Rebecca Pope-Ruark

Authentic Collaboration: Using Scrum Methodology in the Project-Based Classroom

The pedagogical use of group projects is virtually ubiquitous in higher education today, especially at universities like Elon that so highly value engaged learning and civic engagement. The benefits of group projects are well documented in the collaborative learning; rhetoric and composition; and professional communication (my field) literature, including increased engagement and deeper learning in the course material; stronger interpersonal, leadership, and negotiation skills; and an introduction to collaborative experiences students will likely encounter in the workplace (Johnson and Johnson, 1999; Morgan and Murray, 1991; Pfaff and Huddleston, 2003; Lundeburg and Moch, 1995; Ede and Lunsford, 1992; Burnett, White, and Duin, 1997; Barkley et al, 2005; Bruffee, 1999[1]).

My interest in student group work was spurred after repeatedly facing the same challenges while teaching collaboration in business and technical communication courses during my PhD program. Regardless of the project design, students seemed to regularly take a "divide-and-conquer" approach, which often resulted in disjointed and repetitive final papers, some of which contained plagiarism not policed by the group. Given these results and my own marketing agency experience, I feel strongly that students in ALL disciplines must not only be given opportunities to collaborate with their peers but that faculty in ALL disciplines can create environments that both require authentic collaboration *as well as* teach students how to facilitate collaboration effectively.

Over the last three years I have developed a pedagogy for collaboration that centers on Scrum methodology[2], a systematic project management process used by Web software companies. Because Web software development is iterative and fast-paced, Scrum was created to allow cross-functional teams to jointly plan major activities, aspects of which are then delegated to teams to plan, complete,

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[1] In the interest of space, full citations are available upon request.
[2] I learned about Scrum initially from my husband, a programmer working in Web environments.

and review. Team members meet once a day to share what progress they have made, what they will be working on that day, and what assistance they might need. Scrum builds in planning and reflection at every process phase and effectively keeps team members accountable to both their team and the larger group. I have had great success with Scrum in my own classes, and Scrum is well suited to facilitating course and project planning, providing a guiding structure for student project work , and creating a sense of accountability and authentic collaboration often missing in group projects[3]. Because Scrum is a framework, it is not discipline-specific and can be applied to any course that requires collaboration.

This CATL Scholars project extends my existing Scrum research beyond my own classroom to the broader Elon community (and eventually beyond). The purpose and goals of this CATL Scholars project are to

- Create a comprehensive literature review of Scrum, collaboration, and project-based learning

- Develop portrait of academic collaboration and student beliefs about collaboration at Elon by examining national survey data and conducting student and faculty focus groups

- Create/implement a professional development program for faculty interested in implementing Scrum in their courses

- Carefully study students and faculty in classrooms where Scrum is implemented

- Develop a tentative model or metric based on pre- and post- Scrum experience data to describe changes in student/faculty beliefs about the collaborative process that could be portable to assess collaborative learning in multiple ways/situations.

Student Participation in Project

Students will be involved in the research as both participants and research assistants. I expect to conduct six focus groups with students from across the university about their group work experiences

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[3] I have published one article and currently have one article out for review speaking to the effectiveness of Scrum in my own classroom. The first article was jointly authored with three former students. I have removed the full citations here in the interest of blind review.

during the first year of the project. During the second year, I will conduct at least three assessments of perceptions and learning in the courses of the two faculty cohorts implementing Scrum.

Additionally, I would involve students as research assistants to help develop research questions, conduct focus groups, possibly collect observation data in classrooms, and assist with data transcription and analysis. Students who are interested in collaborative writing and have a taken a Scrum-based class with me are excellent candidates. Their work could be used to inform a senior seminar or Fellows project, and they would certainly be involved as potential co-authors of publications based on the study.

Project Assessment

I will know this project has met its goals if I can (1) present an accurate portrait of academic collaboration at Elon, (2) have a clear sense of the portability of Scrum methodology across disciplines for encouraging authentic collaboration, and (3) develop a tentative model to describe changes in beliefs about the collaborative process. If the project is successful, students in the courses taught by participating faculty will have experienced collaboration that moves them beyond "divide and conquer," faculty participants will have a framework for scaffolding collaboration, and the SoTL community may have the beginnings of a useful model for describing changes in beliefs about the collaborative process.

Personal Implications and Beyond

This project extends a line of research I have been developing over the last three years and is the perfect blend of both my SoTL and workplace research interests. As part of a larger agenda, this project will inform my workplace research just as that research will inform the classroom research.

As a collaboration framework, Scrum seems portable and non-discipline specific. I hope that my work will create new pedagogical avenues for faculty and encourage stronger collaborative skills in students. To share this work, I plan to present my findings at both disciplinary and Scholarship of

Teaching and Learning (SoTL) conferences, to submit articles to both disciplinary and SoTL journals, and

to create Scrum workshops and materials that can be used by faculty around the world.