

Fostering Cooperative Learning with Scrum in a Semi-Capstone Systems Analysis and Design Course

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Abstract

Agile methods such as Scrum that emphasize technical, communication, and teamwork skills have been practiced by IT professionals to effectively deliver software products of good quality. The same methods combined with pedagogies of engagement can potentially be used in the setting of higher education to promote effective group learning in software development classrooms. Therefore, the purpose of this study is to integrate both Scrum and cooperative learning guidelines into a systems analysis and design classroom to promote the skills of teamwork, communication, and problem-solving while learning systems analysis and design methods. This integration was implemented in a sophomore, semi-capstone design course where students were engaged in collaborative classroom activities. Two different approaches – overlapped approach and delayed approach – were used in two different semesters for this implementation. Based on the analysis of student performance in the course, student reflections on their team performance, and student overall perceptions of the teaching approach, this study suggests that the integration of cooperative learning and Scrum serves as guidance for students to effectively analyze and design software solutions, as well as to reflect on their team performance and learning process. In addition, a delayed approach for Scrum implementation appears to effectively support student learning by providing better and earlier feedback.

Editor's Note:

*The complete manuscript may be found in the Journal of Information Systems (JISE);
<http://www.jise.org>*