

COURSE REDESIGN IN A CAPSTONE COURSE: PUTTING EPORTFOLIO INTO PRACTICE

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ABSTRACT

Today's healthcare marketplace is changing hastily. Fundamental operating suppositions are questioned. Especially after the Patient Protection and Affordable Care Act was signed into law in 2010, the healthcare industry has faced uncertainty and transformational changes in the past decade. Indeed, the changes in the healthcare industry demand adjustments to the healthcare administration curriculum. The Master of Healthcare Administration (MHA) program at a U.S. university implemented a revised capstone course in 2020. This revised course has two high-impact practices (HIPs), ePortfolio and capstone project and course. The Association of American Colleges and Universities has endorsed and promoted HIPs that are robust interventions to advance student success. It is critically important that this revised course keep students engaged in the course materials by allowing them to apply the learned skills and knowledge to real-world situations. This study was designed to investigate the impacts of two HIPs in the revised course via multiple data sources. A student survey was sent to students via email at the end of the course to gather students' feedback and learning experience. Based upon the data collected, over three-fourths (77.63%) of surveyed students reported that e-Portfolio helped them critically assess their academic work and accomplishments, while 89.61% of respondents agreed that the capstone project helped them integrate the knowledge and skills developed within the MHA program. The challenges regarding the implementation of the e-Portfolio were identified in the written feedback collected from the survey and the instructors' observations. The solutions to the issues will be realized to maximize the benefits of e-Portfolio in the capstone course as a high-impact practice.

Keywords: Online Education, ePortfolio, Capstone Course, Healthcare Administration

1.0 INTRODUCTION

Since the late 19th century, a capstone course that serves as the culminating experience of an educational program has been utilized in higher education institutions in the United States (Hauhart & Grahe, 2015). The Association of American Colleges and Universities (AAC&U) has recognized capstone courses and projects and ePortfolios are high-impact practices (HIPs) that promote student engagement and achieve deep learning (Kuh & O'Donnell, 2013). HIPs help students develop relationships with each other, engage with their peers, apply what they have learned in the courses, and reflect on their learning experiences and themselves (Kuh, 2008). HIPs are teaching strategies that contribute to student success. A

capstone course can generate high impacts on students when it supports student engagement and learning beyond the course's conclusion and shapes their subsequent trajectory in a long-lasting way (Freeman et al., 2020).

The organization of this paper is as follows. First, this article starts with an introduction to describe ePortfolios and capstone courses and projects as high-impact practices endorsed by AAC&U. Second, theoretical foundations provide the conceptual framework for this research study and research questions. Third, research methodology outlines the research background, study design, and data collection. The findings of this case study are presented and discussed in the fourth section. Fifth, the conclusion summarizes the contributions of this research study and its practical implications. Lastly, this paper ends with research limitations and recommendations for future research.

2.0 THEORETICAL FOUNDATIONS

The theoretical foundations will focus on capstone courses, capstone projects, case studies, electronic portfolios, and research questions. Review of literature provides contexts for the utilization of ePortfolios, case studies, and capstone courses and projects in higher education. Finally, four research questions are formulated for this research study.

A. Capstone Courses

Academic programs generally include a capstone course as the final building block of the study. The literature also provides insights about the capstone course, a significantly invaluable culmination of experience, that expects students to synthesize knowledge acquired from previous learning experiences in the program and apply principles and theories in situations of disciplinary practices (Alstete & Beutell, 2016; Blanford et al., 2020; Devine, et al., 2020; Faulkner & Webb, 2020; Kohler & Van Zile-Tamsen, 2020). Capstones provide a guided learning experience where structured opportunities enable students to reflect and integrate learning that can be applied easily to specific problems or challenges in real-world situations (Alstete & Beutell, 2016). Students are encouraged to reflect on previously learned knowledge in the capstone course. Reflections permit students to make their connections with the topics of study, discover the relevance of learning in the discipline, make sense of the overall learning experience, and relate those discernments to their future career development (Alstete & Beutell, 2016). Apart from helping students bridge the courses in the program together, a capstone also prepares students for their careers (Wiechowski, 2010). The capstone experience is intended to improve students' employability by offering a space to synthesize, reinforce, and bring up-to-date competencies, knowledge, skills, and values they have gained (Bowe et al., 2020).

In essence, the capstone course in a professional master's program functions as a unique interconnection of developing professional, industry-specific competencies within an academic setting (Blanford et al., 2020). The program must demonstrate the benefits of the capstone experience to the students who are working professionals and focus on the development of a wide range of hard and soft skills required by the industries and employers (Blanford et al., 2020). A capstone course also serves as a means to assess skills such as critical thinking, problem-solving, and communication that are valued by the employers; a capstone course allows students to reflect on acquired knowledge and skills,

accomplishments, and future goals (Bowe et al., 2020; Devine et al., 2020). Additionally, some student-focused approaches in a capstone course comprise supporting students to become more independent, fostering contextualization of the learning experience, and aiding the transition to professional life (Devine et al., 2020; Wiechowski, 2010).

Since the capstone course is designed to integrate student learning throughout their studies, it is the space where the assessment of student culminating experience takes place. Education scholars have identified capstone courses as a noteworthy high-impact practice that facilitates students to integrate and reflect upon their graduate experience and evaluates the program learning outcomes (Blanford et al., 2020; Swimelar, 2020). It is also critical for programs to ensure program learning objectives are met for the purpose of continuous improvement (Faulkner & Webb, 2020). However, one of the main challenges is to provide students with optimal capstone experiences to succeed in changing work environments (Johnson & Snyder, 2020). To overcome this challenge, instructors or course designers need to fine-tune the curriculum as necessary to stay relevant.

B. Capstone Projects

One fundamental feature of the capstone experience is to facilitate students to cement the knowledge and skills gained over the courses throughout the program (Kohler & Van Zile-Tamsen, 2020), usually leading to a final project. The capstone project can be used to showcase students' ability to apply the knowledge and skills they have obtained during the program and enable a student to transform from a dependent learner to a self-directed learner (Blanford et al., 2020; Bowe et al, 2020). Capstone projects are beneficial to students because they capture academic accountability, present a way to ascertain student learning beyond the grades and academic assessments, enable students to develop their professional identities and provide a transition between school and career advancement (Blanford et al., 2020).

The capstone project provides an opportunity for students to validate their mastery in the context of an authentic learning experience by undertaking a real-world project in their field of practice (Devine, 2020). It is also of importance that students demonstrate their information literacy by applying communication, critical thinking, scholarly research, and proper referencing and citations (Blanford et al., 2020; Devine 2020). For working professionals, the capstone project empowers students to take an academic inquiry project-based approach relevant to their work environments, requiring them to research the topic of interest more thoroughly (Devine 2020). The application of knowledge and skills to a real-world project is critical for employers. Future employers expect to see student learning imitating real-life business experiences so that graduates are well prepared to enter the workplace and take on challenges.

C. Case Studies

Traditionally, capstone courses in management have utilized the case study method to solve real-world problems. Case scenarios require students to conduct critical analyses and craft informed recommendations by employing the practical application of the essential core concepts, knowledge, and skills gained in prior courses (Alstete & Beutell, 2016; Bartholomew et al., 2021). The case study method is an active learning approach by which students develop critical thinking, practice deep analyses, and improve their discussion and

presentation abilities (Alstete & Beutell, 2016). Case studies offer student-centered experiences in real-life situations, which in turn creates an effective, engaged learning environment. The benefits of utilizing case study methodology, as Graham (2014) noted, include the use of higher-order critical thinking and problem-solving skills, application of theoretical concepts, and improvement of communication skills.

D. Electronic Portfolio

An ePortfolio is the 11th high-impact education practice advocated by AAC&U (Watson et al., 2016). The ePortfolio enables learners to practice higher-order thinking skills, reflect upon both in-class and out-of-class activities, and construct a comprehensive creation that exhibits their learning and their thinking about their learning (Bryant et al., 2017; de Jager, 2019). An ePortfolio is a seamless mechanism for reflection and assimilation, ensuring the connections between students' education experience and learned knowledge or skills through the academic program. Because of the capabilities of an e-Portfolio to serve a variety of purposes, it has become the signature capstone learning activity, encouraging a scaffolded approach to reflection and intentional integration (Kohler & Van Zile-Tamsen, 2020). The most valuable element is that students work on compiling their ePortfolio across their entire education by reflecting on learning and incorporating content from various prior courses (Fallowfield et al., 2019). In addition, an e-Portfolio appears to be a captivating digital resume that can be an effective marketing instrument to invite future employers and other stakeholders to review and comment on students' competencies exhibited in the e-Portfolios (Moore, 2019).

According to the early adult-learning theory, adult learners have an intrinsic need to be self-directed in their learning (Bryant et al., 2017). They want to know why it is important to learn before they embark on a learning activity. Adult learners long for the opportunity to connect prior knowledge and learning experiences they are pursuing. They also anticipate that their learning experiences are valued (Bryant et al., 2017). Capstone ePortfolio provides a platform through which students can analytically appraise contents from different courses, make ties across them, and put their work together to make wide-ranging knowledge connections (Fallowfield et al., 2019; Morreale et al., 2017). The capstone ePortfolio can also promote purposeful metacognitive growth and self-regulated learning (Bryant et al., 2017; Morreale et al., 2017). Reflection within the ePortfolio allows students to contemplate how they have learned and how prior learning relates to other contexts. Upon reflection, students practice their metacognitive thinking by which they expand their self-regulated learning processes in new learning situations (Morreale et al., 2017). In Nguyen and Ideda's (2015) study, students felt that ePortfolios allow them to be more active and motivated; they can monitor their learning and regulate themselves to achieve better academic outcomes. Based on the findings from a meta-analysis of 204 studies, Segaran and Hasim (2021) concluded that ePortfolios function as a medium to boost self-regulated learning, which further advances students to become independent learners.

E. Research Questions

Even though HIPs have been extensively used in higher education worldwide, research on HIPs is often dedicated to investigating one specific practice; it primarily focuses on traditional undergraduate courses and programs in the face-to-face learning environment

(Linder & Hayes, 2018). Little research effort has been dedicated to studying the impact of HIPs in the online graduate program. Thus, this research was designed to examine the effectiveness of two HIPs, capstone courses and projects and e-portfolios, in the revised capstone course of an online master's program in health care administration. Especially, the following four research questions were raised:

Research question 1: How do the students perceive the revised capstone course?

Research question 2: How do the case scenario-based discussion boards prepare students to deal with critical issues in health care?

Research question 3: How do the capstone projects help students integrate the knowledge and skills developed within the MHA program?

Research question 4: How do ePortfolio processes help students critically assess their academic work and accomplishments?

3.0 RESEARCH METHODOLOGY

A. Background Context

The University of Arizona Global Campus (UAGC) has offered online undergraduate and graduate programs to adult learners for more than a decade. The master's program in healthcare administration (MHA) has provided six-week asynchronous courses to non-healthcare and health care professionals since 2009. Since then, MHA has educated and empowered thousands of adult learners to impact their organizations and the communities they serve.

Today's healthcare marketplace is changing rapidly. The traditional operating assumptions are questioned. Notably, after the Patient Protection and Affordable Care Act (PPACA) was enacted in 2010, it is undeniable that the healthcare industry has undergone transformational changes in the past decade. Indeed, the transformations in the healthcare industry demand adaptations to the healthcare administration curriculum (Love & Ayadi, 2015). The MHA capstone was redesigned with the very specific purpose of fostering reflection and integration of the healthcare administration education experience and application of health care management skills. It is critical that this revised course could keep students engaged in the course material. The overall goal of this redesigned capstone course was to help students develop an integrated up-to-date knowledge base so they can apply their learned knowledge as well as problem-solving and critical thinking skills to real-world challenges while facing the rapidly changing health care environment.

B. Course Redesign

We implemented this revised course in September 2020. We have included four multimedia presentations for Post Your Introduction in week one, CEO of a Day in week two, Capstone Project in week five, and Job Interview Preparation in week six to enhance students' oral communication skills. The capstone course is a proper course to evaluate students' proficiencies in oral communication, content, delivery, writing, and use of technology. We

have also included case scenarios in the discussion boards of weeks one to five. Through case studies, students analyze real-life situations, solidify prior learning, and gain knowledge and experience from the collective learning in online education.

By design, ePortfolio learning activities are included from weeks one to five. Students build a capstone ePortfolio to highlight the knowledge and skills developed across the healthcare administration curricula. Students are required to complete a competency-based ePortfolio by uploading their previous schoolwork as the evidence of their competencies in healthcare administration based upon the American College of Healthcare Executives (ACHE) Executive Competency model using five competency domains: communication and relationship management, leadership, professionalism, knowledge of the health care environment, and business skills and knowledge (The International Hospital Federation, 2015). Besides their schoolwork, students also upload artifacts for their education, training, certifications, badges, accomplishments, community involvement (if applicable), and resume. Artifacts for inclusion in the ePortfolio are chosen by students to manifest their own creativity, uniqueness, and variety. Artifacts could be texts, pictures, videos, as well as PowerPoints, pdfs, Word documents of assignments from a variety of courses in the program. Consequently, this results in greater identification and integration of multiple contexts representing who the students are.

C. Study Design and Data Collection

This study employed a mixed-methods research design. Multiple data sources were collected in the following ways to examine the effectiveness and impact of the ePortfolio and the students' learning outcomes in the revised capstone course: (a) student and instructor surveys, (b) qualitative analyses in the discussion boards, and (c) evaluation of the artifacts in the classrooms. The multiple data sources allowed us to triangulate results.

The 5-point Likert scale student and instructor surveys contained a combination of open- and close-ended questions and were administered via Qualtrics®. The student survey had 15 questions, while the instructor survey had 14 questions. The surveys were designed to gather the instructors' teaching experiences as well as students' learning experiences and opinions about the redesigned capstone course. The population of this study included MHA students who had enrolled in this revised capstone course during the first year of implementation and the instructors who had taught this course during the same period of timeframe. Both instructors' and students' participations were voluntary, and they had the right to withdraw their consent or discontinue participation at any time with no penalty. To address the privacy concern, two in-house surveys were anonymously managed for those who wished to participate in helping the MHA program improve the curriculum. A total of 77 students and five instructors responded to the surveys.

4.0 RESULTS AND DISCUSSIONS

The results of this research are presented in this section to answer four research questions related to students' experiences and perceptions about the ePortfolio and capstone course/project. Table 1. displays the student survey results expressed by the percentage of students who either agreed or strongly agreed with the survey item.

Table 1. Student survey results expressed in percentage

Survey Item	N	% of Agree + Strongly Agree
Case Scenario Based Discussion Boards prepared me to deal with critical issues in health care.	75	93.33
e-Portfolio helped me critically assess my academic work and my accomplishments.	76	77.63
The CEO For a Day Video Presentation helped me come up with solutions to solve the organization's issues.	77	89.61
The Capstone project helped me integrate the knowledge and skills developed within the MHA program.	77	89.61
The ePortfolio Peer Review helped me validate my competencies in healthcare administration.	74	71.62
Video Interview Preparation helped me build up my confidence in job interviews.	75	82.66
This course enables me to wrap up the program as a whole.	76	89.47
This course further stimulated my interest in a healthcare career.	75	78.67
This course increased my knowledge of the healthcare industry.	76	86.84
The instructions for learning activities were clear.	73	80.83

The first research question was to ascertain the students' perceptions of the revised capstone course. When asked if this course enables me to wrap up the program as a whole, 89.47% of surveyed students either agreed or strongly agreed with this statement. Only 78.67% of students either agreed or strongly agreed that this course further stimulated my interest in a healthcare career, while 86.84% of respondents gave their accord about an increase in their knowledge of the healthcare industry while taking this capstone course. The majority of our students have worked in the healthcare industry for decades. Unsurprisingly, this capstone may not further stimulate some students' interest in a healthcare career. Nevertheless, the healthcare industry has evolved over the years. In an era of unsurpassed innovation and business disruption, healthcare managers and leaders must keep learning and be equipped with unique skill sets and knowledge (Love & Ayadi, 2015). Examples of students' verbal comments are as follows. "Yes, I think the course did a good job wrapping up the entire program as a whole and required that we call upon prior knowledge and assignments. This helped to reinforce everything learned." "I did enjoy the way everything came together. It was a great culmination of what had been learned throughout the entire degree." "I definitely

believe that this course provided various information that gave me a clearer understanding of what happens in the healthcare industry.” “The capstone course built my confidence.”

The second research question was to determine whether case scenario-based discussion boards prepared students to deal with critical issues in health care. Among all survey items concerning learning activities, case scenario-based discussion boards had the highest impact on student learning and experience. About 93% of students either agreed or strongly agreed that case scenario-based discussion boards prepared them to deal with critical issues in health care. Students expressed very positively in their verbal comments. The following are two examples. “The discussions that involved case scenarios took a new approach of thinking for this course. It challenged my knowledge to discuss what I would do in a real-life scenario in healthcare.” “The discussions boards allowed me to get and share insight with classmates and the professor on certain pertaining to various issues that may arise in the healthcare setting.”

The third research question was to investigate how the capstone project helped students integrate the knowledge and skills developed within the MHA program. When asked if the capstone project helped me integrate the knowledge and skills developed within the MHA program, 89.61% of students either agreed or strongly agreed with the statement. Examples of students’ verbal comments are as follows. “The capstone project allowed me to gather and use everything I have learned in the previous classes and use the skills and knowledge to better enhance my communication and presentation skills.” “The Capstone project helped me utilize the knowledge and skills developed within the MHA program; furthermore, preparing me for my dream position in the healthcare field-Administrator or Owner of a small behavioral health agency or small healthcare clinic.”

The fourth research question was to examine if ePortfolio processes helped students critically assess their academic work and accomplishments. Nearly 78% of students agreed or strongly agreed with this survey item. Although some students voiced unpleasant experiences while creating their ePortfolios, other students appreciated the usefulness of ePortfolios. Positive remarks are made by many students as follows. “The e-portfolio was an amazing tool that helped me organize my work and realize all I have accomplished.” “It’s an organized way to celebrate individual accomplishments and prepare for a future career.” “I really enjoyed the e-portfolio because it has made me reflect on my accomplishments.” “The e-portfolio gave me an opportunity to organize my skills and accomplishments and really think about my plans post-degree.” “I really enjoyed showcasing my talents and work experience. I believe this better equipped me with a great format that will be applying to employers.” “As stated, the ePortfolio streamlined my resume, it was a real-time ‘balanced scorecard’ to coin a phrase from our courses.” “I enjoyed this process as it helped me see where I am at in my career growth and what areas I can improve upon.” “The e-Portfolio assignment required a deeper thinking of skills and matching them to competencies.” These findings confirm the results of prior research by Morreale et al. (2017) about ePortfolios adding values to students’ profiles, deepening student learning, and facilitating continuous growth.

Two survey items related to ePortfolios earned the lowest scores from students. This capstone was the first MHA course asking students to create their ePortfolio. MHA students were mid-aged adult learners. For some students, it is not easy to be out of their comfort zone to learn new things in the last course of the program. Besides, most of our students were frontline healthcare professionals. Since the COVID-19 pandemic became apparent in early 2020, they

had dealt with more challenges than any other professionals, which affected their capacity to follow the instructions and build their portfolios in five weeks. Especially, when only 81% of students agreed or strongly agreed that the instructions for learning activities were clear, they felt frustrated with the new learning activity, ePortfolio, which was evidenced in their verbal feedback. For instance, as one student stated, "I had never done an e-Portfolio before, and this was a real challenge. I felt frustrated at times.." Similar findings were also found in prior empirical research (de Jager, 2019; Fallowfield et al., 2019). Another student also noted, "ePortfolio was sometimes difficult to navigate. The instructions were a bit overwhelming." One student's comment was, "EPortfolio instructions could be a bit more clear." The findings from the in-house instructor survey also echoed the students' experience in ePortfolio and instructions for learning activities.

Course evaluation is the chief approach to improving the course quality that we offer to our students. After this revised capstone course was implemented, there have inevitably been opportunities for improvement. Based upon the comments collected in the student and instructor surveys, we have refined the instructions for learning activities more than five times. We have enhanced the support in developing ePortfolio, such as the best practices shared among instructors and additional guidelines provided in the course shell and the Zoom live section. Furthermore, we have prepared students to embrace ePortfolios by adding this HIP to other MHA courses so that they will be grateful for the valuableness of ePortfolios in meaningful ways.

5.0 CONCLUSION

The main objective of this research study was to evaluate the effectiveness of two HIPs, ePortfolio and capstone course and project, in the revised capstone course of the master's program in healthcare administration. This capstone course was redesigned to provide several opportunities for MHA students to become independent learners and foster communication, critical thinking, and problem-solving skills they need for their career advancements. The capstone project was revised to enable students to demonstrate their capabilities and meaningful experiences by applying the skills and knowledge obtained from their previous MHA courses over time. The case scenario-based discussion boards required students to apply the knowledge in real-world applications, similar to what they experienced or may experience on the job. The capstone ePortfolio supported students to tie together previously acquired knowledge throughout courses aligned with core competencies in the ACHE Executive Competency model necessary for success in the healthcare administration field. The capstone ePortfolio brought a holistic understanding to students' educational journey and appeared aligned with demonstrating employability in a digital space. Even though there was room for improvement in the curriculum design, both instructors and students found the capstone experience to be fulfilling in meeting the goals intended for the course redesign.

Unquestionably, online programs can be designed to leverage HIPs of integrative and reflective learning, purposefully promoting student engagement and successful learning outcomes, which further advances student career paths. The one-year execution of this revised capstone course also offers precious lessons learned about implementing ePortfolios in an academic program. Academic programs ought to incorporate this high-impact education practice to be thoughtfully woven throughout the curricula in a program and allow students to enjoy building their ePortfolio to capture their learning experience and appreciate the benefits

of this pedagogical practice while pursuing the degree. Particularly, since the emerging COVID-19 pandemic in 2020, universities and colleges worldwide have grappled with providing online courses to their students. Scholars and researchers must pay attention to the application of HIPs in online education. The findings from this research uphold the debate that HIPs such as ePortfolios and capstone courses and projects can further student learning and success. The results and recommendations from this current study also build the best practices for the online graduate program in healthcare administration and add value to the high-impact practices literature.

6.0 LIMITATIONS AND FUTURE RESEARCH

Reminiscent of other research, this research study has some limitations. First, the research was carried out in a master's program in healthcare administration at a university. Thus, the generalizability beyond this study to the population at large is limited. Second, the research study was accomplished during the COVID-19 pandemic, which significantly affected our students who were frontline healthcare professionals. Their perceptions and learning experiences about the capstone course made up a large fraction of data sources. The ePortfolio was a completely new learning activity for our students. Their perceptions and experiences regarding the ePortfolio processes might differ if there was no pandemic. As a result, it limits our ability to draw conclusions about the effectiveness of ePortfolio. For future research, a longitudinal data collection over the years is recommended to ensure that the positive effect of adding ePortfolios to other MHA courses will come to fruition in the capstone course.

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