

Undergraduate Research Symposium **May 18, 2018 Mary Gates Hall**

Online Proceedings

POSTER SESSION 1

Commons West, Easel 24

11:00 AM to 1:00 PM

Use of Blogging in Biology Class Writing Assignments to Build Community Among Undergraduate Students

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Reports have shown the importance of student engagement and student-centered pedagogies in biology classes. A sense of community in a classroom can help students be less isolated from their peers and increase their willingness to answer questions, as well as their willingness to ask for help. This classroom sense of community can enhance students' perception of learning and can be achieved online. Furthermore, a sense of community among underrepresented groups (URG), which have the highest attrition rates in STEM, can be a powerful tool for increasing student retention. We hypothesize that blogging enhances a sense of community and connectivity among students. Our study analyzed 82 students' interactions during a semester-long writing assignment in a biology class for non-biology majors at Emory University. Half of the students submitted their assignments as blog posts, the other half through a traditional educational content management system. Both groups had equivalent distributions of diverse ethnicities. Student connectivity was incentivized and monitored by having students turn in editor-sheets, reporting whose assignment they edited, and how. This student connectivity was subsequently analyzed via a Network Analysis. Student surveys showed trends of higher perceived sense of community among bloggers relative to traditional writers. The network analysis revealed double the average connectivity among bloggers, with 2-folds higher average connections

per student in the blogging group. Students also showed more evenly distributed connections among bloggers relative to traditional writers. We conclude that the use of blogging among non-biology majors can facilitate student-student interactions and has the potential to create a sense of community, which has positive implications in the retention of under-represented groups in STEM fields.

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Cellphones as a Classroom Tool: Swipe Right or Left?

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Mentor: Alison Crowe, Biology

Mentor: Justine Liepkalns, Biology

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As more technology that utilizes personal electronic devices (PEDs) are being integrated in classrooms, the possibility of cell phone distraction is a real concern amongst many educators. Because of this, we became interested in cell phone use patterns in highly interactive biology classrooms at UW, and what factors influence their use. To answer this, we investigated the impact of in-class polling using PEDs or using clickers (older, standalone devices). We compared cell phone use in two different quarters (same course, same instructor) that either used PEDs or clickers for in-class polling. We also compared the cell phone use in the beginning of quarter vs. the end. In addition, we looked at whether classroom seat location correlates with cell phone use. To assess cell phone use, we directly observed active learning introductory biology lectures. Three to four researchers observed each seat in a designated section of the lecture hall and noted if a cell phone was visible (used as a proxy for use), three to five times during a class session. We used logistic regression and model selection to find a best fit model to determine if polling technology type, seat location or time of quarter (beg. vs end.) can predict cell phone visibility. To our surprise, the results indicated that neither Poll Everywhere nor time of quarter increased the already low cell phone visibility. However, our results also indicated that students that are sitting away from professor (back of classrooms) are more likely to use their cell phone than their peers regardless of polling technology.

Taken together, we suggest instructors with highly interactive classrooms should not worry about integrating newer polling technologies. Further, instructors may look into having more TAs or peer facilitators roam around the classroom, especially in the case of large lecture halls to avoid cell phone misuse.