Explanation of Significant Papers

Sherriff, M. and Floryan, M. "Achievement Unlocked: Investigating Which Gamification Elements Motivate Students." The 123rd ASEE Annual Conference and Exposition, New Orleans, LA, June 24-27, 2016.

Research into gamification and gamification platforms for higher education has been a major focus of the Game Design Research Group that Prof. Mark Floryan and I founded in 2014. Our group built and refined a tool called GamerCard, which provided several gamification mechanisms for instructors to add gamification elements to their courses. Our findings showed that college students were most engaged by gamification elements that added significant information regarding their status in the course, such as the use of experience points rather than percentage-based grades. Other typical gamification elements, such as achievements and trophies, were largely ignored. This result is in contrast with results with younger students, where more cosmetic rewards were highly sought after.

Available at: http://www.cs.virginia.edu/~sherriff/papers/ASEE2016-Sherriff.pdf

Al-Zubidy, A., Carver, J., Heckman, S., Sherriff, M. "A (Updated) Review of Empiricism at the SIGCSE Technical Symposium." The 47th ACM Technical Symposium on Computer Science Education, Memphis, TN, Mar 3-6, 2016.

As a part of a larger systematic literature review of published work in computer science education regarding empirical research design, our research team reported our initial findings. As a part of the systematic literature review, we designed a rubric for determining the extent of how closely proper empirical research procedures were followed in a given research paper. Our overall findings were that the "level" of empiricism in CS education research has improved over the past several years, but there are still some key areas that require more attention, such as more attention to replication studies and better reporting of threats to validity in works.

Available at: http://www.cs.virginia.edu/~sherriff/papers/2016_SIGCSE.pdf

Layer, R., Sherriff, M., and Tychonievich, L. "Inform, Experience, Implement - Teaching an Intensive High School Summer Course." The 42nd Annual Frontiers in Education (FIE) Conference, Seattle, WA, Oct 3-6, 2012.

As a part of my service to the Engineering School and the community at large, I, along with (at the time) two UVA CS graduate students created and delivered a one-week intensive programming camp for underrepresented minors in computing for five years. Our curriculum focused on hand-on interactive learning through active techniques. This paper shares that curriculum with our insights in how to better create intensive programming experiences for younger students.

Available at: http://www.cs.virginia.edu/~sherriff/papers/FIE2012-Sherriff.pdf

Sherriff, M. "Teaching Web Services and Service-Oriented Architecture using Mobile Platforms." The 40th Annual Frontiers in Education (FIE) Conference, Washington, DC, Oct 27-30, 2010.

This paper demonstrates my innovations in teaching and curriculum development. In general, mobile development, web development, service-oriented architecture, and web services were taught in separate courses. I combined these topics into a single course that utilized a semester-long, team project in which students built a web service and then incorporated it into a mobile application. This cycle continued three times, until a final mobile app was created that was based on numerous web services. I also combine topics such as usability, accessibility, and security into this class. My Web and Mobile Development course quickly became one of the most popular electives in our department.

Available at: http://www.cs.virginia.edu/~sherriff/papers/FIE2010-Sherriff.pdf

Sennett, J. and Sherriff, M. "Compatibility of Partnered Students in Computer Science Education." The 41st ACM Technical Symposium on Computer Science Education, Milwaukee, WI, Mar 10-13, 2010.

This paper is an example of me continuing and expanding on my previous CS education and agile development research by continuing a project at UVA that began at NC State University. Our conclusions here have helped us with team and paired assignments in numerous courses at UVA. The findings showed that some traditional indicators of good partners that faculty used, such as how outgoing students were, did not actual correlate with successful partnerships. Instead, student pairs worked better when there was one "big picture" person and one "details" person, something much harder to measure initially. Also, perceived performance equality among partners, not actual performance equality, was a strong indicator of a successful partnership.

Available at: http://www.cs.virginia.edu/~sherriff/papers/SIGCSE2010-Sennett.pdf