number of symptoms (Maximum possible 20)

Symptom severity score (Maximum possible 20x3 = 60)

Do the symptoms get worse with physical activity?	Y	N
Do the symptoms get worse with mental activity?	Y	N

parent self rated clinician interview parent self rated and clinician monitored

Overall rating for parent/teacher/coach/carer to answer.
How different is the child acting compared to his/her usual self?

Please circle one response:

no different very different unsure N/A

Name of person completing Parent-report:

Relationship to child of person completing Parent-report:

Scoring on the ChildSCAT3 should not be used as a stand-alone method to diagnose concussion, measure recovery or make decisions about an athlete's readiness to return to competition after concussion.

COGNITIVE & PHYSICAL EVALUATION

5 Cognitive assessment

Standardized Assessment of Concussion – Child Version (SAC-C)[4]

Orientation (1 point for each correct answer)

What month is it?	0	1
What is the date today?	0	1
What is the day of the week?	0	1
What year is it?	0	1
Orientation score		of 4

Immediate memory

List	Trial 1		Trial 2		Trial 3		Alternative word list		
elbow	0	1	0	1	0	1	candle	baby	finger
apple	0	1	0	1	0	1	paper	monkey	penny
carpet	0	1	0	1	0	1	sugar	perfume	blanket
saddle	0	1	0	1	0	1	sandwich	sunset	lemon
bubble	0	1	0	1	0	1	wagon	iron	insect
Total									

Immediate memory score total of 15

Concentration: Digits Backward

List	Trial 1		Alternative digit list		
6-2	0	1	5-2	4-1	4-9
4-9-3	0	1	6-2-9	5-2-6	4-1-5
3-8-1-4	0	1	3-2-7-9	1-7-9-5	4-9-6-8
6-2-9-7-1	0	1	1-5-2-8-6	3-8-5-2-7	6-1-8-4-3
7-1-8-4-6-2	0	1	5-3-9-1-4-8	8-3-1-9-6-4	7-2-4-8-5-6
Total of 5					

Concentration: **Days in Reverse Order** (1 pt. for entire sequence correct)

Sunday-Saturday-Friday-Thursday-Wednesday-Tuesday-Monday	0	1
Concentration score		of 6

6 Neck Examination:

Range of motion Tenderness Upper and lower limb sensation & strength

Findings:

7 Balance examination

Do one or both of the following tests.

Footwear (shoes, barefoot, braces, tape, etc.)

Modified Balance Error Scoring System (BESS) testing[5]

Which foot was tested (i.e. which is the **non-dominant** foot) Left Right

Testing surface (hard floor, field, etc.)

Condition

Double leg stance: Errors

Tandem stance (non-dominant foot at back): Errors

Tandem gait[6,7]

Time taken to complete (best of 4 trials): seconds

If child attempted, but unable to complete tandem gait, mark here

8 Coordination examination

Upper limb coordination

Which arm was tested: Left Right

Coordination score of 1

9 SAC Delayed Recall[4]

Delayed recall score of 5

Since signs and symptoms may evolve over time, it is important to consider repeat evaluation in the acute assessment of concussion.

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INSTRUCTIONS

Words in *Italics* throughout the ChildSCAT3 are the instructions given to the child by the tester.

Sideline Assessment – child-Maddocks Score

To be completed on the sideline/in the playground, immediately following concussion. There is no requirement to repeat these questions at follow-up.

Symptom Scale[8]

In situations where the symptom scale is being completed after exercise, it should still be done in a resting state, at least 10 minutes post exercise.

On the day of injury

- the child is to complete the Child Report, according to how he/she feels now.

On all subsequent days

- the child is to complete the Child Report, according to how he/she feels today, **and**
- the parent/carer is to complete the Parent Report according to how the child has been over the previous 24 hours.

Standardized Assessment of Concussion – Child Version (SAC-C)[4]

Orientation

Ask each question on the score sheet. A correct answer for **each question scores 1 point.** If the child does not understand the question, gives an incorrect answer, or no answer, then the score for that question is 0 points.

Immediate memory

"I am going to test your memory. I will read you a list of words and when I am done, repeat back as many words as you can remember, in any order."

Trials 2 & 3:

"I am going to repeat the same list again. Repeat back as many words as you can remember in any order, even if you said the word before."

Complete all 3 trials regardless of score on trial 1 & 2. Read the words at a rate of one per second. **Score 1 pt. for each correct response.** Total score equals sum across all 3 trials. Do not inform the child that delayed recall will be tested.

Concentration

Digits Backward:

"I am going to read you a string of numbers and when I am done, you repeat them back to me backwards, in reverse order of how I read them to you. For example, if I say 7-1, you would say 1-7."

If correct, go to next string length. If incorrect, read trial 2. **One point possible for each string length.** Stop after incorrect on both trials. The digits should be read at the rate of one per second.

Days in Reverse Order:

"Now tell me the days of the week in reverse order. Start with Sunday and go backward. So you'll say Sunday, Saturday ... Go ahead"

1 pt. for entire sequence correct

Delayed recall

The delayed recall should be performed after completion of the Balance and Coordination Examination.

"Do you remember that list of words I read a few times earlier? Tell me as many words from the list as you can remember in any order."

Circle each word correctly recalled. **Total score equals number of words recalled.**

Balance examination

These instructions are to be read by the person administering the childSCAT3, and each balance task **should be demonstrated to the child.** The child should then be asked to copy what the examiner demonstrated.

Modified Balance Error Scoring System (BESS) testing[5]

This balance testing is based on a modified version of the Balance Error Scoring System (BESS)[5]. A stopwatch or watch with a second hand is required for this testing.

"I am now going to test your balance. Please take your shoes off, roll up your pant legs above ankle (if applicable), and remove any ankle taping (if applicable). This test will consist of two different parts."

(a) Double leg stance:

The first stance is standing with the feet together with hands on hips and with eyes closed. The child should try to maintain stability in that position for 20 seconds. You should inform the child that you will be counting the number of times the child moves out of this position. You should start timing when the child is set and the eyes are closed.

(b) Tandem stance:

Instruct the child to stand heel-to-toe with the non-dominant foot in the back. Weight should be evenly distributed across both feet. Again, the child should try to maintain stability for 20 seconds with hands on hips and eyes closed. You should inform the child that you will be counting the number of times the child moves out of this position. If the child stumbles out of this position, instruct him/her to open the eyes and return to the start position and continue balancing. You should start timing when the child is set and the eyes are closed.

Balance testing – types of errors - Parts (a) and (b)

1. Hands lifted off iliac crest
2. Opening eyes
3. Step, stumble, or fall
4. Moving hip into > 30 degrees abduction
5. Lifting forefoot or heel
6. Remaining out of test position > 5 sec

Each of the 20-second trials is scored by counting the errors, or deviations from the proper stance, accumulated by the child. The examiner will begin counting errors only after the child has assumed the proper start position. **The modified BESS is calculated by adding one error point for each error during the two 20-second tests. The maximum total number of errors for any single condition is 10.** If a child commits multiple errors simultaneously, only one error is recorded but the child should quickly return to the testing position, and counting should resume once subject is set. Children who are unable to maintain the testing procedure for a minimum of **five seconds** at the start are assigned the highest possible score, ten, for that testing condition.

OPTION: For further assessment, the same 2 stances can be performed on a surface of medium density foam (e.g., approximately 50cmx40cmx6cm).

Tandem Gait[6,7]

Use a clock (with a second hand) or stopwatch to measure the time taken to complete this task. Instruction for the examiner – **Demonstrate the following to the child:**

The child is instructed to stand with their feet together behind a starting line (the test is best done with footwear removed). Then, they walk in a forward direction as quickly and as accurately as possible along a 38mm wide (sports tape), 3 meter line with an alternate foot heel-to-toe gait ensuring that they approximate their heel and toe on each step. Once they cross the end of the 3m line, they turn 180 degrees and return to the starting point using the same gait. ***A total of 4 trials are done and the best time is retained.*** *Children fail the test if they step off the line, have a separation between their heel and toe, or if they touch or grab the examiner or an object. In this case, the time is not recorded and the trial repeated, if appropriate.*

Explain to the child that you will time how long it takes them to walk to the end of the line and back.

Coordination examination

Upper limb coordination

Finger-to-nose (FTN) task:

The tester should **demonstrate it to the child.**

"I am going to test your coordination now. Please sit comfortably on the chair with your eyes open and your arm (either right or left) outstretched (shoulder flexed to 90 degrees and elbow and fingers extended). When I give a start signal, I would like you to perform five successive finger to nose repetitions using your index finger to touch the tip of the nose as quickly and as accurately as possible."

Scoring: 5 correct repetitions in < 4 seconds = 1

Note for testers: Children fail the test if they do not touch their nose, do not fully extend their elbow or do not perform five repetitions. **Failure should be scored as 0.**

References & Footnotes

1. This tool has been developed by a group of international experts at the 4th International Consensus meeting on Concussion in Sport held in Zurich, Switzerland in November 2012. The full details of the conference outcomes and the authors of the tool are published in The BJSM Injury Prevention and Health Protection, 2013, Volume 47, Issue 5. The outcome paper will also be simultaneously co-published in other leading biomedical journals with the copyright held by the Concussion in Sport Group, to allow unrestricted distribution, providing no alterations are made.

2. McCrory P et al., Consensus Statement on Concussion in Sport – the 3rd International Conference on Concussion in Sport held in Zurich, November 2008. British Journal of Sports Medicine 2009; 43: i76-89.

3. Maddocks, DL; Dicker, GD; Saling, MM. The assessment of orientation following concussion in athletes. Clinical Journal of Sport Medicine. 1995; 5(1): 32–3.

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6. Schneiders, A.G., Sullivan, S.J., Gray, A., Hammond-Tooke, G.&McCrory, P. Normative values for 16-37 year old subjects for three clinical measures of motor performance used in the assessment of sports concussions. Journal of Science and Medicine in Sport. 2010; 13(2): 196–201.

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CHILD ATHLETE INFORMATION

Any child suspected of having a concussion should be removed from play, and then seek medical evaluation. The child must NOT return to play or sport on the same day as the suspected concussion.

Signs to watch for

Problems could arise over the first 24–48 hours. The child should not be left alone and must go to a hospital at once if they develop any of the following:

- New Headache, or Headache gets worse
- Persistent or increasing neck pain
- Becomes drowsy or can't be woken up
- Can not recognise people or places
- Has Nausea or Vomiting
- Behaves unusually, seems confused, or is irritable
- Has any seizures (arms and/or legs jerk uncontrollably)
- Has weakness, numbness or tingling (arms, legs or face)
- Is unsteady walking or standing
- Has slurred speech
- Has difficulty understanding speech or directions

Remember, it is better to be safe.

Always consult your doctor after a suspected concussion.

Return to school

Concussion may impact on the child's cognitive ability to learn at school. This must be considered, and medical clearance is required before the child may return to school. **It is reasonable for a child to miss a day or two of school after concussion, but extended absence is uncommon.** In some children, a graduated return to school program will need to be developed for the child. The child will progress through the return to school program provided that there is no worsening of symptoms. If any particular activity worsens symptoms, the child will abstain from that activity until it no longer causes symptom worsening. Use of computers and internet should follow a similar graduated program, provided that it does not worsen symptoms. This program should include communication between the parents, teachers, and health professionals and will vary from child to child. The return to school program should consider:

- Extra time to complete assignments/tests
- Quiet room to complete assignments/tests
- Avoidance of noisy areas such as cafeterias, assembly halls, sporting events, music class, shop class, etc
- Frequent breaks during class, homework, tests
- No more than one exam/day
- Shorter assignments
- Repetition/memory cues
- Use of peer helper/tutor
- Reassurance from teachers that student will be supported through recovery through accommodations, workload reduction, alternate forms of testing
- Later start times, half days, only certain classes

The child is not to return to play or sport until he/she has successfully returned to school/learning, without worsening of symptoms. Medical clearance should be given before return to play.

If there are any doubts, management should be referred to a qualified health practitioner, expert in the management of concussion in children.

Return to sport

There should be no return to play until the child has successfully returned to school/learning, without worsening of symptoms.
Children must not be returned to play the same day of injury.
When returning children to play, they should **medically cleared and then follow a stepwise supervised program,** with stages of progression.

For example:

Rehabilitation stage	Functional exercise at each stage of rehabilitation	Objective of each stage
No activity	Physical and cognitive rest	Recovery
Light aerobic exercise	Walking, swimming or stationary cycling keeping intensity, 70% maximum predicted heart rate. No resistance training	Increase heart rate
Sport-specific exercise	Skating drills in ice hockey, running drills in soccer. No head impact activities	Add movement
Non-contact training drills	Progression to more complex training drills, eg passing drills in football and ice hockey. May start progressive resistance training	Exercise, coordination, and cognitive load
Full contact practice	Following medical clearance participate in normal training activities	Restore confidence and assess functional skills by coaching staff
Return to play	Normal game play	

There should be approximately 24 hours (or longer) for each stage and the child should drop back to the previous asymptomatic level if any post-concussive symptoms recur. Resistance training should only be added in the later stages.
If the child is symptomatic for more than 10 days, then review by a health practitioner, expert in the management of concussion, is recommended.
Medical clearance should be given before return to play.

Notes:

CONCUSSION INJURY ADVICE FOR THE CHILD AND PARENTS / CARERS

(To be given to the **person monitoring** the concussed child)

This child has received an injury to the head. A careful medical examination has been carried out and no sign of any serious complications has been found. It is expected that recovery will be rapid, but the child will need monitoring for the next 24 hours by a responsible adult.

If you notice any change in behavior, vomiting, dizziness, worsening headache, double vision or excessive drowsiness, please call an ambulance to transport the child to hospital immediately.

Other important points:

- Following concussion, the child should rest for at least 24 hours.
- The child should avoid any computer, internet or electronic gaming activity if these activities make symptoms worse.
- The child should not be given any medications, including pain killers, unless prescribed by a medical practitioner.
- The child must not return to school until medically cleared.
- The child must not return to sport or play until medically cleared.

Clinic phone number

Patient's name

Date/time of injury

Date/time of medical review

Treating physician

Contact details or stamp

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Advances in Repeated Assessment within RTI - Changes Needed in Screening and Progress Monitoring

Edward S. Shapiro, Ph.D.
Director, Center for Promoting Research to Practice
Lehigh University

Presented at Wisconsin School Psychologists Association, March 28, 2014

Why is Lehigh known?

LEHIGH
BEAT
DUKE
75-70

Agenda

- Being a school psychologist in RTI models
- Important psychometric basics for repeated measurement
- RTI and Curriculum-Based Measurement (CBM)
- RTI and Computer Adaptive Testing (CAT)
- Screening Advancements
  - Kindergarten & First Grade Screening
  - DIBELS Next Controversy
  - Alternatives to CBM
  - Screening (and Progress Monitoring) above 5th grade level
- Progress Monitoring Advancements
  - Number of data points for accurate trend in CBM reading
  - Season Changes and Rate of Improvement
  - Sensitivity of measures to change – CBM Reading, CBM Maze, & CBM Math

School Psychologist and RTI

- Key skills and background
  - Assessment metrics
  - Assessment psychometrics
  - Principles of learning
  - Principles of sound analysis
- Questioning
  - Always ask why!
- Research basis for practice
  - Never be satisfied
  - Stay on top of newest findings

School Psychologist and RTI

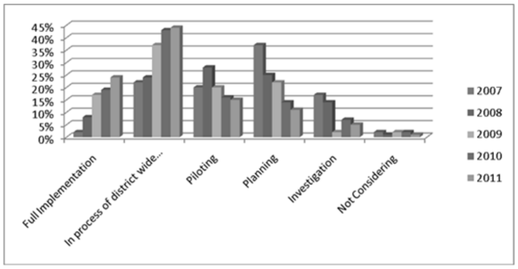
- Members of the team
- Leadership
- Collaboration
- Data driven and data focused
- Advocates for children

National Perspective

- 1,390 respondents (K-12 administrators) to survey (margin of error 3-4% AT 95% confidence interval)
- 94% of districts are in some stage of implementing RTI – up from 60% in 2008 and 44% in 2007
- Only 24% of districts reached full implementation
- Primary implementation is elementary level with reading leading the way

- www.spectrumk12.com

National Perspective on RTI



- www.spectrumk12.com

Reading Assessment & Instruction MUST Explicitly Address:

- Key elements of scientifically-based core programs includes explicit and systematic instruction in the following:
  - Phonological Awareness
  - Phonics
  - Fluency
  - Vocabulary
  - Comprehension

  (National Reading Panel, 2000)

Reading and Common Core Standards

- Key Ideas and Detail
- Author's Craft and Structure
- Integration of Knowledge and Ideas
- Range of Reading and Text Complexity

Math Assessment & Instruction MUST Explicitly Address:

- Concept Standards;
  - Numbers and Operations
  - Measurement
  - Geometry
  - Algebraic Concepts
  - Data Analysis and probability

As well as:

- Process Standards:
  - Problem Solving
  - Reasoning and Proof
  - Communication
  - Connections
  - Representations
    - (NCTM: National Council of Teachers of Mathematics)

Common Core Standard in Math

- Operations and Algebraic Thinking
- Numbers and Operations in Base Ten
- Numbers and Operations – Fractions
- Measurement and Data
- Geometry
- Mathematical Practices

As Well as:

- The Five Strands of Mathematical Proficiency
  - Conceptual Understanding
  - Procedural Fluency
  - Strategic Competence
  - Adaptive Reasoning
  - Procedural Disposition
    - (NCTM: National Council of Teachers of Mathematics)

Balanced Assessment

- Wisconsin Balanced Assessment Recommendations within RTI

Formative Assessment

☑ A ***planned process***

☑ Used to adjust ongoing teaching and learning to improve students' achievement of intended instructional outcomes

☑ Classroom-based

☑ Formal and Informal Measures

☑ Diagnostic - Ascertains, prior to and during instruction, each student's strengths, weaknesses, knowledge, and skills to inform instruction.

Benchmark Assessment

☑ Provides feedback to both the teacher and the student about how the student is progressing towards demonstrating proficiency on grade level standards.

Summative Assessment

☑ Seeks to make an overall judgment of progress made at the end of a defined period of instruction.

☑ Often used for grading, accountability, and/or research/evaluation

Two Key Assessment Processes in RTI

- Universal Screening
- Progress Monitoring

Key Psychometric Processes

- Concurrent Validity
  - Relationships of measure to other measures known to assess the concept
  - Correlation to state test taken at same time
- Predictive Validity
  - Relationships of measures to future measures known to assess the concept
  - Correlation to state test from fall screening
  - Correlation of Rate of Improvement to state test

Key Psychometric Concepts

- Diagnostic Validity
  - Sensitivity & Specificity
  - Base rate problem
  - Happy surprises versus Unhappy surprises
- Vertical Scaling of Scales
  - Cross grade outcomes
  - Off grade level assessment

Concurrent and Predictive Validity

- Most screening measures correlate about .60 - .70 with state tests
- Most screening measures predict to state tests with from fall and winter measures about .60 - .70 with state tests
- BUT rate of improvement interestingly does not always predict outcomes on state test

Diagnostic Accuracy

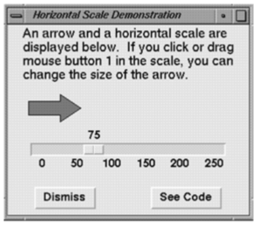
WHAT THE SCREENER PREDICTS	WHAT REALLY HAPPENED	
Screener Says Student is NOT OK	Student is Actually OK = FALSE POSITIVE	Student is NOT OK = TRUE POSITIVE
Screener Says Student is OK	Student is Actually OK TRUE NEGATVE	Student is NOT OK = FALSE NEGATIVE

Base rate problem -
False positives equal to base rate?

Vertical Scaling

- Assessments need to inform change over time
- Change across a year within a grade
- Change across years and across grades
- Placing the student on the scale regardless of age/grade

Vertical Scaling



Horizontal Scale Demonstration

An arrow and a horizontal scale are displayed below. If you click or drag mouse button 1 in the scale, you can change the size of the arrow.

- All individuals on same scale
- Allows comparisons across age/grade/time
- Allows identified range for expected performance
- Allows identification of those "out of range" for age grade

Vertical Scaling and Test Development

- Vertical scaling is a general class of methodologies for taking the results of tests for a series of grade levels and placing them on a common scale.
- Weight
- GRE
- SAT
- State Assessments
- Most norm-referenced, standardized tests

Potential Choices of Measures

- National RTI Center Tools Chart
- Two types of measures
  - Curriculum-Based Measurement
    - Benchmark, Summative
  - Computer Adaptive Tests
    - Benchmark, Formative, Summative

CBM and Assessment

- CBM designed as INDEX of overall outcomes of academic skills in domain
- CBM is a General Outcomes Measure
- Tells you HOW student is doing OVERALL, not specifically what skills they have and don't have (not formative or diagnostic)

McDonald's- How Do We Know They Are Doing Well as a Company

- General Outcomes Measure of company's success
- What is the one item that tells the CEO and stock holders how they are doing?

Tools
Help
Search
Favorites
alds.com/usa/eat/features/dollar.html
Go
Links
Google
Bag a McMeal
Nutrition Info
Food Quality
Food News
Snack Wrap
Premium Salads
Premium Chicken Line
Premium Coffee & McGriddles
Premium Coffee
Dollar Menu
McNuggets
From Farm to Table
Tools for Health Professionals
Bob Greene, Personal Trainer
Dean Ornish, MD Tips
Dollar M Menu
DOUBLE CHEESEBURGER
It's beefy. It's cheesy. Need I say more?
I LIKE MY OPTIONS
McDonald's USA Dollar Menu
Price and participation may vary.

McDonald's USA Dollar Menu

Turn Your Dollar into Something Tasty with McDonald's Dollar Menu. Great choices. Great prices. Every day!

Tools
Help
Search
Favorites
alds.com/usa/eat/features.html
Go
Links
Google
Printer-Friendly
Español
Bag a McMeal
Nutrition Info
Food Quality
Food News
Snack Wrap
Premium Salads
Premium Chicken Line
Premium Coffee & McGriddles
Premium Coffee
Dollar Menu
McNuggets
From Farm to Table
Tools for Health Professionals
Bob Greene, Personal Trainer
Dean Ornish, MD Tips
new SNACK WRAP
premium salads
premium chicken line

McDonald's USA Food News

McDonald's New Snack Wrap

Warm, crispy chicken, cheddar jack cheese, fresh lettuce and creamy ranch sauce all wrapped up in a soft flour tortilla..

Get snacking now. More >>

McDonald's Premium Salads!

Asian Salad (Grilled or Crispy Chicken), California Cobb Salad (Grilled or Crispy Chicken), Caesar Salad (Grilled or Crispy Chicken), Bacon Ranch Salad (Grilled or Crispy Chicken).

Visit participating McDonald's restaurants to enjoy McDonald's Premium Salads! More >>

New Premium Chicken Line

Grilled? Crispy? Spicy? Yes, yes, and yes. Chicken's got a new address...and all roads lead to Mickey D's.

McDonald's USA Premium Chicken Line at participating McDonald's restaurants. More >>

McDonald's Premium Coffee & McGriddles® Breakfast

Characteristics of CBM

- **Standardized format for presentation**
- **Material chosen is controlled for grade level difficulty**
- **Material presented as brief, timed probes**
- **Rate of performance used as metric**
- **Results provide index of student progress in instructional materials over time**
- **Indexes growth toward long-term objectives**
- **Measures are not designed to be formative or diagnostic**

CBM and Reading Assessment Measures

- Early Literacy
  - Phoneme Segmentation Fluency
  - Initial Sound Fluency
  - Nonsense Word Fluency
  - Letter Identification Fluency
- Reading
  - Oral Reading Fluency
  - Maze
  - Retell Fluency
- AIMSweb as example

Types of CBM Math Assessment

- M-COMP = Computation Skills
  - Assesses many skills across the grade
  - Samples the skills expected to be acquired
  - Grade-based assessment
  - Reflects performance across time
- M-CAP = Concepts/Applications Skills

AIMSweb – MCOMP Domains

Domains Assessed by Grade

Domain	Grade 1	2	3	4	5	6	7	8
Size of Numbers	●	●						
Column Addition	●	●	●					
Basic Facts	●	●	●	●	●	●		
Complex Computation	●	●	●	●	●	●	●	
Decimals				●	●	●	●	●
Fractions				●	●	●	●	●
Conversions					●	●	●	●
Percentages					●	●	●	●
Integers						●	●	●
Expressions						●		
Reductions						●	●	
Equations							●	●
Exponents							●	●

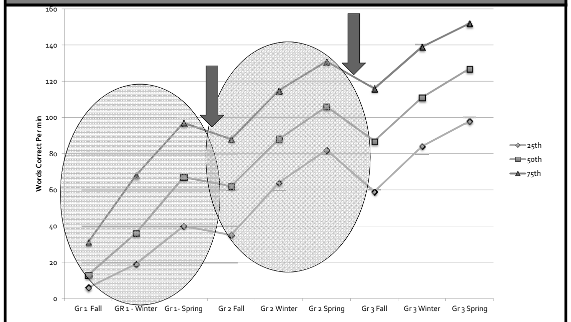
AIMSweb- MCAP Domains Assessed

Domain	Grade 2	3	4	5	6	7	8
Probability					●	●	●
Data and Statistics					●	●	●
Algebra				●	●	●	●
Number Sense	●	●	●	●	●	●	●
Operations	●	●	●	●	●	●	●
Patterns and Relationships	●	●	●	●	●	●	●
Measurement	●	●	●	●	●	●	●
Geometry	●	●	●	●	●	●	●
Data and Probability	●	●	●	●			

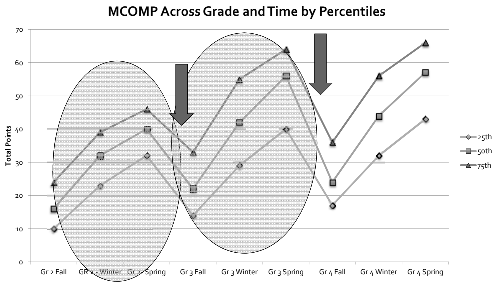
Keys to Interpretation of CBM Data

- Change over time interpreted differently for reading and math – problems of vertical scaling
- Change from end of one year to start of next (summer decline?)
- Implications for instruction?

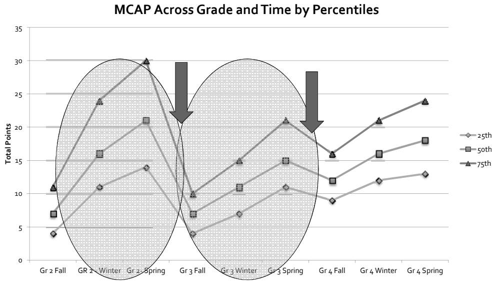
AIMSweb RCBM Across Time



MCOMP Across Grades, Time by Percentiles



MCAP Across Grades and Time by Percentiles



Some Key Elements of Interpreting AIMSweb CBM

- Within and across grade growth is evident for reading (RCBM) but not math
- Across grade growth in reading shows step wise improvements, after "summer decline"
- In math, within year change over the year can be very small
- Across grade growth in math not possible to determine from math CBM, i.e., each grade is not necessarily higher scoring than the previous grade
- Interpretation within grade rather than across grade is stronger
- Why? Due to nature of within grade measures- Math measures are more specific skills probes than general outcome measures

Alternatives to CBM for Screening

- Problem
  - CBM not instructionally linked
  - Issue especially with the coming of Common Core
  - CBM in reading loses its punch as grade increases
  - CBM in math is problematic because of across year growth
- Solutions
  - Use measure that is developmentally sensitive across the grade span
  - Use measures that can also provide instructionally linked relevant information

Computer Adaptive Tests

What are Computer Adaptive Tests?

- Based on IRT (Item Response Theory) method of test construction
- Adjusts items administered based on student responses and difficult of items
- Similar to finding a basal and ceiling of tests
- Tests have huge item banks
- Items are not timed, based on accuracy of response
- Careful calibration, pinpoints skills acquired and in need of teaching in a skill sequence

Concept of "Probe"

- Item Response Theory

Probe = ITEMS WITHIN THE TEST
Test = Many items (probes)
NOT assume = item equal difficulty, each item tested for difficulty level it represents
Score = sum across items estimates true student ability across domains of assessment

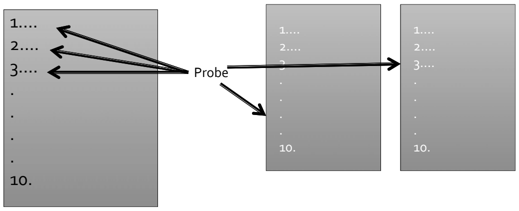
- Classical Psychometric Theory

Probe = WHOLE TEST
Test = many items
Assume = items equal difficulty
Score = sum across items estimates true student performance, unsure what skills are actually embedded in the measure

Concept of "Probe"

IRT THEORY

CLASSICAL PSYCHOMETRIC THEORY



Assumptions

IRT THEORY

- Each item is a "probe"
- Interaction between item difficulty and student ability is tested
- Each item comes from a large set of possible items testing key component skills

CLASSICAL PSYCHOMETRIC THEORY

- All items of a "probe" represent equal difficulty
- All "probes" represent equal difficulty
- No interaction between student ability and probe level

CAT Methods and Measures

- Computer administered entirely
- Between 15-25 minutes per administration
- Skills focused within domains
- Not all students take same items, depends on which items are answered correctly and incorrectly
- Scaled Score is the KEY metric
- Outcome diagnostic and summative

CAT Methods and Measures

- Provides a student's relative standing to peers on a national distribution
- Provides student's goals for growth
- Provides indication of group's performance (grade, school, district) relative to what is expected nationally
- Example for today- STAR Assessment (Enterprise) from Renaissance Learning
- Other similar metrics exist, see NCRTI charts
  - SRI, MAP

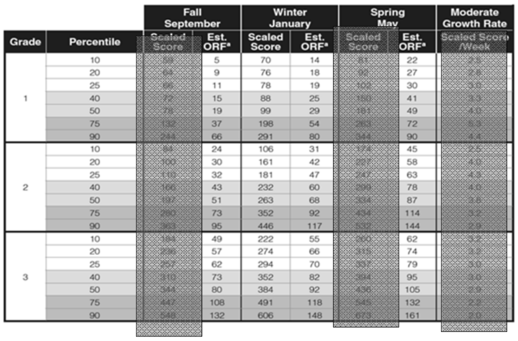
STAR Assessments

- STAR Early Literacy (pre-K - 3)
- STAR Reading (Gr 1 – 12)
- STAR Math (Gr 1 – 12)

STAR Scaled Score - Critical

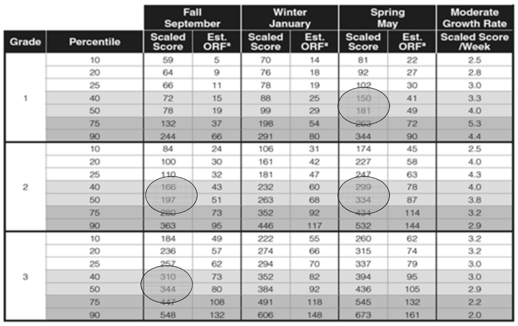
- Metric that places student on a distribution from K through grade 12
- Weight analogy
- STAR Math Scaled Score – 0 to 1400
- Note important difference in interpretation to CBM (AIMSweb) measures across grades and time
- VERTICALLY SCALED

STAR Reading Scaled Scores



		Fall September		Winter January		Spring May		Moderate Growth Rate
Grade	Percentile	Scaled Score	Est. ORF[a]	Scaled Score	Est. ORF[a]	Scaled Score	Est. ORF[a]	Scaled Score /Week
1	10	59	5	70	14	81	22	2.5
	20	64	9	76	18	92	27	2.8
	25	66	11	78	19	102	30	3.0
	40	72	15	88	25	150	41	3.3
	50	78	19	99	29	181	49	4.0
	75	132	37	198	54	263	72	5.3
	90	244	66	291	80	344	90	4.4
2	10	84	24	106	31	174	45	2.5
	20	100	30	161	42	227	58	4.0
	25	110	32	181	47	247	63	4.3
	40	166	43	232	60	299	78	4.0
	50	197	51	263	68	334	87	3.8
	75	280	73	352	92	434	114	3.2
	90	363	95	446	117	532	144	2.9
3	10	184	49	222	55	260	62	3.2
	20	236	57	274	66	315	74	3.2
	25	257	62	294	70	337	79	3.0
	40	310	73	352	82	394	95	3.0
	50	344	80	384	92	436	105	2.9
	75	447	108	491	118	545	132	2.2
	90	548	132	606	148	673	161	2.0

STAR Reading Scaled Scores



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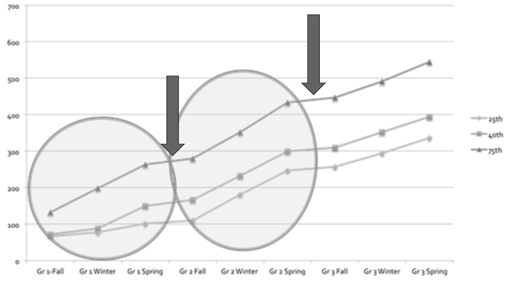
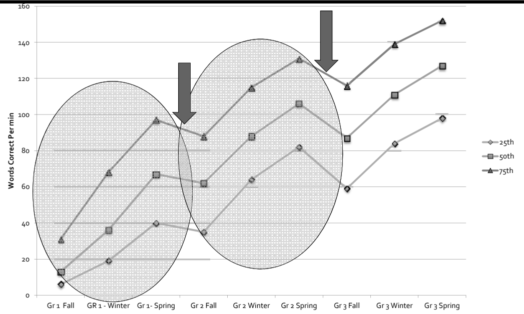
3	10	184	49	222	55	260	62	3.2
	20	236	57	274	66	315	74	3.2
	25	257	62	294	70	337	79	3.0
	40	310	73	352	82	394	95	3.0
	50	344	80	384	92	436	105	2.9
	75	447	108	491	118	545	132	2.2
	90	548	132	606	148	673	161	2.0

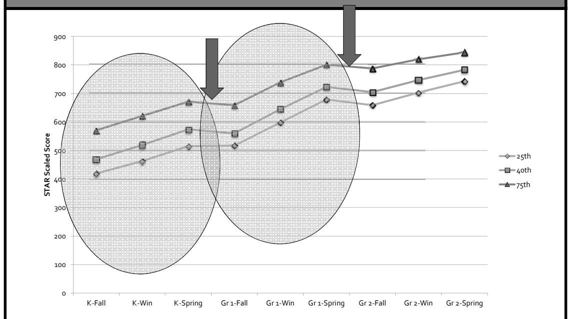
STAR Reading Scaled Score Across Time and Grades



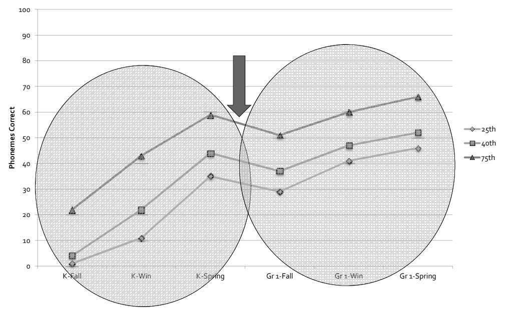
AIMSweb RCBM Across Time



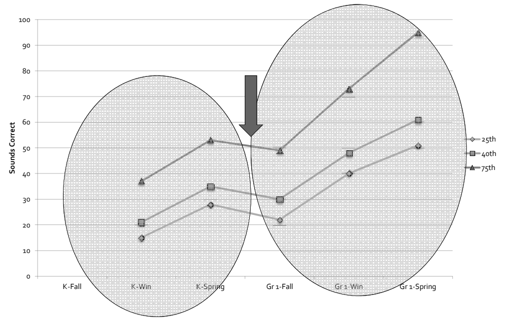
STAR Early Literacy Across Grades



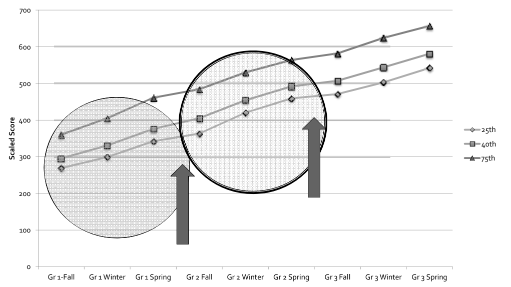
AIMSweb PSF Across Grades



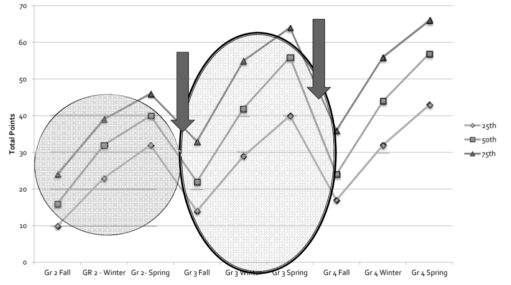
AIMSweb NWF Across Grades



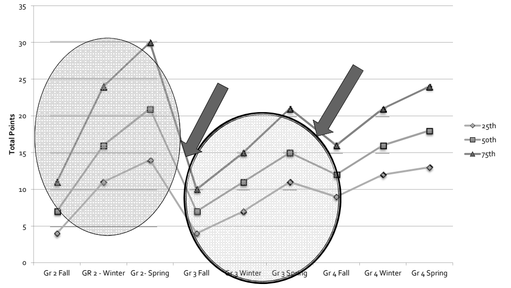
STAR Math Scaled Score Across Time and Grades



MCOMP Across Grades, Time by Percentiles



MCAP Across Grades and Time by Percentiles



STAR Math – Grade 2

- STAR Math Fall Screening Report
- STAR Math Winter Screening Report
- STAR Math with Students

Current Developments in Screening – Changes Needed

Screening at Youngest Grades

- Problem
  - Too many false positives (screener says at risk, really not)
  - Avoid false negatives (screener says NOT at risk, really are)
- Solutions
  - Two stage screening
  - Delay initial screening

Two Stage Screening

- Screening designed to capture larger pool of potential at risk students
- Natural to have more false positives in the pool
- Designed to avoid false negatives
- Too many false positives = resource implications
- Natural adaptation of school

Two Stage Screening – Option 1

- Screen all students as usual at beginning of year
- Identify those below certain cut point, for example, below 25th %tile
- Progress monitor weekly those students below this point for time period
- Wait to start interventions until time period (8 weeks?) is complete

Two Stage Screen- Option 1

- Advantages
  - Avoids starting interventions for false positives
  - More precise use of resources
  - Accounts for typical developmental patterns
- Disadvantages
  - Some students need intervention immediately
  - Logistics

Two Stage Screening – Option 2

- Screen all students at beginning of year using universal screener
- For those below a certain cut point (25th %tile?), conduct second screener
- Those screening at risk on both screeners are placed into intervention
- Selection of second screener is critical

Two Stage Screener- Option 2

- Advantages
  - More precise identification of those at risk
  - Multiple measures provide more info
- Disadvantages
  - Logistics
  - Resources for assessment

Option 3 – Mix

- Initial screen in September
- Start Intervention for those below 10th %tile
- Second stage screen for others

Problem #2- Which Criterion?

- Selection of cut point for risk/no risk is critical decision
- Alteration of cut point shifts resource capability
- Alteration of cut point shifts expected outcomes
- Alteration of cut points shifts goals

Example: DIBELS Next Benchmarks Oregon vs DMG

- Problem (From Oregon's Perspective)
  - Too many false negatives
  - Increasing rigor of curriculum (common core
- Solution
  - Change cut point (Oregon cut points)

DIBELS Next Benchmarks Oregon vs DMG

- The Controversy
  - The Norms/Cut Scores You Use Make a BIG difference
  - DIBELS Next (DMG) cut scores are linked to subsequent scores on next benchmark assessment
  - DMG cut scores were anchored to approximately the 30-40th percentile of distribution, anchored to outcomes on GRADE
  - Oregon examined scores and found high levels of FALSE NEGATIVES (kids scoring at or above benchmark not passing state test)
  - Oregon conducted carefully selected sample
  - Used outcomes of new standardization sample to set cut scores with SAT10 performance

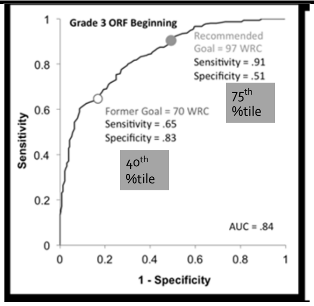
Key Reports

- Report Containing Revised Benchmarks
  - https://dibels.uoregon.edu/docs/techreports/DDS2012TechnicalSupplement.pdf
- Report Containing Information on Revised Composite Benchmarks
  - https://dibels.uoregon.edu/docs/techreports/DDS2012TechnicalBriefPart1.pdf
  - Our primary conclusion is that the scientific evidence does not support the requirement that all DIBELS Next measures be administered.

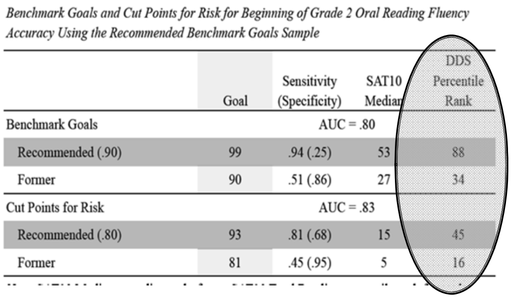
Key Reports

- Report Containing Information on the Study for Revised Benchmarks
  - https://dibels.uoregon.edu/docs/techreports/DDS2012TechnicalBriefPart2.pdf

Oregon vs DMG Benchmarks



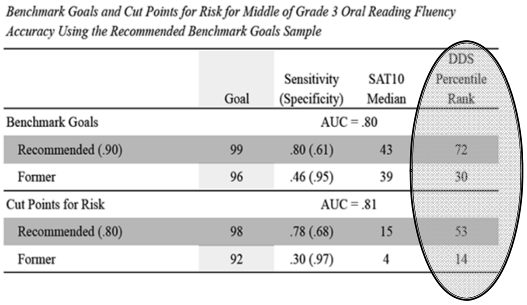
Grade 2 Comparison for ORF



Benchmark Goals and Cut Points for Risk for Beginning of Grade 2 Oral Reading Fluency Accuracy Using the Recommended Benchmark Goals Sample

	Goal	Sensitivity (Specificity)	SAT10 Median	DDS Percentile Rank
Benchmark Goals		AUC = .80		
Recommended (.90)	99	.94 (.25)	53	88
Former	90	.51 (.86)	27	34
Cut Points for Risk		AUC = .83		
Recommended (.80)	93	.81 (.68)	15	45
Former	81	.45 (.95)	5	16

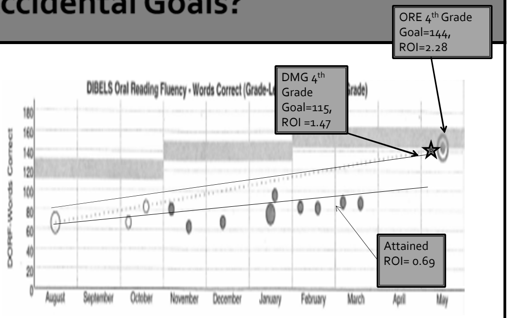
Grade 4 Comparison for ORF



Benchmark Goals and Cut Points for Risk for Middle of Grade 3 Oral Reading Fluency Accuracy Using the Recommended Benchmark Goals Sample

	Goal	Sensitivity (Specificity)	SAT10 Median	DDS Percentile Rank
Benchmark Goals		AUC = .80		
Recommended (.90)	99	.80 (.61)	43	72
Former	96	.46 (.95)	39	30
Cut Points for Risk		AUC = .81		
Recommended (.80)	98	.78 (.68)	15	53
Former	92	.30 (.97)	4	14

Accidental Goals?



Implications of Choice

- False Positives vs False Negatives
- What is the criterion?
- State Assessment?
- What percentile equals proficiency?
- ORE = More False Positives against State Assessment
- DMG = More False Negatives against External Criterion

Screening (& Progress Monitoring) Above 5th Grade

Reading

- Sensitivity of R-CBM to reflect reading comprehension
- Sensitivity of MAZE as a proxy for reading comprehension
- Prediction to state assessments
- Importance (or reduced importance) of fluency

Read This – Have Someone Time You

- Passage-Jellyfish
- What was the passage about? Retell in your own words.

- Reflect-
  - How easy was it to read? Why?
  - Did you understand it?

Now Read This – Have someone time you

- Science
- What was the passage about? Retell in your own words.

- Reflect-
  - How easy was it to read? Why?
  - Did you understand it?

Screening (& PM) Above 5th Grade

- Problems
- Reading
  - Lack of sensitivity to change over time
  - Meaningfulness of measure – Maze? ORF?
  - Need to assess comprehension over fluency
  - Instructional planning?
- Math
  - Lack of sensitivity to change over time
  - Instructional planning?

Monitoring Above 5th Grade

- Requires broader measure of reading
- Requires broader measure of mathematics
- Skills level assessment is critical
- CBM not designed for this purpose

Screening (& PM) Above 5th Grade

- Solutions
  - Less available but there are some
  - Use of CATs
  - Less reliance on CBM measures
  - Alternatives under development
  - Learning Progressions

TB- Case Example

- TB- Diagnostic Report
- TB- Instructional Planning Report
- TB- Progress Monitoring Report
- TB- State Proficiency Report
- TB- Common Core Report

Progress Monitoring- Research and Need for Changes

Progress Monitoring in RtI

- Key to data based decision making
- Use PM data as basis for continue tiered instruction, increase goals, change instruction
- Use PM data as basis for potential consideration down the road for eligibility decisions

Progress Monitoring Using CBM AIMSweb

- Students in need of tiered instruction are monitored on frequent basis
- Frequency of monitoring can vary but once every two weeks is recommended at minimum
- Monitor student toward grade level goals
- Reading
  - R-CBM (Oral Reading Fluency) – after mid year grade 1
- Math
  - M-COMP & M-CAP (starting second grade)

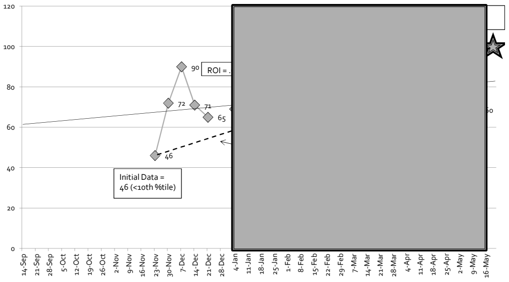
Progress Monitoring

- Same measures used for progress monitoring
- Goals set for expected rate of change over the year
- Measures are used to determine outcomes of interventions
- General Outcomes Measures for overall progress
- Short term measurement might also be needed for skill development

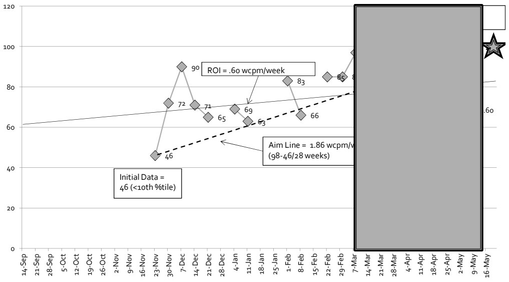
Standard Error – Interpreting Trend

- All measures have error
- Change in performance over time must be interpreted by considering error
- If change from one point to next is within error, no big deal
- If change from one point to next is larger than error, need to check whether change is "real" or "accidental"
  - Easier or harder passage than one before
  - Student was physically ill
  - Student just clicked away on the computer
- CBM ORF SEM = 10 wcpm (range 5-15)
  - Christ, T. J.; Silberglitt, B., (2007) School Psychology Review, 36(1), 130-146.

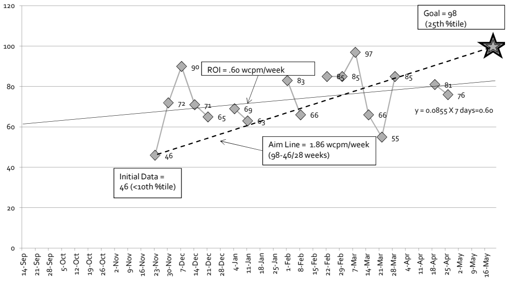
Grade 2= Real or Error?
SEM = 10



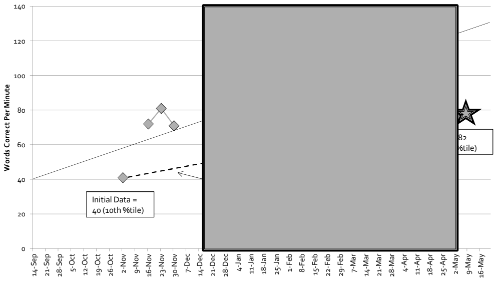
Grade 2= Real or Error?
SEM = 10



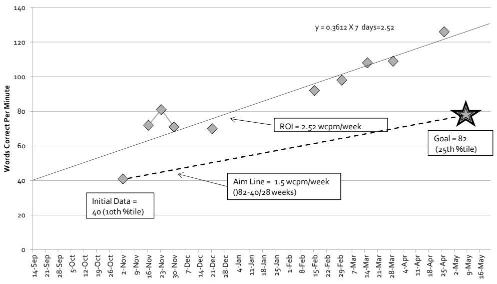
Grade 2= RCBM PM Example



Grade 3 – Real or Error?
SEM = 10



Grade 3 – Real or Error? SEM = 10



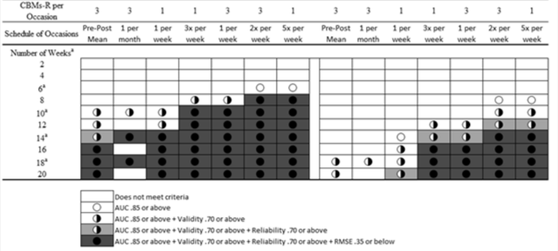
Important New Findings about CBM Reading and Progress Monitoring (Christ et al., 2013, J. of School Psychology)

- Use of Ordinary Least Squares (OLS) regression is only valid trend estimator
- Number of weeks of monitoring is key and best predictor of outcomes
  - Recommendation is 10-14 weeks with good passage set
- Increasing density of data collection (i.e., more in shorter amount of time) does not improve prediction)
- Need to use more data per assessment (i.e., 3 passages use median) over single passage

How Many Data Points? - RCBM

- 10 data points are a minimum requirement for a reliable trendline (Gall & Gall, 2007)
- 7-8 is minimum for using the Tukey Method (Wright, 1992)
- 8-9 for stable slopes of progress in early writing (McMaster, 2011)
- Take-away: The more data points the more stable the slope (Christ, 2006; Hintze & Christ, 2004)

Results Summary - RCBM



Dataset Quality Residual (ε_{ij}) =	Very Good 5							Good 10						
CBMs-R per Occasion	3	3	1	1	3	3	1	3	3	1	1	3	3	1
Schedule of Occasions	Pre-Post Mean	1 per month	1 per week	3x per week	1 per week	2x per week	5x per week	Pre-Post Mean	1 per month	1 per week	3x per week	1 per week	2x per week	5x per week
Number of Weeks^a														
2														
4														
6^a						○	○							
8				◑	◑	●	●						○	○
10^a	◑	◑	◑	●	●	●	●						◑	◑
12	◑		◑	●	●	●	●				◑	◑	◐	◐
14^a	◐	●	●	●	●	●	●			○	◐	◐	●	●
16	●		●	●	●	●	●			◑	●	●	●	●
18^a	●	●	●	●	●	●	●	◑	◑	◑	●	●	●	●
20	●		●	●	●	●	●	◑		◐	●	●	●	●

☐ Does not meet criteria
○ AUC .85 or above
◑ AUC .85 or above + Validity .70 or above
◐ AUC .85 or above + Validity .70 or above + Reliability .70 or above
● AUC .85 or above + Validity .70 or above + Reliability .70 or above + RMSE .35 or below

Much to be Done!

- ROI for instructional decisions is not a perfect process, but is well-documented and researched
- Many sources of error to consider:
  - Standard error of measurement for slope (Christ, 2006)
  - Reading passage variability (Ardoin & Christ, 2009)
  - Frequency of progress monitoring (Jenkin, Graff, & Miglioretti, 2009)

Much to be Done!

- Many sources of error to consider (cont.):
  - Progress monitoring off grade level (Silberglitt & Hintze, 2007)
  - CBM for non-English speaking students
  - Difference in growth for benchmarks between fall and spring (Ardoin & Christ, 2008; Christ, Silberglitt, Yeo, & Cormier, 2010; Graney, Missall, & Martinez, 2009; Fien, Park, Smith, & Baker, 2010)
  - Difference in growth depending on initial level of performance (Fien, Park, Smith, & Baker, 2010; Good et. al., 2010, Silberglitt & Hintze, 2007)

General Strengths of CBM for PM

- Measures are generally short and efficient (1 minute for Reading individually administered, 8 minutes for math that can be group administered)
- Reading is General Outcome Measure, cuts across reading skills, strong correlations to state assessments
- Math measures of both computation and concepts offer rich array of assessments across domains of skills
- Measures remain sensitive to growth within grades across the year

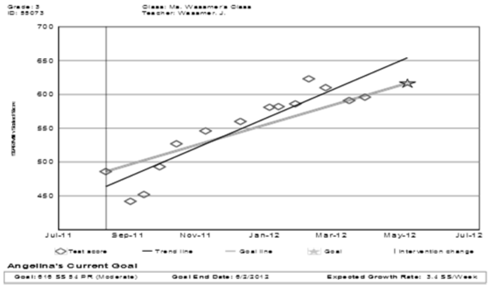
General Weaknesses of CBM Measures for RTI

- Measures are not designed to be formative (diagnostic) but some math measures can be
- Additional assessment needed for purposes of formative assessment and instructional linkages
- Math measures do not always show same growth patterns across grades
- Math measures cannot be easily used across grades
- Links to state and common core standards are not always clear, measures are designed to be broad growth indicators not specific skills assessments

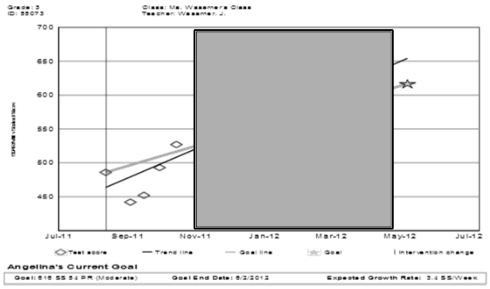
STAR Math- Progress Monitoring

- Same measure can be used as progress monitoring device
- Frequency can be as often as once per week
- Standard Score measure is reflected in data

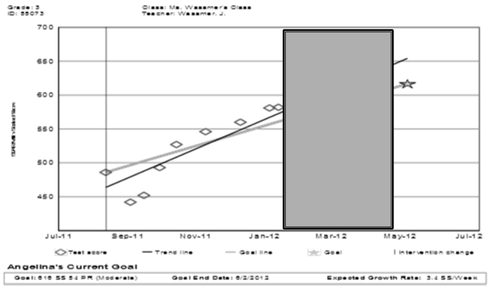
Sample PM from STAR Math SEM = 30, Grade 3



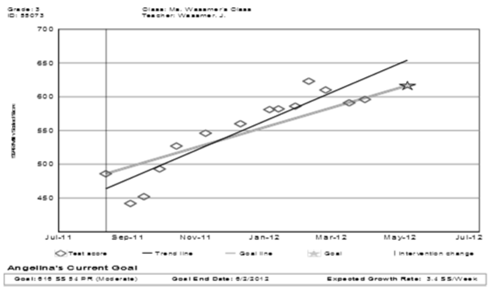
STAR Math: Is it Real of Error? SEM = 30, Grade 3



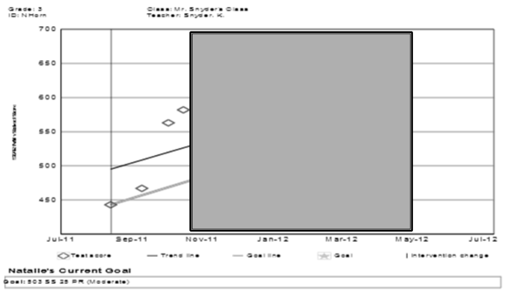
STAR Math: Is it Real of Error? SEM = 30, Grade 3



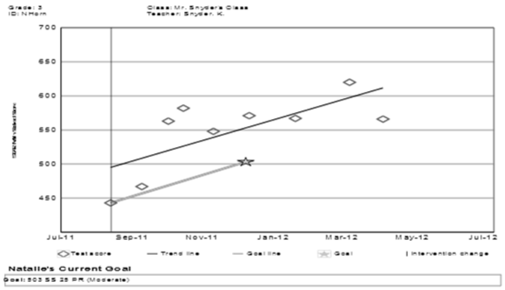
STAR Math: Is it Real of Error? SEM = 30



STAR Math: Is it Real of Error? SEM = 30



STAR Math: Is it Real of Error? SEM = 30



Research Comparisons- RCBM and STAR-R

- 117 students from Tennessee school district
- Data collection spanned two years
- Monitoring Processes – Once per week to one every other week
  - Year 1 - Monitored in Grades 1 through 4
  - Year 2 – Monitored in Grades 2 through 5
- Interventions for students same across two years
  - Tier 2 – Grades 4 and 5 = Reading Triumphs
  - Tier 3 – Specific area identified, intervention focused on specific problem

Research Comparisons- RCBM and STAR-R

- RCBM used for progress monitoring 2007-2008 through 2011-2012
- RTI teams needed to document growth or lack of growth in complex reading comprehension skills
- 2012-2013 school year, STAR Reading was selected by the district as the universal screening and progress monitoring tool.

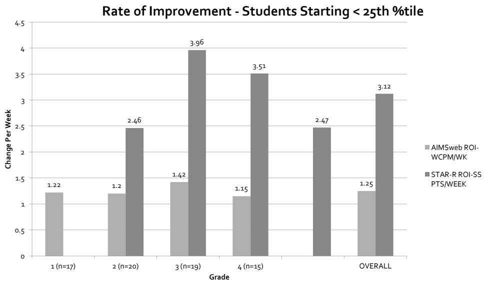
Research Comparisons- RCBM and STAR-R

- Comparison of PM outcomes
- AIMSweb in Year 1, STAR-R in Year 2
- Same students across years, same RTI intervention programs, same schools, same interventionists

Key Questions

- Are STAR Reading and AIMSweb (R-CBM) sensitive to incremental growth for progress monitoring?
- How do student actual rates of growth compare to the expected rates of growth in STAR Reading and AIMSweb?
- How do STAR Reading and AIMSweb correlate to the Tennessee TCAP assessment?

STAR-R and RCBM- Sensitive to Incremental Growth?



STAR-R and RCBM- Sensitive to Incremental Growth?

- Variability? Bounce?

Grade	RCBM			STAR-R		
	Mean	SD	%V	Mean	SD	%V
1	1.22	0.60	49.1			
2	1.20	0.47	39.2	2.46	2.31	93.9
3	1.42	0.89	62.7	3.96	2.59	65.4
4	1.15	0.63	54.8	3.51	2.41	68.7
5				2.47	2.38	96.4

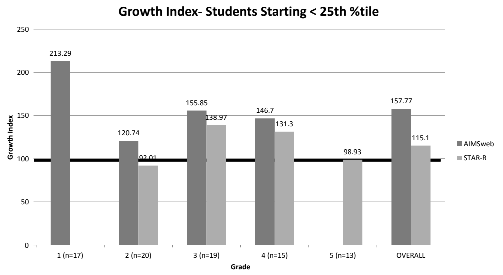
STAR-R vs RCBM- Growth Against Expected

- Expected growth rate selected was normative rate based on student's starting point
  - Ex: 2nd grade, RCBM, 10th percentile = 1.46 wcpm/week
  - Ex: 2nd grade, STAR-R, 10th percentile = 2.50 SSpts/week

STAR-R vs RCBM- Growth Against Expected

- Growth Index (GI) calculated
  - Actual Growth/Expected Growth X 100
  - Actual = Expected, GI = 100
  - Actual > Expected, GI > 100
  - Actual < Expected, GI < 100
  - GI negative = Actual growth less than zero

STAR-R vs RCBM- Growth Against Expected



STAR-R and RCBM- Growth Against Expected

- Variability? Bounce?

Grade	RCBM			STAR-R		
	Mean	SD	%V	Mean	SD	%V
1	213.29	140.14	65.7			
2	120.74	86.79	71.9	92.01	82.73	89.9
3	155.85	110.53	70.9	138.97	63.92	46.0
4	146.7	80.74	55.0	131.30	90.45	68.9
5				98.93	97.27	99.3

Correlations to Tennessee Staste Assessment?

- Concurrent Validity – Final Data Point of RCBM or STAR-R to State Scaled Score
- Combined 3rd and 4th graders (RCBM)
- Combined 4th and 5th graders (STAR-M)

RCBM (n=41)	STAR-R (n=67)
0.14	0.42

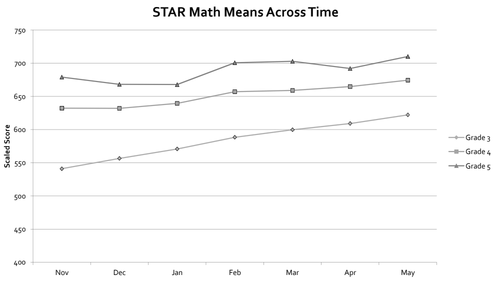
General Conclusions

- Limitations in Design
- Both measures are sensitive to growth over time
- Both measures reflect expected growth levels against expected outcomes based on starting points for the year
- Less "bounce" in data for RCBM
  - Single skill versus multiple skills

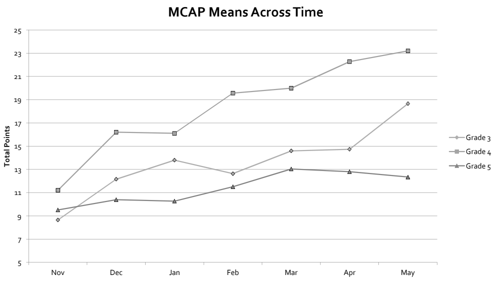
MCOMP/MCAP vs STAR-M

- 232 students, two elementary schools, grades 3, 4, 5
- Assessed monthly from November 2012 to June 2013
- Assessed on MCOMP, MCAP, STAR-M
- Compared Rate of Progress on Each Measure
- Calculated Growth Index
- Correlation to PSSA
- Examined by strata
  - <25th %tile, 25-74th %tile, 75+ %tile

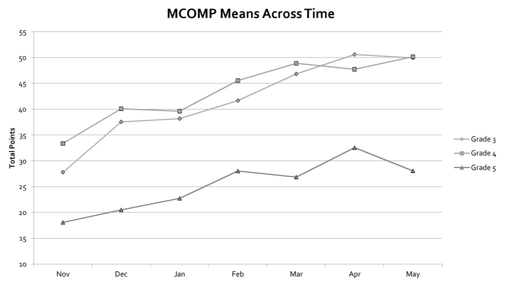
STAR-M – Mean Performance Across Time



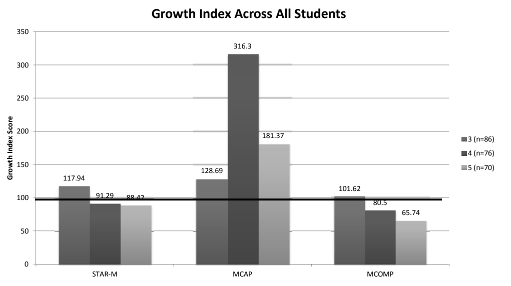
MCAP- Mean Performance Across Time



MCOMP- Mean Performance Across Time



STAR-M vs MCOMP/MCAP- Growth Against Expected



STAR-M vs MCOMP/MCAP- Growth Against Expected

- Variability? Bounce?

Gr	STAR-M			MCAP			MCOMP		
	Mean	SD	%V	Mean	SD	%V			
3	117.94	76.03	64.5	128.69	110.19	85.9	101.62	66.85	65.8
4	91.29	90.08	98.7	316.30	300.05	94.9	80.50	56.61	70.3
5	88.42	42.00	47.5	181.37	486.77	2.68	65.74	91.67	1.39

Correlations to State Assessment Across Grades

Concurrent (4th data point)

	PSSA Math SS	STAR Math	MCAP	MCOMP
PSSA Math SS	---	.71	.43	.59
STAR Math			.29	.40
MCAP				.44
MCOMP				---

Predictive (1st data point)

	PSSA Math SS	STAR Math	MCAP	MCOMP
PSSA Math SS	---	.65	.57	.53
STAR Math			.50	.32
MCAP				.59
MCOMP				---

General Conclusions

- STAR Math and MCAP, MCOMP all capable and sensitivity to growth
- STAR Math somewhat more variability than MCAP and MCOMP, but varies by grade
- STAR Math more indicative and related to expected growth than MCOMP but MCAP showed more link to expected growth
- STAR Math stronger correlation to state test

Seasonal Changes in Data

- Problem
  - Is growth in a straight line across the year?
  - Fall to Winter versus Winter to Spring? Why?
- Solutions
  - Use half year growth rates as benchmarks

Typical Growth: Is There Such a Thing?

- More growth from fall to winter than winter to spring for benchmarks (3x per year)
  - Christ & Ardoin (2008)
  - Christ, Silberglitt, Yeo, & Cormier (2010)
  - Fien, Park, Smith, & Baker (2010)
- More growth from winter to spring than fall to winter
  - Graney, Missall, & Martinez (2009)

DIBELS (6th Ed.) ORF Norms

	Fall to Winter	Winter to Spring
2nd	**24**	22
3rd	15	**18**
4th	13	13
5th	**11**	9
6th	**11**	5

DIBELS Next ORF Norms (DMG)

	Fall to Winter	Winter to Spring
2nd	**20**	15
3rd	**16**	14
4th	**13**	12
5th	9	**10**
6th	2	**9**

AIMSWeb Norms R-CBM

Based on 50th Percentile	Fall to Winter	Winter to Spring
1st	18	**31**
2nd	**25**	17
3rd	**22**	15
4th	**16**	13
5th	**17**	15
6th	**13**	12

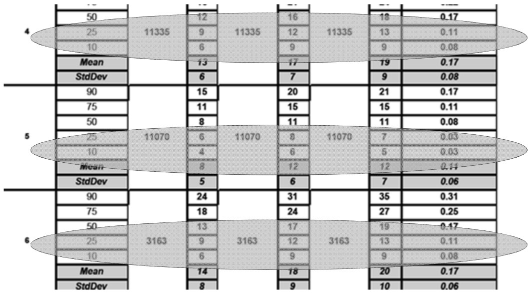
Why the Difference Between Semesters?

- Relax instruction after high stakes testing in March/April; a state assessment effect?
- Depressed initial benchmark scores due to summer break; a rebound effect (Clemens).
- Instructional variables could explain differences in Graney (2009) and Ardoin (2008) & Christ (in press) results (Silberglitt).
- Variability within progress monitoring probes (Ardoin & Christ, 2008) (Lent).

Progress Monitoring Measures

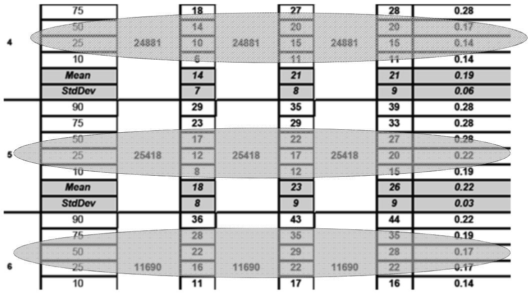
- Sensitivity to change over time?
  - Math Concepts/Applications?
  - Maze

MCAP



	50		12		16		18	0.17
4	25	11335	9	11335	12	11335	13	0.11
	10		6		9		9	0.08
	Mean		*13*		*17*		*19*	*0.17*
	StdDev		*6*		*7*		*9*	*0.08*
	90		15		20		21	0.17
	75		11		15		15	0.11
	50		8		11		11	0.08
5	25	11070	6	11070	8	11070	7	0.03
	10		4		6		5	0.03
	Mean		*8*		*12*		*12*	*0.11*
	StdDev		*5*		*6*		*7*	*0.06*
	90		24		31		35	0.31
	75		18		24		27	0.25
	50		13		17		19	0.17
6	25	3163	9	3163	12	3163	13	0.11
	10		6		9		9	0.08
	Mean		*14*		*18*		*20*	*0.17*
	StdDev		*8*		*9*		*10*	*0.06*

MAZE



	75		18		27		28	0.28
	50		14		20		20	0.17
4	25	24881	10	24881	15	24881	15	0.14
	10		6		11		11	0.14
	Mean		*14*		*21*		*21*	*0.19*
	StdDev		*7*		*8*		*9*	*0.06*
	90		29		35		39	0.28
	75		23		29		33	0.28
	50		17		22		27	0.28
5	25	25418	12	25418	17	25418	20	0.22
	10		8		12		15	0.19
	Mean		*18*		*23*		*26*	*0.22*
	StdDev		*8*		*9*		*9*	*0.03*
	90		36		43		44	0.22
	75		28		35		35	0.19
	50		22		29		28	0.17
6	25	11690	16	11690	22	11690	22	0.17
	10		11		17		16	0.14

General Strengths of STAR for PM

- Measures are efficient since they are administered by computer (15-20 minutes) and can be given to large groups at the same time
- Reading & Math serve as General Outcome Measures (looking at scaled scores and movement toward goals)
- Reading & Math serve as indicators of instructional foci with direct links to skills in need of instruction
- Reading & Math measures assess the domains consistent with common core and state standards, with strong correlations to state assessments
- Reading & Math measures remain sensitive to growth within AND across grades across the year

General Weaknesses of STAR for PM Measures for RTI

- Measures can show more bounce in the data due to students not being carefully monitored in their taking of the tests on computers (pay attention to SEM rules)
- Measures are not direct measures of fluency
- Measures may be somewhat limited in sensitivity to small increments of growth over short periods of time (i.e. 4-6 weeks)
- Use of STAR (or any CAT) requires full understanding of the nature of CAT

Conclusions - Screening

- For advanced RTII users
- Consider two stage screening, especially for younger grades
- Consider reducing screeners for advanced level students
- Consider using DMG Dibels Next benchmarks or percentile benchmarks
- Consider alternatives to CBM

Conclusions – Progress Monitoring

- Consider at least 8 data points before making instructional decisions (thinking is required!)
- Consider seasonal differences, use half year ROI
- Consider looking for alternatives to screening and PM when using above 5th grade

Thanks!

- Ed Shapiro
  - Ed.shapiro@lehigh.edu

Jellyfish are creatures found in most bodies of salt water, from the tropical 13
waters of the Caribbean Sea, to the cold, dark waters of the Arctic Ocean. 27

Jellyfish are unusual creatures. When seen in the water, it's hard to believe 40
they are a species from this planet. They look like aliens hanging suspended in 54
water with their luminous layers of tissue and flesh. They have long, curly 67
tentacles and plastic like bubble tops that sway in the sea. 78

Although it's difficult to believe, jellyfish have no heart, blood, brain, or gills. You 92
can see through their mostly hollow stomach cavities where their food is digested 105
and dissolved. Jellyfish have no proper eyes or ears. In fact, it's possible to 119
believe that jellyfish are just brainless blobs without the slightest spark of 131
intelligence. Amazingly enough, despite their lack of sight and hearing, jellyfish 142
can distinguish touch, temperature, light, and darkness. They also know the 153
direction and pull of water currents. 159

Jellyfish come in an assortment of colors and shades. The jellyfish living in 172
cooler waters are generally pale or milky white in color. Many of the jellyfish that 187
live in warmer, tropical waters are often strikingly colored in shades of magenta, 200
scarlet, yellow, and orange. 204

A jellyfish can be as tiny as a thimble, and some can grow to be as colossal as 222
a satellite dish. Most jellyfish can maneuver feebly in the water; however, their 235
poor swimming skills place them at the mercy and whimsy of ocean currents. 248

Some jellyfish ride the ocean currents alone, while other species travel in 260
special groups called colonies. The man-of-war is an example of a highly adapted 275
jellyfish that travels with a colony. The man-of-war serves a special function in its 291
colony. It catches prey with a very long tentacle that can trail as far as one hundred 308
feet through the sea. The man-of-war's prey includes shrimp, squid, and fish. It 323
also produces potent venom that is harmful to humans who may swim nearby, 336
unaware of the man-of-war's clever and stunning snares. 346

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The positive ions are deflected by both the electric field and the magnetic field of the setup. When the ions that have passed through the electric and magnetic fields are made to fall on a screen, they described parabolic curves. For substances with more than one isotopes more than one parabolas were obtained demonstrating the existence of isotopes. The fact that different parabolas would be obtained for different mass numbers can be predicted theoretically as follows. When an ion is moving in the electric field it would experience a constant force qE actin on it. At the same time, because the ion is moving in a magnetic field it would experience a constant force qvH acting on it.

When the nuclear model of the atom was advanced the composition of the nucleus became a crucial problem of nuclear physics. An answer to this question could only be given after the discovery of various properties of the nucleus, notably nuclear charge Z, nuclear mass, and nuclear spin. The nuclear charge was found to be defined by the sum of the positive charges it contains. Since an elementary positive charge is associated with the proton, the presence of protions in the nucleus appeared to be beyond any double from the outset.

The electron proton model nicely fits with the second possibility mentioned above. Further the nucleus might contain electrons seemed to follow from the fact that natural beta-decay is accompanied by the emission of electrons. The proton-electron model also explained the fact why the isotopic atomic weights were nearly integers. According to this model, the mass of the nucleolus should be partially equal to the masses of the protons that make it up, because the electronic mass is about 1/2000th that of the proton.

What to do about Tier 3? The importance of a hybrid model of RTI

Dr. Edward S. Shapiro
Director, Center for Promoting Research to Practice
Lehigh University
University Consultant, Response to Instruction and Intervention in Pennsylvania

Presented to Wisconsin School Psychologists Association,
March 28, 2014

Acknowledgments

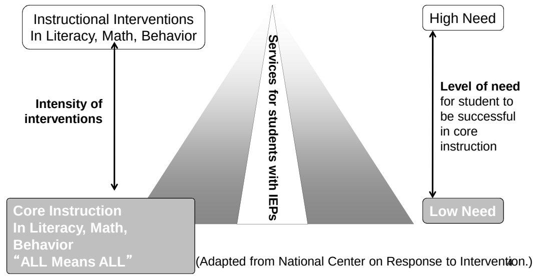
- Pennsylvania Training and Technical Assistance Network
- Center on Instruction at RMC, Portsmouth, NH
- Iris Center, Peabody College, Vanderbilt University
- Renaissance Learning

Agenda

- Definition of Tier 3
- Conceptual Basis of Students with Tier 3 Needs
- Instructional Strategies for Students with Tier 3 Needs
- Tier 3 and Special Education

A Conceptual Framework for RTI

Students may receive services from all areas of the framework at any one point in time.



Instructional Interventions
In Literacy, Math, Behavior

Intensity of interventions

Core Instruction
In Literacy, Math, Behavior
"ALL Means ALL"

Services for students with IEPs

High Need

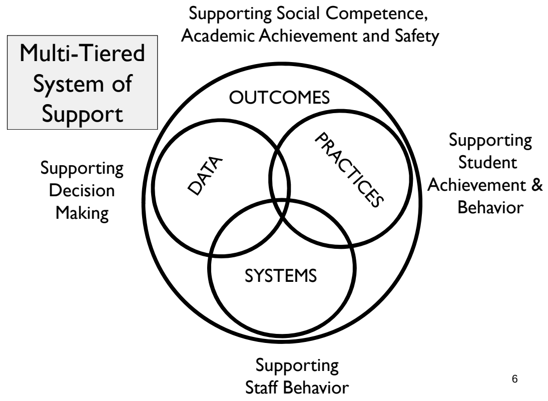
Level of need for student to be successful in core instruction

Low Need

(Adapted from National Center on Response to Intervention.)

MTSS Rationale

A Multi-Tiered System of Support is designed so that schools can provide the appropriate level of instruction and intervention for their students. Using performance data and monitoring learning rates through MTSS, educators can make important instructional decisions to meet the needs of students from different backgrounds, learning styles, and levels of attainment.



Multi-Tiered System of Support

Supporting Social Competence, Academic Achievement and Safety

OUTCOMES

DATA

PRACTICES

SYSTEMS

Supporting Decision Making

Supporting Student Achievement & Behavior

Supporting Staff Behavior

Key Concept to Understanding RTI (MTSS)

- ☐ Instructional Triage
  - ✓ Prevention at Tier 1
  - ✓ Common and predictable instructional problems among a certain percentage of the general populous at Tier 2
  - ✓ Less common and harder to prevent/treat instructional problems among a certain percentage of the general populous at Tier 3

Tier 3 Can Look Like….

- Group size is 1-3 students
- Time per week can be 150-300 minutes
- Duration will vary
- Progress monitoring is conducted at least twice a week
- Level of intensity generally requires a full period of instruction held outside a general education classroom
- Educator responsible for intervention sessions requires specialized training

Tier 3 Instruction Needs:

- Systematic and explicit instruction that includes modeling and direct teaching using several examples
- Specialized programming focusing on a few key skills at a time
- Continuous corrective feedback
- Mirroring of skills being taught in the general education classroom, and attention paid to filling in the gap areas that are causing difficulty in the general education classroom
- A variety of practice opportunities coordinated across tiers

How Would You Rate Your Tier 3?

1= minimal evidence;2 = some evidence;3 = substantial evidence

1. Intensive, individualized intervention
2. Daily and usually longer-term than Tier 2
3. Provides high level of instructional expertise
4. Evidenced-based
5. Progress-monitoring with frequent analysis of "What worked and why?"
6. Customized assessment process
7. More sophisticated decisions and team members
8. Highly accurate data interpretation and instructional matching skills (high stakes decisions)

Research Base for Tier 3

- Sharon Vaughn, Ph.D.

H.E. Hartfelder/Southland Corporation Regents Chair

Executive Director, Measows Center for Preventing Educational Risk

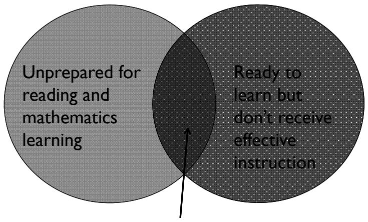
University of Texas at Austin

Cognitive Processing and Students with Intensive Instructional Needs

Intervention Considerations

- Responsiveness to cognitive processing
- Instructional delivery
- Instructional Time
- Instructional group size

Instruction Responsive to Cognitive Processing Difficulties



Unprepared for reading and mathematics learning

Ready to learn but don't receive effective instruction

Students with cognitive processing difficulties

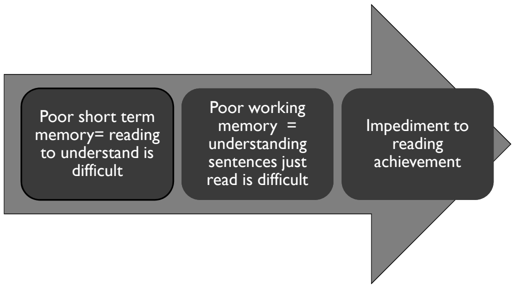
Cognitive Processing Difficulties

1. Executive Functioning
2. Self-regulation
3. Memory
4. Attention
5. Learning strategies

Intersection with Other Skills

- Processing Speed
- Language
- Non verbal reasoning
- Short term memory

Impact of Memory Difficulties

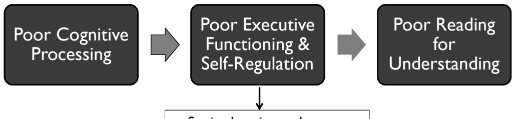


Poor short term memory= reading to understand is difficult

Poor working memory = understanding sentences just read is difficult

Impediment to reading achievement

Impact of Executive Functioning and Self-Regulation



Poor Cognitive Processing

Poor Executive Functioning & Self-Regulation

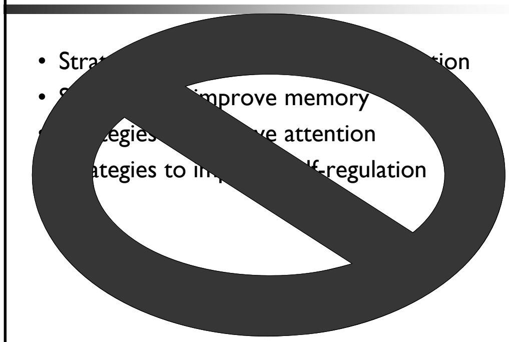
Poor Reading for Understanding

- Setting learning goals
- Monitoring success
- Self-talk thru difficult tasks
- Regulating language & memory

ABSOLUTELY IMPORTANT

- RESEARCH DOES NOT SUPPORT IDENTIFICATION AND TREATMENT OF COGNITIVE PROCESSING DISORDER AND TREAT IN ISOLATION
- TREATMENTS INDEPENDENT OF ACADEMIC LEARNING (I.E., TEACHING IMPROVED EXECUTIVE FUNCTION) HAVE **NOT** IMPROVED ACADEMIC OUTCOMES

Interventions for Cognitive Processes



- Stra… …tion
- S… improve memory
- …tegies … ve attention
- …ategies to im… lf-regulation

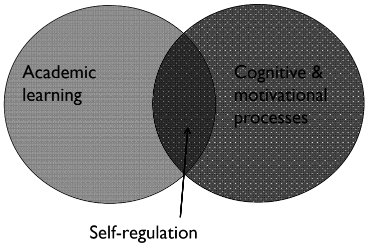
Implications for Assessment

- Assessment of cognitive processes is unreliable
- Assessment of cognitive processes does not lead to better intervention
- Assessment of cognitive processes is "interesting"
- Efficiency in assessment = don't spend time doing this

The Research: What DOES work

- Effective, systematic, and explicit instruction
- Identify and address weak or missing academic skills
- Instructional routines
- Word problem problems? Instruction in word problem resolution

Integrating Self-Regulation Instruction

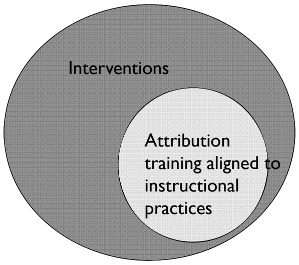


Academic learning

Cognitive & motivational processes

Self-regulation

Integrating Attributional Training



Interventions

Attribution training aligned to instructional practices

Integrating Executive Functioning

What to do	How to do it
Teach self-regulation strategies Regularly monitor student use of self-regulation strategies	Use think alouds Model problem resolution or reading while implementing strategies

HOW?

Integrate Cognitive Strategies with Instruction

1. Make your thinking "visible" to students.

2. Use "think-alouds" to demonstrate how you approach problems, reflect on text, answer questions, or give yourself feedback.

http://www.learner.org/workshops/teachreading35/classrooms/cv7.html

(3:00 – 4:30)

Support Self-regulation Strategies Fun

What to do	**How to do it**
• Regularly monitor student use of self-regulation strategies	• Model problem resolution or reading while implementing strategies

Help Students Self-Monitor

One way to integrate self-monitoring into academic learning is by teaching students to ask themselves questions to determine if they are working well and making progress.

"Am I working well and making progress? Why or why not? How do I know?"

Support Self-monitoring

What to do	**How to do it**
• Teach students to be metacognitive by identifying breakdowns in their understanding and applying repair strategies • Teach students to monitor their academic gains	• Ask students to stop and think about words or ideas they don't understand • Ask students to make inferences as they read • Ask students to read and think aloud about author's intent • Have students track their answers or log assignment

Strengthen Memory

What to do	**How to do it**
• Explicit instruction in memory-enhancement techniques	• Teach students to take notes • Teach students to reheard out loud • Teach students to use mnemonic devices and graphic organizers

Memory Strategies

1. ONE universal note-taking system
2. Active rehearsal
3. Mnemonic devices
4. Graphic organizers and text organizers

Feedback

What to do	How to do it
• Provide feedback specific to a task or process	• Highlight behaviors that lead to improved work • Highlight the libnk between behavior and effort to performance

Provide Opportunities for Student Response & *Process-Directed* Feedback

- Feedback is one of the top three influences on student learning.
- Has to be tied to student goals and help students complete tasks more effectively
- Lower effects when feedback involves only praise, rewards or punishment

What Constitutes Effective Feedback?

- When you provide it during the task or immediately after a student completes it
- When it is immediate for discrete tasks
- When it is briefly delayed for complex tasks
- When you do not delay feedback for students with significant learning difficulties beyond the instructional session

YOUR Feedback is Critical

Effective feedback?

1. You are a good writer.
2. You organized your written response well with that advance organizer in the beginning. That was helpful to me as I read your report.
3. You spent 30 minutes reading and re-reading the text with the questions in mind. Did you notice how well you answered the questions?

Resources

Cognitive Strategy Instruction Website
http://cehs.unl.edu/csi/

Star Legacy Modules from The IRIS Center for Training Enhancements

http://iris.peabody.vanderbilt

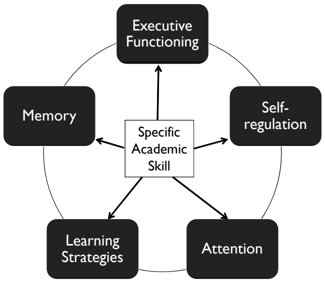
Project Write website

http://kc.vanderbilt.edu/projectwrite/

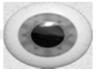
Laser Focus

- Deep seated problems require laser focus

Backward Impact on Cognitive Processes

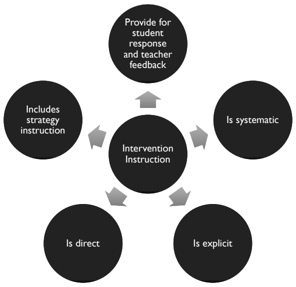

Executive Functioning
Memory
Self-regulation
Specific Academic Skill
Learning Strategies
Attention

PRIMARY Foci of Tier 3



1. Support COGNITIVE PROCESSES
2. INTENSIFY & CUSTOMIZE instructional design and delivery
3. INCREASE instructional time
4. REDUCE group size

Intensifying Instructional Delivery


Provide for student response and teacher feedback
Includes strategy instruction
Is systematic
Intervention Instruction
Is direct
Is explicit

Explicit Instruction

- Explicit instruction = improved outcomes
  - Basic skills
  - Higher-level concepts
- New content instruction
- Generalizing known content

Systematic Instruction

- Breaking down complex skills
  - Small chunks (Vocabulary Instruction)
  - Teach discrete parts
- Sequence learning chunks
  - From easier to more difficult
- Scaffold
  - Temporary supports

Learning Progressions

- Sequence of learning
  - Right order of skill development
  - Focus on which skills are "keystones" to impacting subsequent skills

STAR Learning Progressions

- http://www.renaissance.com/Resources/Videos

Dynamic Learning Maps

- http://dynamiclearningmaps.org/news/vids.html

Student Response & Feedback

- Frequent opportunities to respond
- Increase student engagement’
- Assist teacher in monitoring student understanding
- Powerful tool for refining and mastering new skills

The Research

- Over 500 studies – one of top 3 influences on student feedback
- Most effective when related to goals
- Most effective when related to task completion
- Praise alone, not tied to specific and explicit instruction is not as effective

How can we intensify instructional delivery?

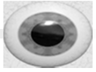
More student experiences with success
More practice and feedback
More modeling
More manipulatives
More steps

How do I know when my students are ready for Independent Practice?

Are we doing enough “We Do’s” in Tier 3?
Are we doing too many “We Do’s” in Tier 3?

- What happens when you ask a student to complete a task for which he or she has not yet mastered the requisite skills?

PRIMARY Foci of Tier 3



1. Support COGNITIVE PROCESSES
2. INTENSIFY & CUSTOMIZE instructional design and delivery
3. INCREASE instructional time
4. REDUCE group size

Increase Instructional Time

Increase intervention

- Frequency
  - K-1st graders received shorter duration several times/day
- Length
  - 1st-3rd graders received 1-2 hours per day for 8-16 weeks
  - 3rd - 5th graders, received two 50-minute sessions per day for 8 weeks
- Duration
  - Elementary students up to 20 weeks (100 sessions)
  - Secondary students significant improvement after 3 year

How much instructional time is enough?

Early Elementary Students (10-20 weeks)

Middle School Students made minimal gains years 1 and 2 and better gains year 3 (need more time)

Instructional Time: Recommendations

- Intensive interventions vary in time (30 to 120 minutes) and frequency (3x per week to 2x per day).
- If scheduling or student engagement is a concern, a teacher might increase intervention time with 2 shorter sessions per day (rather than one long session).

Tier 3 Services

1. Support cognitive processes
2. Intensify & customize instructional delivery and design
3. Increase instructional time
4. Reduce group size

Reduce Group Size

Smaller group instruction improves student outcomes

- Elementary
  - Groups of 3-4 outperformed groups 8-10
  - 1:1 larger gains than groups of 10 but similar to groups of 3
- Secondary
  - No differences but general trend favors group size 3-5 over10-15

Research: Group Size at Elementary

- Group of 3 or 4 > Group of 8-10
- 1 on 1 > Group of 10
- 1 on 1 SAME AS Group of 3

Research: Middle School

- Group 3 to 5 NOT DIFF Group of 10 to 15
- More research needed

Reduce Group Size: Recommendations

- Small groups of 2-4 students or 1:1 instruction may provide the most intensive intervention
- Some students make sufficient progress in larger groups.
- Monitor progress when changing group size
- Provide
  - Individualized instruction
  - More opportunities to respond and practice
  - Timely teacher feedback

Challenges to Group Size

- Interventionists
- Instructional specialists
- Space
- Materials

Where do I find "Evidence-Based" Methodologies?

- National Center for Intensive Interventions
- Center on Instruction
- IRIS Center
- Best Evidence Encyclopedia
- What Works Clearinghouse
- Florida Center for Reading Research

Challenges

- Tier 3 and Special Ed?
- Promising practices VS evidence based practice?
- Assessment measures?

Tier 3 and Special Ed

- Where does Tier 3 end and Special Ed begin?
- Depends on who you ask
- Always has been and will be a team based decision
- Can we sustain within general education resources?
- Can we obtain gains that will result in outcomes that sustain future success?

Promising VS Evidence Based Practice

- Links to cognitive processes are promising, not evidence based
- What if there is NOT a strong connection between cognitive processes and instruction?
- Research will change the future directions

Assessment Measures & Issues

- The word "Probe"
- Objectives of assessment?
- Can our measures meet the need of sensitivity to change?
- How fine grained do we need to get?
- Big picture vs tiny picture?

Final Words

- Tough kids require tough solutions
- Persistence
- Belief in success
- Need for special education
- Chronicity
- Avoiding further decline

Thanks

- Dr. Edward S. Shapiro
- ed.shapiro@lehigh.edu

WSPA Spring Convention

March 26-28, 2014

Enhancing the Toolkit for School Psychologists and System Outcomes

Pre-Convention – Wednesday, March 26

7:30-8:30 a.m.	**Registration**	Lower Dells Atrium
	Continental Breakfast	Lower Dells Atrium
8:30 a.m.-4:30 p.m.	§ **A1: PREPaRE Workshop II** (2nd Ed.):	Lower Dells C/D

Crisis Intervention and Recovery: The Roles of School-Based Mental Health Professionals
-- *Scott Woitaszewski, Ph.D.; Todd Savage, Ph.D.; Kathryn Bush, Ph.D.*
NASP Practice Model #6

This 2-day workshop provides school-based mental health professionals and other school crisis intervention team members with the knowledge necessary to meet the mental health needs of students and staff following a school-associated crisis event. With updated research and crisis intervention strategies, this workshop teaches participants how to prevent and prepare for psychological trauma, helps to reaffirm both the physical health of members of the school community and students' perception that they are safe and secure, evaluates the degree of psychological trauma, respond to the psychological needs of members of the school community, and examines the effectiveness of school crisis intervention and recover efforts. This workshop is an excellent course for all mental health professionals in your district who provide mental health crisis intervention services.

PREPaRE Workshop 2 is appropriate for any individual filling the role of crisis intervention specialist. This includes school mental health staff (school psychologists, social workers, counselors and nurses), administrators, and other individuals whom the team has identified as appropriate providers of psychological first aid. Additionally, this workshop can be very helpful for community-based mental health practitioners who may work with the school crisis team and/or may be brought in to the school assist in response to a crisis. *This workshop is limited to 50 participants.*

§ **A2: Assessment and Interventions for Students with Specific Reading Disabilities** — Lower Dells E/F/G
-- *Nancy Mather, Ph.D.*
NASP Practice Model #3

This workshop will focus on both assessment and evidence-based interventions for students who struggle to learn to read and spell. The speaker will address the definition of dyslexia; the importance of assessing cognitive and linguistic processes, including phonological awareness, orthographic coding, processing speed, and rapid automatized naming; the phases of development of basic reading and spelling skills; and the implementation of differentiated instructional methodologies for addressing specific types of reading problems.

Participants will increase their:

1. Understanding of the definition and characteristics of dyslexia
2. Knowledge of the cognitive and linguistic factors that contribute to dyslexia
3. Knowledge of reading and spelling development
4. Knowledge of instructional methods to improve phonological awareness, reading decoding, spelling, and reading fluency

10-10:15 a.m.	**Break**	Lower Dells Atrium
12-12:45 p.m.	**Lunch**	Lower Dells A/B/H/I
2:15-2:30 p.m.	**Break**	Lower Dells Atrium
5-9 p.m.	**Board Meeting & Dinner**	Upper Dells C/D

Convention – Thursday, March 27

8-9 a.m.	**Registration** **Continental Breakfast**	Lower Dells Atrium Lower Dells Atrium
8 a.m.-5 p.m.	**Exhibitors**	Lower Dells Atrium
8:30 a.m.-4:30 p.m.	Concurrent Session	
	§ **B1/C1: PREPaRE Workshop II – Cont'd** -- *Scott Woitaszewski, Ph.D.; Todd Savage, Ph.D.; Kathryn Bush, Ph.D.* *NASP Practice Model #6*	Lower Dells C/D
9-10:15 a.m.	Keynote **Creating Access: Collaborate. Advocate. Lead** -- *Sally A. Baas, Ed.D., NASP President* *NASP Practice Model #5*	Lower Dells A/B/H/I

How do we meet the diverse needs of our students, families, and communities? We need to collaborate with purpose, advocate with expertise, and lead from our position, often from the middle of the organization…sharing strategies for success: modeling, challenging, creating vision, enabling others, and encouraging all involved.

Goal of Presentation: Ensure participants belief that school psychology is a profession that brings positive change to students, schools and communities. Provide instruction in a leadership model that works for school psychologists as they lead from the middle. Help school psychologists tell stories about their effectiveness.

10:15-10:30 a.m. **Break** Lower Dells Atrium

10:30 a.m.-noon

Concurrent Sessions

B2: Digitally Assisted Psychological Assessment: The Future Is Now Upper Dells C
-- *John Hanson, Ph.D. (Sponsored by Pearson)*
NASP Practice Model #1

Today digital technology is ubiquitous; however, the practice of administering an interactive psychological assessment has not changed a great deal in the last 50 years. This presentation will provide a view of psychological assessment where touch-screen digital technology brings the benefits of computer-assisted test administration to interactive, individually-administered clinical assessment. The use of the new Q-Interactive, a digitally assisted psychological assessment system, continues to grow nationwide. This presentation will provide an introduction to Q Interactive as a dynamic assessment system available to School Psychologists today. The participants in this presentation will gain an understanding of test equivalency and test security when using the Q Interactive digital platform. Participants in this presentation will learn how to establish clients in the Q Interactive system, select and modify test batteries, administer, report and archive assessments. Participants will have an understanding of how to implement Q-Interactive a digital assessment platform into their practice as School Psychologists. Note: Session may discuss Pearson products.

B3: Problem Solving with the new SLD Law: Panel Discussion on Evaluation Upper Dells B
-- *John Humphries, M.S.E., NCSP*
NASP Practice Model #10

Psychologists from five diverse Wisconsin districts will share their initial experiences using RtI to evaluate specific learning disabilities. Hosted by John Humphries, panelists will discuss challenges and successes over the first few months of implementation of the rule. Attendees will learn about creative solutions to RtI system implementation and assessment issues.

B4: You're Hired: Tips to a Successful First Year as a School Psychologist Lower Dells E/F/G
-- *Christine Neddenriep, PhD.*
NASP Practice Model #10

A panel of school psychologists and current interns will answer student questions regarding getting and keeping their first job as a school psychologist. Panelists will discuss how to prepare to enter the job market and how to successfully interview for a position. Panelists will also discuss what employers are looking for in successful school psychologists and they will offer strategies to succeed in students' first year of employment.

Objectives:

1. Identify how to successfully enter the job market and to prepare a resume to effectively compete for jobs as a first-year school psychologist.
2. Determine how to prepare for interview questions and to market yourself to the position for which you're applying.
3. Apply suggested strategies to successfully manage your first year of employment.

12:15-1:15 p.m. **Lunch** Lower Dells A/B/H/I

1:30-4:45 p.m.

Concurrent Sessions

C2: Cultural, Context, and Competence Upper Dells C

-- *Sally A. Baas, Ed.D, NASP President*

NASP Practice Model #8

Understanding cultural context is critical as School Psychologists respond to the students who are a part of the changing demographics in our schools. Conversations will explore a variety of topics regarding consultation, collaboration, work with families and professional practice for preparation to work with students from diverse backgrounds.

C3: What is Your Ethical Dilemma? Upper Dells E

-- *James Walsh, Ph.D.*

NASP Practice Model #10

This session will allow attendees to help each other resolve actual ethical dilemmas they have encountered in their work. Individuals who register for this session will be asked to submit their ethical question or dilemma electronically before the conference begins. The instructor will present a framework for resolving ethical dilemmas, and will then "assign" an actual dilemma to small groups of attendees for round table discussion. The results of these small group discussions will be presented to the larger session, so that attendees will hear suggestions for how to address many of the most commonly faced ethical concerns in our state.

C4: Practical Strategies for School Psychologists Presenting Systems-Level Data Lower Dells E/F/G
-- Dan Hyson, Ph.D.
NASP Practice Model #1

This session will share tips regarding how practicing school psychologists can best present systems-level student performance data. Attendees will learn hands-on how to use technology tools within Microsoft Excel, Word and Power Point, and data management and warehouse systems, to more quickly and easily create systems-level data presentations that are user-friendly, build the capacity of stakeholders, can be understood within the context of systems-level initiatives and goals, and can contribute to meaningful change in instruction.

§ **C5: DSM-V** Upper Dells D
-- Peggy Scallon, MD; Kathleen Koth, DO; Ryan Byrne, MD
NASP Practice Model #1

This workshop will cover: DSM history and overview; DSM value of naming and classification; structural changes from DSM IV to DSM 5; bipolar and related disorders; depressive disorders-DMDD and dysthymia; trauma and stressor related disorders; dissociative disorder; disruptive, impulse control and conduct disorders; neurodevelopmental, schizophrenia, anxiety, obsessive-compulsive and elimination disorders; sexual dysfunction; gender dysphoria; somatic symptom; feeding and eating disorders; substance related and addictive disorders; neurocognitive disorders; personality disorders; paraphilic disorders; and medication-induced movement disorders and other adverse effects of medication.

3-3:15 p.m. **Break** Lower Dells Atrium

5-6 p.m. **Student Posters** Lower Dells A/B/H/I

Convention – Friday, March 28

8-9 a.m. **Registration** Lower Dells Atrium
Breakfast Buffet Lower Dells A/B/H/I

8-8:30 a.m. **Coalition for the Advancement of School-Based Mental Health** Lower Dells F/G

8 a.m.-noon **Exhibitors** Lower Dells Atrium

9 a.m.-12:15 p.m.

Concurrent Sessions

§ **D1: DSM-V – Cont'd** Lower Dells F/G
-- Peggy Scallon, MD; Kathleen Koth, DO; Ryan Byrne, MD
NASP Practice Model #1

D2: School Psychology and the Management of Concussion Lower Dells E

-- *Daniel Krenzer, Ph.D.*

NASP Practice Model #3

This presentation will be designed to increase participant awareness and understanding of concussions in children and adolescents. The presenter will review the prevalence, causes, symptoms, and implications of concussions. The presentation will broach the topic of postconcussion syndrome and its relation to being eligible for special services in the school setting. Discussion will include the possible use of curriculum based measurement tools to monitor recovery, in lieu of having computer test baseline or availability. Attendees will learn how the school psychologist's existing skills in prevention, intervention, consultation, and data-based decision making can be applied to better meet the needs of students who have sustained concussions. Upon attendance of the session, the participant will learn how to:

1. Describe what a concussion is, its manifestations in the school setting, how we assess it, and the available tools and methods to asses recovery to make 'return to learn' decisions
2. Identify key management strategies, and define the unique and relevant skill set of the school psychologist and how it fits well with the management of concussions in the school setting, including the various roles that can be played, and
3. Define the scope, roles, functioning, and development of the multidisciplinary team.

D3: Restorative Practices: Tools for Building Stronger Relationships and Safer Schools Lower Dells C/D

-- *Patrice Vossekuil, M.A.*

NASP Practice Model #4

The International Institute for Restorative Practices provides evidence-based professional development and model programs that have been shown to significantly impact learning and engagement to the school community. In this workshop, participates will apply understandings of restorative practices through:

1. Practical experience in using restorative questions and facilitating restorative circles and conferences -- that you can apply immediately in your work
2. Understanding benefits of restorative versus punitive approaches in student
3. discipline and classroom climate-building
4. Opportunities to examine your classroom and school behavioral issues with colleagues who understand and experience these challenges

5. Exploration of restorative practices in addressing youth grief, trauma and adversity through compassionate listening and group support

D4: Progress Monitoring processes and RTI Upper Dells B

-- Ed Shapiro, Ph.D. (Partially sponsored by Renaissance Learning)

NASP Practice Model #5

Summary-Progress monitoring within RTI models is a key element that often is used as a determining factor regarding the eligibility of a student as SLD. Over the past few years, extensive research has examined the technical characteristics of progress monitoring. Although curriculum-based measurement (CBM) remains an often-used method for progress monitoring, assessment tools that go beyond CBM have emerged. In this session, I will examine the methods, outcomes, and processes for conducting progress monitoring in both reading and math within RTI models. Note: Session may discuss Renaissance Learning products.

D5: DPI Update: 1) WISEdash 2) Reading Research 3) SLD Q & A Upper Dells C

-- Kathryn Bush, Ph.D.

NASP Practice Model #5

WISEdash: The ability to turn data into information quickly and easily has become increasingly important in education. The Department of Public Instruction will change the way DPI provides the data we collect back to schools and districts, and the way school and district staff, can access data about Wisconsin public schools in a system called WISEdash. Eventually, WISEdash will be used to provide public reports in addition to secure reports for district users. This portion of the session will cover the local application process for secure access for school psychologists to WISEdash, ad hoc reporting functionality (district, a demographic), and smart reporting. Drop-Out Early Warning System: This new reporting system for seventh grade offers schools a list of students who have risk factors strongly associated with high school dropout. Districts in the pilot rated the tool as highly useful in helping schools identify students at high risk of future drop out, and plan proactively for drop-out prevention strategies.

Reading Research: Speak the same language as teachers and reading specialists: Review the continuum of reading philosophies, learn what practices you can expect to see depending on the underlying philosophy of the practitioner, and learn about the continuum of respect for kinds of research.

SLD Q&A: After a few months of fully implementing Wisconsin's specific learning disabilities rule, educators have plenty of questions. Bring yours. Get answers, or at least a good discussion with peers.

12:15-1 p.m. **Lunch** Lower Dells A/B/H/I

1-2:30 p.m. Keynote Lower Dells A/B/H/I

What to Do About Tier 3? The importance of a Hybrid Model of RTI
-- Edward S. Shapiro, Ph.D. (Partially sponsored by Renaissance Learning)
NASP Practice Model #3

Summary-As RTI evolves, the distinction made early-on in the development of RTI between problem solving and standard protocol models has blurred considerably. This has been especially evident when examining intervention development to improve outcomes for the toughest cases, those students who are in need of Tier 3 level intervention. In this presentation, I will examine the processes and intervention methods that have research support related to Tier 3 intervention. Both the process of assessment and intervention development for Tier 3 will be presented. Note: Session may discuss Renaissance Learning products.

Employment Fair Upper Dells D/E (employers)
Upper Dells C (job seekers)

2:45-3:15 p.m. **Convention Committee Wrap-up** Lower Dells E

§ = These workshops have been selected by the WSPA Mental Health Committee to meet the criteria for the Professional Development – Mental Health.

Presenters:

Dr. Sally Baas, 2013-2014 President of the National Association of School Psychologists directs the Southeast Asian Teacher, Hmong Culture and Language, English as a Second Language and Special Education Programs at Concordia University, St. Paul, MN. She is a licensed school psychologist and university professor who has spent many of her professional years working cross culturally in P-12 grade settings. Her areas of expertise include: cross cultural models, assessment, child and adolescent development, social emotional learning, children's mental health, crisis response, leadership, advocacy, and training. Dr. Baas' recent research "What does it mean to be Hmong in the Twin Cities of Minnesota?" is published by Lambert Academic Publishing.

Kathryn L. Bush, PhD is the Consultant for School Psychology Services at the Wisconsin Department of Public Instruction (DPI). Her position is housed on the Student Services, Prevention and Wellness team. Prior to her work at DPI Kathryn worked for over 25 years with the Madison Metropolitan School District as a school psychologist. She also maintained a private practice as a clinical psychologist and served as a university lecturer.

Ryan Byrne, M.D., is an Assistant Professor in the Department of Psychiatry and Behavioral Medicine at the Medical College of Wisconsin. He sees patients both in an outpatient setting as well as on the consult-liaison service at Children's Hospital of Wisconsin.

Dr. Byrne earned his Bachelor of Science degree in medical microbiology, immunology and political science from the University of Wisconsin in 2003. He earned his M.D. from the University of Wisconsin School of Medicine and Public Health in Madison in 2007, and then completed a residency in psychiatry at the Medical University of South Carolina in 2010. Finally Dr. Byrne completed a fellowship in child and adolescent psychiatry at the Medical University of South Carolina in Charleston.

Dr. Byrne has played a key role in the implementation of the Charles E. Kubly Child Psychiatry Access Project which is designed to educate and assist community pediatricians with meeting the needs of children with psychiatric problems. Besides Dr Byrne's interest in community liaison psychiatry services, his clinical interest includes medical-psychiatric interface.

John A. Hanson Ph.D. LP is an Assessment Consultant for Pearson Assessment and Information in the Midwest and a member of the national Q Interactive Team. Dr. Hanson has been trained as a special education teacher and a psychologist. He has functioned as a School Psychologist in Wisconsin, Minnesota and Ohio. Most recently he has been a Senior Licensed Psychologist and Director of Training in a large metropolitan medical center. In that setting his practice focused on therapeutic interventions with children, adolescents and their families and adults seeking mental health treatment. Psychological assessments were regularly used for differential diagnosis and treatment planning. He is an adjunct faculty member teaching courses in Psychological Assessment, Abnormal Psychology, Personality and Adolescence. Dr. Hanson maintains a small private practice doing psychological assessments and family therapy with complex multi-problem families.

John Humphries, NCSP, is School Psychologist and Director of Pupil Services in the Dodgeville School District. John was the consultant for school psychology with the WI Department of Public Instruction for seven years and was co-author of PI 11.36(6), our state's widely acclaimed rule using RTI data to identify specific learning disabilities. John was also DPI's lead consultant on efforts to reduce the incidence of youth suicide, where he trained school personnel to implement evidence-based programming leading to a fifty percent reduction in the rate in five years. John holds an MSE with specialist equivalence from UW-Whitewater and is a Nationally Certified School Psychologist.

Dan Hyson, Ph.D., NCSP, is currently serving as the Data Management Coordinator for the Hiawatha Valley Education District (HVED), a cooperative encompassing 14 school districts, 3 charter schools and 2 alternative schools in southeastern Minnesota. His primary roles in that position are: (1) to organize and analyze student outcome, screening and progress monitoring data from the HVED member districts, and (2) to consult with district teachers, administrators and school psychologists regarding how to access and interpret the results of these analyses and use the results to inform district instructional decisions within multi-tiered systems of support including RtI and PBIS. A 2001 graduate of the joint doctoral program in child and school psychology at the University of Minnesota, Dr. Hyson worked for six years as a more traditional school psychologist at the elementary and high school levels in the Rosemount-Apple Valley-Eagan school district prior to coming to HVED in July 2007. He is also Past President of the Minnesota School Psychologists Association and the current Minnesota NASP Delegate.

Kathleen A. Koth, D.O is an Assistant Professor of Psychiatry and the Director of the Child and Adolescent Psychiatry Fellowship Program at The Medical College of Wisconsin. Dr. Koth provides clinical services at Children's Hospital of Wisconsin in the Department of Psychiatry and Behavioral Medicine, specializing in autism spectrum disorders and developmental disabilities. Dr. Koth completed undergraduate studies at Loyola College in Maryland and medical training at Philadelphia College of Osteopathic Medicine. She completed residency at the combined University of Maryland and Sheppard Enoch Pratt Hospital program in general psychiatry. She continued her fellowship training in child and adolescent psychiatry there, serving as chief fellow in her final year. Dr. Koth is board certified in both general psychiatry and child and adolescent psychiatry. She is a member of the American Academy of Child and Adolescent Psychiatry.

Daniel Krenzer, Ph.D., NCSP, is an Assistant Professor with the School Psychology Program at University of Wisconsin-Stout. Prior to working at Stout, he was a practicing school psychologist in Colorado. During this time he primarily worked with students with emotional disabilities but also developed an interest in concussion especially with student who are non-athletes. Prior to Colorado, Dr. Krenzer worked in Illinois and Mississippi but very much likes the Winters of Wisconsin. He has presented on many contemporary topics across multiple states in the country. Dr. Krenzer's area of research interests are in behavior analysis, measurement of cognitive abilities, and concussion management. He is excited to be working in western Wisconsin. krenzerd@uwstout.edu

Dr. Nancy Mather is a Professor at the University of Arizona in Tucson in the Department of Disability and Psychoeducational Studies. She has served as a learning disabilities teacher, a diagnostician, a university professor, and an educational consultant. She has published numerous articles and books and conducts workshops on assessment and instruction both nationally and internationally. Dr. Mather is a co-author of the Woodcock-Johnson III and has co-authored two books on interpretation and application of the WJ III. Her most recent book is Essentials of Dyslexia: Assessment and Intervention (Mather & Wendling, 2012).

Christine Neddenriep, Ph.D., NCSP, is an Associate Professor and Coordinator of the School Psychology Program at UW-Whitewater. She also serves as the Professional Preparation and Training Representative to the WSPA board. She joined the faculty at UW-Whitewater in 2005 after practicing three years as a school psychologist in the Omaha Public Schools, where she specialized in the needs of children with behavioral disorders and autism. She earned her doctoral degree in School Psychology from the University of Tennessee-Knoxville. Her areas of research interests include the implementation and evaluation of academic and behavioral interventions in educational settings. Ms. Neddenriep teaches course work in the assessment of behavior and personality, academic interventions, school-based consultation, and research methods in school psychology.

Todd A. Savage, Ph.D., NCSP, a Minnesota native, is an associate professor in the school psychology program at the University of Wisconsin-River Falls. He earned his doctorate from the University of Kentucky in 2002. Prior to his position at UWRF, Dr. Savage was an assistant professor and the director of training in the school psychology program at New Mexico State University. He also has held several leadership positions in the National Association of School Psychologists, including Program Manager for Professional Development, a position he currently holds; the PREPaRE Workgroup falls under this area. Dr. Savage's scholarly research interests include culturally-responsive education and psychology practices; lesbian, gay, bisexual, and transgender issues in education; and crisis prevention and intervention. He can be contacted at todd.savage@uwrf.edu.

Peggy Scallon, M.D. is Clinical Associate Professor in the Department of Child and Adolescent Psychiatry at the UW School of Medicine and Public Health (UWSMPH) in Madison, WI. She is the Director of Residency Training in child and adolescent psychiatry where she is active in teaching and training with residents in psychiatry and medical students. She also sees her own patients in this setting. Dr. Scallon directs the UW School Psychiatry Consultation Service with the Madison Metropolitan School District.

Dr. Scallon earned a BS in Zoology from the UW Madison, and she earned an MD from the UWSMPH. She completed general residency training in psychiatry at the University of Colorado Health Sciences Center, and she completed fellowship training in child and adolescent psychiatry from the UWSMPH. She maintained a private practice until she joined the faculty at the UW Department of Psychiatry in 2002. Dr. Scallon enjoys seeing a broad range of clinical issues in her clinical practice, and her particular clinical interests are in the areas of psychotherapy, parent coaching and attachment disorders.

Edward S. Shapiro, Ph.D., currently is Professor of School Psychology and Director, Center for Promoting Research to Practice in the College of Education at Lehigh University, Bethlehem, Pennsylvania. He is the 2006 winner of the Senior Scientist Award given by the Division of School Psychology of the American Psychological Association in recognition of senior member of the field who has provided a sustained program of outstanding theoretical and research. He is author, co-author, or co-editor of 16 books including his most recently published text with Joseph Kovaleski and Amanda VanDerHeyden, The RTI Approach to Evaluating Learning Disabilities, and the fourth edition of Academic Skills Problems: Direct Assessment and Intervention and the Academic Skills Problems Workbook, all by Guilford Press. Dr. Shapiro is best known for his work in curriculum-based assessment and methods for assessing and intervening in academic skills problems with elementary age students. Among his many projects, Dr. Shapiro recently completed a federal project focused on the development of a multi-tiered, Response-to-Intervention model in two districts in Pennsylvania and a U.S. Department of Education training grant to train school psychologists as facilitators of RTI processes. Over the past decade, Dr. Shapiro has been working as a consultant with the Pennsylvania Department of Education to facilitate the implementation of the Response to Intervention methodology for the state.

Patrice Vossekuil, M.A., is the Director of Coordinated Educational Research Group, LLC, the Wisconsin Affiliate of the International Institute for Restorative Practices (IIRP), Bethlehem, Pennsylvania. As a licensed IIRP trainer in restorative practices, Ms. Vossekuil has trained hundreds of Wisconsin educators in the use of restorative circles and conferences to address bullying and other risk behaviors, conflict resolution, and victim-offender reconciliation. She also provides facilitation of school, community and family group decision-making conferences. Ms. Vossekuil is a graduate of Northwestern University and received her Master's degree in Educational Leadership and Policy from Marquette University. Her background is in professional development of educators in alternative/at risk education, positive youth behavior development, and humane education.

Dr. Scott Woitaszewski is the director of the School Psychology Program at the University of Wisconsin - River Falls. He has experience as a practicing school psychologist in Minnesota and has supervised school psychology interns throughout Wisconsin and Minnesota for the past 10 years. Dr. Woitaszewski's scholarly interests include the study of crisis prevention and intervention, emotional and behavioral interventions in schools, educator collaboration, and resilience in children and families. He has several presentations and publications on the topic of school crisis work to his credit, and he is a member of the PREPaRE workgroup (a group of professionals dedicated to the development of the PREPaRE curriculum and related research). Dr. Woitaszewski has conducted PREPaRE workshops locally, regionally, and nationally since 2011. scott.woitaszewski@uwrf.edu.