Improving Student Learning Outcomes Through the Use of Well-defined Learning Objectives

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The Problem

• BUS 230 is an introductory research methods course in which students work in teams on a semester-long research project.

• The first step in the research process is to develop research questions and hypotheses.

• Students often developed research questions and hypotheses that were vague or confusing in terms of language, did not contain measurable concepts, and were too narrow in scope or vision. This often led to final research projects that failed to provide useful information to a business decision maker or to address the overall research problem.

• We initially began this research as a Lesson Study Project with the goal of developing a means that would guide students through this first step in the research process and ultimately improve student learning outcomes.

The Process

• Began by better articulating the learning outcomes that we hoped to achieve.

• Initially identified seven characteristics that research questions and hypotheses should exhibit in order to provide a solid foundation on which to build a research project.

• These characteristics became the basis of a grading rubric used to assess student learning outcomes.

• Over the course of the next three semesters, we documented what was lacking in student work and used this to better articulate and define these characteristics.

• Two tools were developed to help students successfully navigate the process: a question map and a problem definition table.

• The question map visually portrays the brainstorming process that researchers use to identify the important pieces of information that are necessary to address a research problem. Nine prompts or questions were developed to move students through this process.

• The problem definition table helps students take the important elements from the question map and organize them into cohesive research questions and hypotheses.

• A lesson was developed to give students multiple opportunities to use these tools to practice writing research questions and hypotheses.

The Results

• To assess the effectiveness of this new approach we jointly evaluated 122 student research proposals drafted over five semesters; 51 of these were generated by student research teams before the implementation of the revised lesson, while 71 were developed after.

• Proposals were evaluated using the rubric that was based on the learning objectives that we developed. The mean scores before the implemented changes were compared to the mean scores following the changes in the lesson design.

• We feel improvements in student learning occurred because we clearly articulated to students the characteristics that research questions and hypotheses must have to address the overall research problem. We also feel that improvements stem from the use of the tools that we developed and the opportunity that these tools provide for increased student engagement with the material.

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