

Application for 2015 Samuel H. and Patricia W. Smith Teaching and Learning Endowment Grant

A. Applicant Information and Project Title

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Project Title: *Using Online Peer Review and Write-to-Learn Assignments to Improve Writing Quality, Classroom Engagement, and Knowledge Transfer*

B. Project Overview

Scholarship in composition studies has widely demonstrated that writing is a highly effective mode of learning (see, e.g., Emig, Hayes and Flower), that writing-to-learn can be used across a wide variety of college courses, and that revision is an important components of writing-to-learn (Flower et al., Perl, Yancey). Peer review on writing-to-learn assignments helps students not only improve their own ideas and improve their writing according to the standards of the assignment but also allows asks them to understand and apply those standards to their peers' writing (Holt, Paton, Straub) as a form of peer scaffolding: students learn from seeing, assessing, and responding to what their peers are doing, as well (Lee and Smagorinsky, Vygotsky). National scholarship on the attention to regular and prolific writing and feedback identified with the process and post-process movements in composition has demonstrated a positive connection between that regular and prolific writing and feedback and improvement in writing and learning. Composition scholars have lately begun to examine the different types of technological literacies that students engage within and beyond the writing classroom (Selber, WIDE Research Center Collective). Findings in psychology concerning the benefits of metacognition for learning have recently been applied to composition studies in research on written reflection (Flower and Hayes): student reflection on their revision strategies in response to peer review, as a form of metacognition, promotes knowledge transfer (Yancey).

However, students and instructors often report dissatisfaction with vague or superficial feedback from peer reviewers (Newkirk, Simpson-Esper) that does not assist with revision and can seem like a waste of valuable instructional time. Furthermore, students and instructors often do not have the sort of specific information about time spent writing that might help with reflection about productivity in writing habits. Digital writing tools offer the possibility of giving much more robust feedback on writing assignments that can help with both peer review and reflection. This project seeks to integrate assignments using several specific digital writing tools into pilot sections of three courses (ENGL101, the composition course required of most first-year students; DTC356, a core course in the Digital Technology and Culture Major; and ENGL454, a senior capstone course in the English Major).

One of the tools is Eli Review (<http://elireview.com/>), an online application developed specifically for peer review with applications across a range of courses. Eli Review is an online application that allows instructors to develop criteria-matching prompts for online peer review and also allows students to rate the quality of peer review received and comment on that quality (McLeod et al., Hart-Davidson et al.). The application aggregates and displays real-time data on individual student reviewers over a semester, as well as data on course performance, offering teachers information about student engagement and offering students formative assessment of their own writing and also of their feedback to others. Students get help both give more effective feedback and receive more effective feedback and improve not only their writing but also their learning. Eli Review also offers qualitative and quantitative data about individual reviews and at the aggregate level in a variety of formats that allow for robust analysis.

Other online applications allow students to track and report how much they write in a day, their average time spent writing and number of breaks taken, words per minute, peak times for writing, and other metadata that they can track in relation to other students, thereby performing a different form of reflective peer scaffolding from that described above with Eli Review. These online applications also perform data aggregation functions similar to those offered by Eli Review, with semester-long corpuses of quantitative data about writing habits available for download and analysis. Such quantitative data and analytics permit concrete measurement beyond the impressionistic information often associated with peer review and reflection.

This project seeks _____ for the development of use cases and shareable assignments for these technologies in sections of the three courses described above, with the goal of testing and refining those assignments and use cases in AY2015–2016 with the goal of offering them for adoption or adaptation to a larger cohort of instructors in the following academic year. Adoption by even a small portion of ENGL101 instructors would have an effect on a large number of students, and could provide substantial information that would help to improve peer review activities in the ENGL101 curriculum and in other courses as well.

I have tested Eli Review and other online writing and peer review analytics in sections of ENGL301 at WSU, and as primary investigator led a pilot study using these technologies in my previous position at the United States Military Academy at West Point. In that pilot study, eight sections of West Point's EN101 first-year composition course comprised 122 students, who averaged 38,253 words to produce 4.6 million words during the fall 2011 semester. Comparing all 122 students' production through the semester to each student's on a blind-graded term-end timed writing assignment produced a Pearson correlation between words and comments written and term-end performance of 0.246. This value represents a mild correlation between the two metrics. The P- value for this correlation is 0.006, which suggests a confident rejection of the null hypothesis. In other words, the data indicate a positive relationship between practice and performance. Furthermore, cropping outliers resulted in a Pearson correlation value of 0.257 and a P-value of 0.010 among the 98 core students. These values indicate a greater positive correlation between the amount a student wrote throughout the semester and their performance on the term-end exam. Sorting the 98 core students by grade shows that the top 49 students out-performed the bottom 49 students by an average of 2,179 words per student. In course-end feedback, more than half the students reported that the data analytics from these tools were the

most helpful contributor to their learning in the course. This project will seek to gather further data about the helpfulness of peer review for writers and reviewers in write-to-learn assignments, and further quantitative data about the relation between reflection and course performance.

The achievements of the project will be initially shared in a session for the Writing Program's Professional Development Colloquium for ENGL101 instructors and among the DTC instructor cohort, with the intent of offering the possibility for other instructors to adapt the project's technologies and approaches to their own courses. I will also propose sharing the results in an English Department Colloquium, and will seek to coordinate with the Department to make instruction in such technologies a regular component of graduate student professional development. Given the rich data analytics offered by such technologies, and the increasing presence of such analytics in humanistic study, I foresee the possibility that some graduate students may seek to focus their research as well as their teaching on such technologies. As such, this project is the initial stage of a multi-year project that seeks to broaden the use of these technologies and applications within and beyond the English Department.

C. Dissemination Plan

I have seen considerable interest in writing-to-learn assignments beyond the English Department in the College of Arts and Sciences and in other WSU departments. I anticipate disseminating the results of this project in an open teaching lecture, in the Professional Development Colloquium noted above, and via the Writing Program's Writing in the Disciplines Faculty Development workshops. The developers of Eli Review note that the software is used for anthropology courses, engineering programs, science writing, and in foreign languages departments, for whom the review-and-response moment of language use seems an even more important component to learning. I believe the technologies and strategies studied in this project can be adapted to many disciplines beyond English and DTC, and intend to seek future funding to help promote that end.

D. List of Citations

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E. Financial Support

There are currently no departmental or college financial commitments or concurrent grants for the project. I intend to request \$2000 in support from the English Department and/or College of Arts and Sciences to pay for 80 student licenses (at \$25 each) for Eli Review for AY2015-2016.