REDESIGNING AN ONLINE COURSE TO IMPROVE STUDENT LEARNING OUTCOMES

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Abstract - Delivering courses entirely online is not a new paradigm in U.S. higher education. Online courses and programs play a significant role in providing opportunities for adult learners to further their education without sacrificing their work and family commitments. Because of the advancement of communication technologies, the educational landscape undergoes rapid transformation. Higher educational institutions must have a continuous improvement mindset to integrate emerging educational technologies and best instructional pedagogies into the curricula. It is imperative to revise the course content and evaluate the effectiveness of updated course on a regular basis. This paper presents a study in which a revised course in the master's program of healthcare administration is incorporated with active learning approaches. For triangulation, a mixed-method research design is employed to collect qualitative and quantitative data from multiple sources. The results from this study confirm findings derived from prior empirical research studies. The limitations and future research are also discussed. The implications for instructors, instructional designers, and administrators in online education are also presented.

Keywords - Course Redesign, Active Learning, Online Learning, Student Learning.

I. INTRODUCTION

As technology rapidly develops, online teaching and learning modalities have become an indispensable part of higher education for many reasons, for example, convenience, flexibility, and lower costs [1]. However, online learning presents unique challenges for both students and instructors. Interaction in online classrooms is quite challenging compared to traditional face-to-face in-class courses [2], [3]. Education literature documents that students may experience isolation without authentic student-to-student and student-to-instructor interactions [1], [3], [4]. Research has shown that in online learning, students tend to feel emotional loneliness and decide to drop out of the class or program [1], [2]. Factors such as course content, course design, and instructional style were reported as determinants of student interaction in online classrooms [3-5].

This paper is structured as follows. The second section provides a literature survey regarding course design/redesign, active learning pedagogies, instructor roles, student satisfaction, and research questions. The third section presents the research methodology, including study context, data collection, and analysis. The fourth section discusses the results of the empirical analyses. Study limitations and proposed future research are disclosed in the fifth section. Lastly, the paper concludes with a summary and implications.

II. LITERATURE REVIEW

A. Course Design and Redesign

Course design and redesign are crucial in online courses and programs as they directly impact student engagement, student satisfaction, learning outcomes, and overall course success [4]. Course redesign in online classrooms is not just an act of updating content. It should include a strategic initiative, including multiple pedagogies and learning strategies to improve the learning experience [6]. A substantial body of literature has investigated the impacts of course redesign in recent years. Many researchers and scholars studied if and how innovations in curriculum, instructional design, instructional delivery, or pedagogy can promote student learning [7]. Course design or redesign needs to ensure a well-structured, accessible, and interactive learning experience because students are not physically in a classroom [4]. Learners desire more than static lectures and text-heavy modules. Thus, designing or redesigning online courses should involve embracing a learner-centered approach, incorporating multimedia elements, and adopting emerging technologies [4], [6]. Developing online learning courses suitable for students will elevate students' enthusiasm for active learning and bring better learning outcomes [8]. Once the course is designed or redesigned effectively, learners will have a higher acceptance of the e-learning, increase their knowledge and skills, and improve academic performance [2].

B. Active Learning Pedagogies

Active learning is an activity-based learning approach that allows learners to undergo a meaningful learning experience [9]. Active learning methodologies have transitioned from passive instructor-centered to student-centered learning [10]. In active learning, instructor-centered pedagogy is shifting toward a new learning paradigm where students build their understanding of a subject through learning activities

[11]. The activities can vary, for instance, be hands-on activities geared toward case-based, collaborative, cooperative, problem-solving, and team-based learning [9], [11]. In addition, debates in the discussion boards to engage students with their peers, peer-teach, role-playing, and simulation are also examples of active learning approaches [12], [13]. Active learning approaches benefit the learning process by using relevant real-world scenarios by which students can apply problem-based learning techniques to solve real-world cases [14]. Active learning pedagogies enable students to understand new information and construct knowledge through higher order thinking rather than memorizing facts [6]. Active learning empowers learners to participate actively in learning (student-centered) and be in charge of their learning instead of passively comprehending content by listening to the lecture and taking notes [11]. Active learning also provides learners an authentic learning environment and makes it easier to digest, fathom, and master the learned knowledge and skills [8]. Through active learning activities, students are involved directly in the content, resulting in deeper learning [11].

Active learning has its roots in the cognitive, constructivist, experiential, and social theories of learning [6], [15]. According to the social constructivist paradigm, active learning promotes students to create their knowledge by actively integrating new information with their prior knowledge and experience to form new and enhanced understanding [15]. It is a shift to a student-centered instructional approach focusing on knowledge construction through performing actions that require higher-order thinking [8]. Furthermore, active learning permits students to explore their attitudes or values and engage in metacognitive reflection on their learning process [16]. Research suggests that students' active engagement in class positively influences various aspects of learning, including understanding, retention, and enjoyment [17].

Many schools have implemented active learning techniques in health professions education to advance students' competencies in recent decades [14]. Problem-based, case-based, inquiry-based, project-based, and team-based learning are common active learning pedagogies in various health professions education curricula. By facilitating active learning, instructors help students build individualized understandings that they can retrieve more readily than by listening to explanations alone since active learning requires students to become actively involved in their learning process [16], [17].

The benefits of active learning pedagogies are substantial, including boosting performance, diversity, and equity in the classroom [9]. Practical active learning assignments enhance student engagement, foster motivation, facilitate learning of the course content, and develop skills in communication, conflict resolution, critical thinking, and leadership [9], [10]. Active learning approaches have also improved student self-efficacy, a sense of social belonging, retention, progression, and satisfaction [10], [18]. Evidence shows that integrating with active learning approaches can increase course effectiveness as self-advocacy, student self-efficacy, and academic achievement are notably enhanced [6]. Consequently, including active learning strategies could result in a reduced probability of course dropout rate.

C. Instructor's Roles

Instructor quality refers to a faculty who perceives the students' educational needs, has unique teaching skills, and knows how to meet the students' learning needs [2],[19]. Instructor quality positively impacts students' satisfaction with online classes [2]. Undeniably, instructors play a pivotal role in promoting their students' engagement. They can prompt their students to engage, monitor the learning process, and address students' questions and concerns [14]. Instructors must focus more on creating an interactive and supportive online learning atmosphere to reduce students' feelings of isolation in the virtual environment [8]. Zilka et al.'s [20] study found an association between the lack of instructor presence and feelings of isolation, deterring motivation in the online learning environment. Student's feeling of isolation affects their ability to learn, engage, and interact with their peers and instructors. Zilka et al.'s study suggested that the imperative role of the instructor is to engage students in meaningful learning experiences. In Shehzad and Charles's study [19], mixed-methods research was designed to investigate instructor's social presence and its impact on student engagement. Their findings confirmed that the instructor's social presence is key to student engagement and attrition. Furthermore, Ratan et al. [17] conducted an exploratory survey with 322 undergraduate students. Their study concluded that students' perceived learning, competence, and class enjoyment are significantly related to instructor social presence, which is augmented through active learning strategies. Therefore, it is an impetus to highlight the important role of instructors' social presence in online education. Moreover, the instructor's prompt feedback enhances student learning experience and satisfaction [2]. It has been found that timely feedback helps develop a strong relationship between instructors and students, ultimately leading to better learning outcomes. Providing timely assessment feedback can help students in online classes improve their understanding of the course materials, participation, and interaction [21]. Good feedback practice benefits student learning and improves students' learning experience.

Within an online asynchronous learning platform, a faculty facilitator's role is to engage with students and promote an active learning environment. Instructors