

Redesigning Clinical and Nursing Informatics Capstones

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Abstract : As clinical and nursing informatics mature, an area that has gotten a lot of attention is the value capstone projects. Capstones are meant to address authentic and complex domain-specific problems. While capstone projects have not always been essential in graduate clinical and nursing informatics education, employers are wanting to see evidence of the prospective employee's knowledge and skills as an indication of employability. Capstones can be organized in many ways: a single course over a single semester, multiple courses over multiple semesters, as a targeted demonstration of skills, as a synthesis of prior knowledge and skills, mentored by one single person or mentored by various people, submitted as an assignment or presented in front of a panel. Because of the potential for capstones to enhance the educational experience, and as a mechanism for application of knowledge and demonstration of skills, a rigorous capstone can accelerate a graduate's potential in the workforce. In 2016, the capstone at the University of Alabama at Birmingham (UAB) could feel the external forces of a maturing Clinical and Nursing Informatics discipline. While the program had a capstone course for many years, it was lacking the depth of knowledge and demonstration of skills being asked for by those hiring in a maturing Informatics field. Since the program is online, all capstones were always in the online environment. While this modality did not change, other contributors to instruction modality changed. Pre-2016, the instruction modality was self-guided. Students checked in with a single instructor, and that instructor monitored progress across all capstones toward a PowerPoint and written paper deliverable. At the time, the enrollment was few, and the maturity had not yet pushed hard enough. By 2017, doubling enrollment and the increased demand of a more rigorously trained workforce led to restructuring the capstone so that graduates would have and retain the skills learned in the capstone process. There were three major changes: the capstone was broken up into a 3-course sequence (meaning it lasted about 10 months instead of 14 weeks), there were many chunks of deliverables, and each faculty had a cadre of about 5 students to advise through the capstone process. Literature suggests that the chunking, breaking up complex projects (i.e., the capstone in one summer) into smaller, more manageable chunks (i.e., chunks of the capstone across 3 semesters), can increase and sustain learning while allowing for increased rigor. By doing this, the teaching responsibility was shared across faculty with each semester course being taught by a different faculty member. This change facilitated delving much deeper in instruction and produced a significantly more rigorous final deliverable. Having students advised across the faculty seemed like the right thing to do. It not only shared the load, but also shared the success of students. Furthermore, it meant that students could be placed with an academic advisor who had expertise in their capstone area, further increasing the rigor of the entire capstone process and project and increasing student knowledge and skills.

Keywords : capstones, clinical informatics, health informatics, informatics

Conference Title : ICCHI 2020 : International Conference on Clinical and Health Informatics

Conference Location : Singapore, Singapore

Conference Dates : September 08-09, 2020