Gathering Meaningful Artifacts:Integrating the Technology of E-Portfolio into Health Care Professional Education

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Abstract- One objective of Healthy People 2020 identifies the use of information technology (IT) as a health communication strategy for the promotion of population health and health equity. The purpose of this assignment is to describe creative application of evidence-based best practices through userfriendly web designs. It is integral for all educators, especially health professionals, to use relevant I T,as delivery of health information and services continues to expand. Using eportfolios in classroom assignments and as a capstone activity can assist faculty members with evaluating and understanding student outcomes. E-portfolio and technology are not foreign concepts to students, but student understanding of what it means to be a professional, and to integrate professional concepts into personal and professional behaviors, were necessary at the onset of educational programs. Using e-portfolios promoted critical reflection; particularly when students were introduced early in their professional programs to the collection of relevant artifacts.

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Keywords: e-portfolio, information technology, critical reflection

I. Introduction

Faculty members at a baccalaureate nursing program have been actively involved in the e-portfolio process and committed to integration of relevant artifacts into our 5 semester professional program. The e-portfolio initiative has been on-going at a university levelfor five years. The School of Nursing is involved since the inception, with two senior faculty members serving as ambassadors to ensure initial and ongoing training and development of junior faculty members, rubric development and modifications, soliciting faculty feedback, and ensuring artifacts were integrated into each semester's content. As faculty members of first semester (junior-level) nursing students, we have been challenged to promote relevant assignments to produce artifacts, such as professional papers. Additionally, we sought to explain to students how these artifacts related to program curricular outcomes. E-portfolio and technology were not foreign concepts to our students, but student understanding of what it means to be a nurse, and to integrate professional concepts into their personal and professional behaviors were necessary at the onset of our program. Our curriculum is structured to where concepts are threaded through each course, and also organized to progress from student learning of wellness to illness concepts; easier to more difficult theoretical and skill acquisition. We sought for students to demonstrate their professional progression in an increasingly sophisticated way, requiring initial investment and engagement in the e-portfolio project.

The vast amount of affective knowledge in the field of nursing requires a tremendous amount of reflective ability and the ability to communicate comprehension of course material and experiential knowledge at different stages in the program. Selection of artifacts for the e-portfolio aligns with our expectations as faculty for the student to be able to possess and cultivate knowledge, skills, and attitude competency.

The implementation of educational strategies that effectively prepare future healthcare professionals for roles in community health promotion is a consideration for faculty members involved in curricula development. The future role of healthcare professional students as technologically competent community educators is important to consider in course curricula design. One objective of Healthy People 2020 identifies the use of information technology (IT) as a health communication strategy for the promotion of population health and health equity (United States Department of Health and Human Services [HHS], Health People 2020, 2014). Community health educationis recognized as integral in addressing national health disparities. The Internet has become a vital avenuefor health information dissemination by individuals and public and private organizations. As the Internet becomes saturated with reliable and non-reliable sources, health care professionals are challenged to use IT for effective communication of reliable health information and services which influence public health behaviors and decisions on course of care. Creative application of evidence-based best practices through user-friendly web designs will be integral for health professionals as the use of IT for the delivery of health information and services continues to expand (HHS, Health People 2020, 2014).

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II. Materials

Baccalaureate nursing education must have clear nursing curricular outcomes that are communicated and reinforced early in the nursing program. Novice students must see a connection in curricular expectations, the nursing profession, and clinical practice applications. Students must be held accountable early in the program to produce meaningful artifacts that culminate into a capstone experience upon completion in the program.

E-portfolio provides opportunities for students to assimilate assignments, reflective observations, and visual representations throughout their nursing program. Curricular outcomes in the form of communication and collaboration skills, critical thinking and clinical judgment in clinical practice, scholarship for evidence-based practice skills, clinical prevention and population health skills, diversity skills, and leadership skills are essential to the nursing profession. Selection of artifacts for inclusion in an e-portfolio, combined with requirements to provide a reflective comment assist with students connecting their programmatic curricular outcomes with entering the nursing profession. For example, use of information technologies to assist with effective communication to promote high quality patient outcomes within healthcare systems is congruent with the poster project. From a microsystem level, the student's poster on a specific health promotion topic reaches a specific target audience. When placed in an e-portfolio, it has the capacity to reach greater healthcare systems, as this information is eventually shared with other students, potential employers, and faculty members.

III. Methods

Active learning was used throughout the course as students chose a relevant issue to the population served by the agency, performed a literature search, implemented strategies for evidence-based research, created an annotated bibliography, and developed a professional paper to communicate findings of best practices. The final student assignment components were the design and class presentation of an innovative professional poster on the selected topic and appropriate for target audiences in the community education environment. Instead of traditional printing of poster projects, the students were challenged to integrate technology in the creative design of a poster that professionally and effectively communicated information for health promotion of diverse populations. The students submitted the posters electronically for evaluation by the course leader. Class time was designated for poster presentation, and students were randomly selected to share their design with peers. The completed posters were assembled using a web-based search engine into a teaching tool to be posted on various community partners' websites or internet pages. The website was organized to include information on the poster project, contact information, health promotion topical statistics and treatments on the specific topics seen most frequently. These posters were then used as artifacts in student designed e-portfolios.

IV. Results

Academic-service partnerships promote collaboration between professionals and students and offer opportunities for creative thinking while advancing mutual interests (Beal, 2012). One of the multi-faceted objectives of many community health agencies is increasing knowledge and awareness of health issues through innovative educational campaigns. A learning partnership between local community health care services (such as women's clinics, veteran support groups, high school health care groups) and a professional nursing concepts' class provided an avenue for development of a multi-topic educational website on "hot topic" health issues. A representative from the selected agency contact students and provide background information on the history, mission, offered services, and significance of the role of the community organization. Partnership with the agency provided an opportunity for students to become active participants in evidence-based research and health promotion in the clinical environment.

V. Discussion

E-portfolio is an effective learning method for novice nursing students. The impact and power of the use of the e-Portfolio is centered less on the technological aspects as the student's ability to critically think about the relevance of their artifacts, and their ability to see their own progression of professional maturity upon completion of the program. Initially, novice students struggle to understand how abstract theories, such as health promotion and becoming a nursing professional relate to curricular outcomes. Providing opportunities to display student assignments, related to curricular outcomes, and combined with reflective statements supports the use of e-portfolio. For example, students can see their progression from a simple, one-themed health promotion poster in the first semester to a research poster displaying results of a health promotion activity produced as a team data-driven artifact. Academic-practice partnerships are helpful to teach necessary professional concepts, such as multi-disciplinary communication and collaboration. Creating assignments that result in relevant artifacts that are usable to both the student and the collaborating agency enhance the mutual benefit model necessary in sustaining interest and support. For example, in partnering with awomen's health organization, the students felt a sense of pride in designing and

contributing to health promotion information directly used on the organizational website.

It is imperative that students make the correlationof learning concepts and personal accountability as contributing to a profession. Selection of artifacts for inclusion in an e-portfolio makes a broad statement as to how a student views themselves personally and professionally. Apart from student health promotion learning, students begin to create and formulate their own professional identity. For example, the student that posts pictures depicting personal artifacts (travel, social parties, non-professional appearance) communicates a less than professional identity that can hinder employment opportunities. Numerous students were hired prior to graduation from employer perusal of their ePortfolio artifacts. The majority of students include their professional paper and their posters that were initiated in the first semester. Faculty member feedback of ePortfolio and assessment comments opens dialogue as to whether this professional transformation is communicated in artifact selection and congruence with the student's stated philosophy of nursing. Additionally, the transformation between students early in a program as compared with those students approaching graduation is often apparent in analyzing artifacts. Ideally, student work should provide evidence of becoming more mature in the nursing process, and making vital connections between assignments.

VI. Conclusion

Faculty members in all levels of the program need to have a holistic perspective and a commitment to the process of relevant artifacts used in the e-portfolio. Promoting student understanding of e-portfolio as a learning tool begins early in a professional program of study. As first semester faculty members, we were challenged to build the infrastructure used for the final submission in the fifth semester. We found that each semester has to be represented with artifacts along the continuum, or students view the gaps as less important to their learning and professional growth. Remaining relevant to how students communicate with each other and their need for technology and information systems supports the utility of e-portfolio. Students have to incrementally collect artifacts throughout the program of study for inclusion in an e-portfolio to prevent end of the program capstone disconnect.

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