Original Research Article

Graduate Students' Perceptions of Active Learning Activities in a Revised Online Course

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Abstract: Distance instruction has a long history in the U. S. higher education. Due to the COVID-19 pandemic, higher education institutions worldwide quickly adopted online learning modalities. A student's feeling of isolation contributes to the high dropout rate in online classrooms. Carefully planning and redesigning online courses could effectively engage students in the course content and prompt active interactions between students and their peers and instructors. This paper presents a mixed-method research study to investigate the effectiveness of a redesigned healthcare administration graduate course online. Quantitative and qualitative data are collected from various sources to triangulate the findings. The findings derived from this study indicate an overall positive view from students toward this revised course integrated with multiple assessment formats. As adult learners, students can gain a solid foundation of knowledge presented in the revised course and apply the knowledge they learned to their jobs. There are some lessons learned for future course revisions in our program that could be empirical evidence for other institutions to implement and better their online courses.
Keywords: Active learning, course redesign, eportfolio, online learning, student engagement.

INTRODUCTION

Before the COVID-19 pandemic, online learning in the United States increasingly became popular in higher education (Goria & Konstantinidis, 2023). One distinct advantage of online learning is flexibility, which transcends the limitations of time and space. Learners can complete their schoolwork when it is most convenient from anywhere and choose the best schedule for their situation (Sugden *et al.*, 2021). Despite its rising popularity, online learning faces challenges. Studying from a distance without face-to-face interactions with the instructors and peers often leads to feelings of isolation and disconnection (Kim & Choi, 2022). Once learners feel isolated, they may not be fully invested in the online educational community. Therefore, it is important that higher education institutions, educators, and course designers design and redesign courses that meet the learners' needs in online learning classrooms (Moodley *et al.*, 2022).

This article will investigate the outcomes of a course redesign at an online graduate program in healthcare administration. Section two organizes a review of the literature concerning course redesign, active learning, and electronic portfolios. Section three outlines the research design to include research methodology, data collection, and data analysis. Study findings and discussions will be reported in Section four. Section five will briefly outline the limitations of this research study and future research. Section six concludes this paper by summarizing the key findings from this study and substantiating the

framework of implementing ePortfolios documented in the literature.

LITERATURE REVIEW

This research study draws upon literature discussing course redesign in online education. Hence, this section provides detailed descriptions and explanations of course redesign, active learning, and electronic portfolio. By the end of this section, two research questions will be presented.

Course Redesign

The effects and benefits of course design and redesign have received considerable attention in recent years. The research literature has demonstrated that course design and redesign affect the effectiveness of online learning, which also reduces dropout rates (Krsmanovic, 2021; Robles *et al.*, 2023). Especially in online education, subject matter experts and course designers must consider students' feelings of isolation. The course content should be relevant to student's interests and experience, allow students to develop self-direction and self-exploration, and engage students to participate with their peers in the learning processes (Martínez, Leite & Monteiro, 2016; Robles *et al.*, 2023). With the advances in educational technology, online courses ought to integrate technology in an engaging, interactive, and collaborative manner, and encourage students' participation with interactive and exciting content (Rivera-Vargas *et al.*, 2021). Effective course design and redesign will support the student's achievement with practical learning activities and materials (McDonald *et al.*, 2018). Research studies have provided evidence that changes in course curricula and instructional delivery improve student intellectual engagement and student satisfaction with a better experience (Das *et al.*, 2019; Lu, 2017), strengthen student academic performance (Wilson *et al.*, 2018), and increase active and collaborative learning (Vaughan, 2010).

Active learning

Active learning is an approach to instruction focusing on student activity and student engagement in the learning process (Howell, 2021). Active learning involves actively engaging students with the course material through discussions, problem-solving, case studies, role plays, peer instruction, and other methods (Howell, 2021; Roman *et al.*, 2020). These pedagogies place a greater responsibility on the students than passive approaches such as lectures. Active learning strategies are highly effective in nurturing student engagement because they stimulate students' interest, enthusiasm, enjoyment, and motivation in their learning (West & Halvorson, 2021). While students are engaged in learning activities requiring higher-order cognitive processes to analyze, evaluate, or create materials, they actively engage with the content, the instructor, and other students (Howell, 2021). Active learning has facilitated students' ability to apply knowledge and develop independent learning skills (Wolverton & Guidry Hollier, 2022). By promoting creativity and critical thinking, active learning increases student engagement, improves motivation and class attendance, and raises student performance (McLaughlin *et al.*, 2014).

Wolverton *et al.*, (2020) asserted that engagement plays a vital role in student success in online classrooms because student engagement lessens the sense of isolation, boosts student motivation to learn, and enhances student satisfaction. Specifically, interactions with content, peers, and the instructor can help students to become active learners. Martin and Bollinger (2018) conducted a study investigating the importance of engagement strategies in online learning. Their findings suggested that interactive course design and well-planned facilitation of online courses can enhance active learning. Student engagement is fostered when structured and purposely guided discussions are incorporated into the online course design. This active learning strategy also increases understanding of the course materials presented in the classroom (Martin & Bolliger 2018). Furthermore, Icebreaker/introduction discussions help students establish relationships with their peers (Martin & Bolliger 2018). Such an interactive and meaningful introduction discussion experience initiates active learning in online classroom (Wolverton *et al.*, 2020). Finally, surveyed students also expressed that working on real-world projects is very beneficial (Martin & Bolliger 2018).

Promoting active learning is essential to keep students participated in the educational process, which brings about deep learning (Smith & Kennedy, 2020). Deep learning involves cognitive processing to facilitate understanding of information and make information meaningful to the students, generating long-lasting and more potent memory (Sugden *et al.*, 2021). In other words, deep learning engages students in the subject to learn, think, and complete tasks (Sugden *et al.*, 2021; West & Halvorson, 2021). Instead of memorization, students are engaged and think critically about the information (West & Halvorson, 2021). Deep learning encourages students to understand the meanings behind the texts and interact with the materials by creating relevant arguments and examples about real-world scenarios (West & Halvorson, 2021). Deep learning helps students develop critical analysis and long-term retention of concepts. Through deep learning, students are inspired to find solutions to an identified issue while learning new concepts and knowledge (Smith & Kennedy, 2020; West &

Halvorson, 2021). As deep learners are more involved, information tends to be retained long-term. Eventually, students become life-long, self-directed, self-motivated, and reflective learners (Smith & Kennedy, 2020).

Electronic portfolios

Electronic portfolios are becoming increasingly popular as institutions worldwide adopt and utilize them (Payne *et al.*, 2020). Due to the nature and diverse usages, there seems to be no standard definition of e-portfolios (Händel *et al.*, 2020). Carter (2021) defined ePortfolio as a collection of evidence gathered to show a person's learning journey over time and demonstrate his/her abilities to peers, instructors, and a wider community. Bilki and Irgin (2022) described ePortfolios as an expression of learners' personal and professional identities. Sowers and Meyers (2021) argued that ePortfolios can be used to highlight professional and program standards apart from displaying evidence of skill mastery. In Roberts *et al.*,'s view (2016), ePortfolio can incorporate a variety of assessment submission formats, including the evidence of students' achievements against industry competency standards.

Artifacts included in ePortfolios can relate to students' demonstration of assessments, skills, competencies, learning journey transformation and reflection, personal and professional identity, learning engagement, and employability (Carter, 2021; Sowers & Meyers, 2021). Carter (2021) affirmed that while many types of evidence can be included in the ePortfolio collection, the most common ones include samples of writing, such as research and reflections, images and videos, and feedback from instructors, supervisors, mentors, and peers. Since ePortfolios are digital tools, students can use audios, images, texts, and videos to create a well-organized, visually appealing record to showcase their academic and professional knowledge, attributes, skills, and practical achievements. (Cloonan, 2022). Sowers and Meyers (2021) believed that athletics, campus service, clubs, community contributions, mentorship responsibilities, and service-learning activities are highly valuable artifacts. All these activities beyond academic assignments help contribute to a well-rounded educational experience for students (Sowers & Meyers, 2021).

Competency-based artifacts are invaluable to the student's marketability and strengthen the metacognitive processes when students describe the impact of the tasks they complete (Sowers & Meyers, 2021). Students appreciate the value of creating a quality portfolio that can be used to showcase their competency-based achievements to employers and

external industry accreditation (Chae& Lee, 2021; Sowers, & Meyers, 2021). A growing body of evidence supports using ePortfolios as a beneficial tool in linking student assessments with employability and external industry accreditation (Carter, 2021). Thus, higher education institutions are responsible for increasing their graduates' employability by ensuring they own the attributes, capabilities, knowledge, and skills employers require (Carter, 2021; Handel *et al.*, 2020).

ePortfolios became the 11th high-impact practice by the American Colleges and Universities and influenced the higher education landscape because of their power to transform learning (Payne *et al.*, 2020; Thibodeaux, 2020; Whitmore & Thacker, 2021). ePortfolios have drawn attention as a powerful tool to transform learning, particularly for disadvantaged students (Payne *et al.*, 2020). Transformational learning entails active engagement with the learning process and understanding of content that empowers students to build new concepts into their thinking (Thibodeaux, 2020). When used correctly, ePortfolios can promote deeper learning and self-reflection (Bilki & Irgin, 2022; Handel *et al.*, 2020; Payne *et al.*, 2020). To realize the value of ePortfolios, students must be able to make decisions about what should be included to achieve learning outcomes (Roberts *et al.*, 2016). When students choose how to exhibit their learning, they take ownership of the process and make the knowledge and skills their own (Sowers & Meyers, 2021). The active and authentic learning opportunities through the creation of ePortfolios give students control and ownership of their learning (Roberts *et al.*, 2016; Sowers & Meyers, 2021).

It is important to note that ePortfolios have a multifaceted nature means, including assessment, self-reflection, integrated learning, documentation and assessment of learning, counseling and career preparation, credential documentation and accreditation and career placement (Carter, 2021; Payne *et al.*, 2020; Roberts *et al.*, 2016). Literature has evidenced that ePortfolios' benefits include increasing students' reflective practices, helping students connect theory and practice, and improving their abilities to self-assess and become lifelong learners (Chae & Lee, 2021; Chye, 2021; Sowers & Meyers, 2021). Further, ePortfolios are viewed as a means to enhance graduates' marketability skills, career development, and professional identity (Bilki & Irgin, 2022; Thibodeaux, 2020).

Despite the fact that ePortfolios can transform learning and result in multiple benefits, there are three main barriers to implementing ePortfolios. First, there might be technical requirements for ePortfolio use (Carter, 2021). In

their research, Cordie *et al.,* (2019) and Fallowfield *et al.,* (2019) found that students who did not possess sufficient technical skills struggled with the ePortfolio technological development. Second, learning with e-portfolios might increase the cognitive load (Händel *et al.,* 2020; Lin *et al.,* 2013). In Lin *et al.,*'s (2013) study, findings revealed that e-portfolios raise the cognitive demands on students while navigating through the different components of the e-portfolio. Third, an individualized, student-driven ePortfolio could be time-consuming and viewed as an additional workload by students (Händel *et al.,* 2020; Payne *et al.,* 2020).

Research Questions
Course design or redesign quality is a key performance indicator for any higher education institution. It is critically important that we examine the effectiveness of this revised MHA course after it was implemented. By investigating the usefulness of the redesigned course, the following questions are raised:
1) What are the students' perceptions and experiences regarding various learning activities in this revised MHA course?
2) What improvements are needed for the future course revision?

RESEARCH METHODOLOGY
Participants and setting
Participants of this study were graduate students in the healthcare administration program (MHA) studying at the global campus of a large public university in the southwestern United States. The online course lasted six weeks in a fully online format. The study course was revised by incorporating various learning activities to ensure that students with different learning preferences felt comfortable with some learning activities and challenged by others. For instance, an ePortfolio was added to one of the weekly assignments as a part of the program's strategic planning. For the ePortfolio assignment in this revised course, students were expected to identify their leadership styles and upload their previous schoolwork as evidence of their competencies in healthcare administration according to the American College of Healthcare Executives (ACHE) Executive Competency model using five competency domains: communication and relationship; leadership; professionalism; knowledge of the healthcare environment; business skills and

knowledge (ACHE, 2022). A video presentation based on a real-world scenario was also added as an assignment to strengthen students' communication skills. Additionally, students had several opportunities to practice real-world scenarios in discussion boards.

Research Design
This study utilized a mixed-methods research design. The population of this study included MHA students who had enrolled in the revised course during the first 11 months of implementation. Multiple data sources were examined. Qualitative data sources included content analyses on the discussion boards and the evaluation of the classroom artifacts. The student survey consisted of a mix of closed-ended and open-ended questions. Survey items were designed to ascertain students' perceptions of various course learning activities. Measuring students' perceptions provided information about which learning activities of this revised course were successful from the students' points of view. Closed-ended questions used a five-point scale to indicate dis/agreement. Students who enrolled in this revised course were invited to participate in the survey on the last day of each class. Students were informed about the study and asked to sign the consent form. They were also provided with an opted-out option if they did not wish to participate. The questionnaire was anonymously managed to protect participants' privacy and confidentiality.

The data were exported from Qualtrics to IBM SPSS software to analyze the response frequencies for the closed questions. We utilized an inductive process of repeated reading and comparing responses to determine recurring themes for the responses to the text-input questions in the survey and journal. The content analysis was also performed on discussion boards to observe the quality of discussion posts. Various qualitative data sources were used to triangulate quantitative data.

RESULTS AND DISCUSSIONS
A total of 33 students responded to the surveys, which resulted in 19%. The first research question was formulated to understand the students' perceptions of various components in this revised course. Table 1 exhibits 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 various aspects of managed care and contractual services.	33	87.9
The Provider Contracts Presentation helped me polish my PP Presentation and oral presentation skills.	33	84.8

Survey Item	N	% of Agree + Strongly Agree
The Final Paper Prep helped me get started on my research and development of the final paper.	33	90.9
e-Portfolio helped me think critically about how my learning in the MHA program has prepared me as a future health care administrator.	33	75.7
The World of Medicare certificate helped me expand my knowledge in Medicare.	32	90.8
This course increased my knowledge of the health care industry.	33	97.0
The instructions for learning activities were clear.	33	81.81

The survey item, 'this course increased my knowledge in healthcare,' received the highest score. About 97% of surveyed students either agreed or strongly agreed with this statement. Although most of our students are middle-aged frontline healthcare professionals, they learned a lot from this course because the course material was full of practical knowledge. One student commented, "*I have worked in healthcare for over 15 years and I still learned a lot from this course.*" Similarly, another student stated, "*I work in a small part of the industry. The course helped me realize what my role plays in healthcare on a greater scale.*"

The Final Paper Prep received the second highest score at 90.9%. Students appreciated the opportunity to work ahead for their final paper. Here are some examples of students' feedback. *"It helped keep me on track."* "*This assignment helped me get a head start on my final paper.*" *"I was able to create the outline with the research already in hand, this helped me identify gaps in my research."*

The top third ranking was related to the World of Medicare certificate. Approximately 90.8% of students voiced positive opinions about the value of getting the certificate. This certification not only helped students learn better in this course but also prepared them for dealing with real-world issues. Here are some examples of students' comments. "*This was one of my favorite assignments for the class, and something that I feel it's more than necessary for professionals working in healthcare to know.*" "*Prior to the course, my knowledge of Medicare was minimal at best. I have such a better solid understanding from this certificate.*" "*I enjoyed the courses on Medicare and learned a lot about it. I can use this information to help my mother and others with Medicare better understand the benefits.*" "*Fantastic learning activity! A useful resource that we can use in the future.*"

Among all survey items, the ePortfolio assignment obtained the lowest score. Only 75.7% of surveyed students felt that the ePortfolio helped them think critically about how their learning in the MHA program has prepared them as future healthcare administrators. There was no negative comment towards the ePortfolio learning activity. One student said, "*Still learning about ePortfolio as*

this has not been something I am familiar with." Some students said they would not use ePortfolio to enhance their employability or marketability because they would not seek a job opportunity at another employer. Many students had a positive attitude toward ePortfolio and felt it was beneficial. Positive comments include, "*I didn't realize how much I brought to the table until I started adding everything to my ePortfolio.*" "*It made me think critically about the work I wanted to share even if that work was not my best.*" "*e-Portfolio was a great way to get me to start collecting all the information I learned thus far and put together a professional profile for myself.*" "*ePortfolio is beneficial and provides a real-life application of why students are attending classes.*"

ePortfolio has been strategically implemented in three courses of the MHA program. By design, this course is the 2nd course that students build their ePortfolio by adding more artifacts to demonstrate their skills, knowledge, and competencies in healthcare administration. Previously, we evaluated the students' perceptions about the ePortfolio assignment in the first course of integrating ePortfolio. The research findings from the first course showed that 60% of students felt that ePortfolio helped them start organizing the evidence of their accomplishments (Lu & Gustavus, 2023). However, in the current study, the survey question regarding ePortfolio gained the lowest score among all survey items at 75.7%, a 15.7 percent point increase from the first course of integrating ePortfolio. This finding unveils that students have increased their familiarity with the ePortfolio platform and realized the usefulness of ePortfolio.

The second research question was formulated to investigate whether future course revision needs improvements. This revised course includes multiple assessment measures, allowing students to demonstrate their learning in more than one way and considering individual learning styles. The quiz, discussion boards, video presentation, ePortfolio, certificate, journal writing, written assignments, and reading materials are incorporated to help students realize managed care's contributions to the U.S. healthcare delivery system—especially in cost and quality. When asked to name one assessment they liked the least, countless students

did not identify one because they were thankful for various opportunities to practice and demonstrate learning with different assessment formats available. Many students also articulated that even though they have worked in the healthcare industry for more than a decade, this course has helped them build a better foundation for their knowledge, and they liked all assessments in this course.

We reviewed every student's reflection assignment submitted to the classroom. We discovered the top three favorite assessments, The World of Medicare certificate, the Provider Contracts presentation, and ePortfolio, among all assessments in this revised course. On the other hand, the three least favored assessments were the quiz, the Provider Contracts presentation, and ePortfolio. ePortfolio activity was ranked as the top-third favored and the top-third least favored. Several students stated that they are not very computer savvy and feel that building an ePortfolio is daunting, consistent with the findings from Cordie *et al.*,'s (2019) and Fallowfield *et al.*,'s (2019) studies. Other students felt it is time-consuming and difficult to put each assignment into only one competency from the ACHE list, which also supports prior research studies by Lin *et al.*, (2013) and Händel *et al.*, (2020) that e-portfolios increase the cognitive demands on students and become an additional workload to students. Those students who saw the value of building an ePortfolio liked the ePortfolio activity. In contrast, students disliked this activity due to technical capability, cognitive load, time management, and other barriers.

Similarly, the Provider Contracts presentation was ranked as the top-second favored assessment and the top-second least favored assessment. Students liked to utilize healthcare administration disciplinary methodologies, frameworks, and terminology to address a real-world scenario. However, many students disliked this assignment for three main reasons. First, public speaking was not their strength. Second, some students lacked the skills to build a PowerPoint presentation. Third, they experienced technical issues using the screen-capture software. These three reasons could explain why students did not rate this survey item, 'The Provider Contracts Presentation helped me polish my PP Presentation and oral presentation skills', high in the student survey. Communication is one of the critical leadership competencies conveyed in the ACHE Executive Competency model. There is a need to incorporate more video presentations into other MHA programs, which allows students to feel comfortable creating a PowerPoint presentation, recording a video presentation, and practicing public speaking skills.

In the student survey, we did not include the question regarding the quiz. Nevertheless, many students commented that the quiz was the least enjoyable assessment. One student specifically remarked, *"The quiz was overly strict because it did not let me think critically about or analyze the course material. Moreover, the quiz was too narrow in scope, so we didn't get the chance to dig deeper into the subject matter. The quiz did not allow us to interact with one another or exchange ideas."* Quizzes are not a standard assessment in our program. This studied course is the first course in the program in which students must take a quiz. For future course revision, incorporating more quizzes in other MHA courses could be the solution to boosting students' acceptance of quizzes.

Limitations and Future Research

Although the results uncovered positive outcomes of the course redesign, this study was also characterized by several limitations that must be acknowledged. The first and foremost limitation is that the study was carried out in an academic program at a university. The findings cannot be generalized to other programs at the same institution or other institutions. The second limitation is reflected on its design. The student survey is self-reported. Response bias in self-rating is a concern in research studies. Many of our students are healthcare professionals. We conducted this study during the COVID-19 pandemic. Our students experienced more challenges than other professionals. The pandemic affected their learning and their objective evaluation of this course. As expected, the response rate from the student survey was low, which is the third limitation. A low response rate could have potential biases since more than 80% of students did not express their thoughts in relation to this redesigned course. Therefore, another research study should be conducted after the COVID-19 pandemic to confirm the results generated from this study.

CONCLUSION

The primary purpose of this study was to assess the effectiveness of a course redesign incorporated with various active learning approaches. The findings disclosed that our students not only gained substantive knowledge of managed care from this course but also applied the learned knowledge to their workplace. They enjoyed a variety of assessments offered in this course. Implementing an ePortfolio is a strategic planning in our program. Even though some students did not see the benefits brought by ePortfolio, the quantitative and qualitative data in this study confirm that ePortfolio, as a pedagogical and professional tool, should allow curricular activities to scaffold student learning experience over time to develop learners' professional identities (Kuh & Kinzie, 2018). An

ePortfolio becomes valuable when students build their ePortfolio and form their professional identity by considering points of view from employers' and various stakeholders' perspectives.

Conflict of Interest: There is no conflict of interest involved with any parties in this research.

REFERENCES

- American College of Healthcare Executives. (2022). *ACHE healthcare executive competencies assessment tool*. https://www.ache.org/-/media/ache/career-resource-center/cat-2022.pdf
- Bilki, Z.m & Irgin, P. (2022). The use of ePortfolios within pre-service language teacher education: An exemplary implementation. *International Online Journal of Education and Teaching (IOJET), 10*(1). 288-307.
- Carter, S. (2021). ePortfolios as a platform for evidencing employability and building professional identity: A literature review. *International Journal of Work - Integrated Learning, 22*(4), 463-474.
- Chae, S. J., & Lee, Y. W. (2021). Exploring the strategies for successfully building e-portfolios in medical schools. *Korean Journal of Medical Education, 33*(2), 133-137. https://doi.org/10.3946/kjme.2021.188
- Chye, S. Y. L. (2021). Towards a framework for integrating digital portfolios into teacher education. *TechTrends: Linking Research & Practice to Improve Learning, 65*(5), 818-830. https://doi.org/10.1007/s11528-021-00646-0
- Cloonan, L. (2022). A critical evaluation of the integration of a universal design for learning approach into a module using an ePortfolio: A student perspective. *The All Ireland Journal of Teaching & Learning in Higher Education, 14*(3), 1-27.
- Cordie, L., Sailors, J., Barlow, B., & Kush, J. S. (2019). Constructing a professional identity: Connecting college and career through ePortfolios. *International Journal of ePortfolio, 9*(1), 17-27.
- Das, A. K., Nguyen, Q. Y., Nguyen, A. T., Nomikoudis, M., & Van, D. H. (2019). Course redesign to incorporate flipped delivery: A business degree case in Vietnam. *Issues in Educational Research, 29*(2), 363–383. http://www.iier.org.au/iier29/das.pdf
- Fallowfield, S. M., Urtel, M., Swinford, R., Angermeier, L., & Plopper, A. S. (2019). A case study in ePortfolio implementation: A department-wide perspective. *International Journal of ePortfolio, 9*(2), 111-118.
- Goria, C., & Konstantinidis, A. (2023). A Participatory pedagogical model for online distance Learning: Ideation and implementation. *Turkish Online Journal of Distance Education*, 24(1), 145-161.
- Händel, M., Wimmer, B., & Ziegler, A. (2020). E-portfolio use and its effects on exam performance-A field study. *Studies in Higher Education, 45*(2), 258-270. https://doi.org/10.1080/03075079.2018.1510388
- Howell, R. A. (2021). Engaging students in education for sustainable development: The benefits of active learning, reflective practices and flipped classroom pedagogies. *Journal of Cleaner Production*, *325*, 129318–. https://doi.org/10.1016/j.jclepro.2021.129318
- Kim, M., & Choi, S. (2022). The effect of the delivery format on teaching presence, learning presence, and learning outcomes in distance learning of nursing students: Synchronous versus asynchronous learning. *Journal of Korean Academy of Community Health Nursing, 33*(3), 312-320. https://doi.org/10.12799/jkachn.2022.33.3.312
- Krsmanovic, M. (2021) Course redesign: Implementing project-based learning to improve students' self-efficacy. *Journal of the Scholarship of Teaching & Learning*, 21(2), 93-106. https://doi.org/10.14434/josotl.v21i2.28723
- Kuh, G. D., & Kinzie, J. (2018). *What really makes a "high-impact" practice high impact?* Inside Higher Ed. https://www.insidehighered.com/views/2018/05/01/kuh-and-kinzie-respond-essay-questioning-high-impact-practices-opinion
- Lin, C., Yang, S., & Lai, C. (2013). Support as a mediator of the impact of cognitive load on students' e-Portfolio learning outcomes. *Social Behavior and Personality: An International Journal*, *41*(1), 17–30. https://doi.org/10.2224/sbp.2013.41.1.17
- Lu, H. (2017). How can effective online interactions be cultivated? *Journal of Modern Education Review,* 7(8), 557-567. https://doi.org/10.15341/jmer(2155-7993)/08.07.2017/003
- Lu, H. S., & Gustavus, B. V. (2023). Implementing collaborative project and ePortfolio in an online graduate course: A case study. *International Journal of Social Science and Human Research, 6*(4), 2475-2481. https://doi.org/10.47191/ijsshr/v6-i4-62
- Martin, F. & Bolliger, D. U. (2018). Engagement matters: Student perceptions on the importance of engagement strategies in the online learning environment. *Online Learning*, *22*(1), 205-222. https://doi.org/10.24059/olj.v22i1.1092
- McDonald, P. L., Harwood, K. J., Butler, J. T., Schlumpf, K. S., Eschmann, C. W., & Drago, D. (2018). Design for success: Identifying a process for transitioning to an intensive online course delivery model in health professions education. *Medical Education Online, 23*(1), 1415617. https://doi.org/10.1080/10872981.2017.1415617

- McLaughlin, J. E., Roth, M. T., Glatt, D. M., Gharkholonarehe, N., Davidson, C. A., Griffin, L. M., Esserman, D. A., & Mumper, R. J. (2014). The flipped classroom: A course redesign to foster learning and engagement in a health professions school. *Academic Medicine, 89*(2), 236-243.
- Moodley, K., van Wyk, M., Robberts, A., & Wolff, E. (2022). Exploring the education experience in online learning. *International Journal of Education and Development using Information and Communication Technology*, *18*(1), 146-163.
- Payne, B. K., Paredes, T., & Cross, B. (2020). Student perceptions about the production of electronic portfolios: Technology, process, and showcase insights. *Education, 141*(2), 67-78.
- Rivera-Vargas, P., Anderson, T., & Cano, C. A. (2021). Exploring students' learning experience in online education: analysis and improvement proposals based on the case of a Spanish open learning university. *Education Technology Research Development*, 69, 3367–3389. https://doi.org/10.1007/s11423-021-10045-0
- Roberts, P., Maor, D., & Herrington, J. (2016). Eportoflio-based learning environments: Recommendations for effective scaffolding of reflective thinking in higher education. *Educational Technology & Society, 19*(4), 22.
- Robles, H., Jimeno, M., Villalba, K., Mardini, I., Viloria-Nuñez, C., & Florian, W. (2023). Design of a micro-learning framework and mobile application using design-based research. *PeerJ. Computer Science*, *9*, e1223–e1223. https://doi.org/10.7717/PEERJ-CS.1223
- Roman, T. A., Callison, M., Myers, R. D., & Berry, A. H. (2020). Facilitating authentic learning experiences in distance education: Embedding research-based practices into an online peer feedback tool. *TechTrends: Linking Research & Practice to Improve Learning, 64*(4), 591-605. https://doi.org/10.1007/s11528-020-00496-2
- Smith, S. B., & Kennedy, S. (2020). Authentic teaching to promote active learning: Redesign of an online RN to BSN evidence-based practice nursing course. *Journal of Professional Nursing*, *36*(2), 56–61. https://doi.org/10.1016/j.profnurs.2019.07.005
- Sowers, K. L., & Meyers, S. (2021). Integrating essential learning outcomes and electronic portfolios: Recommendations for assessment of student growth, course objectives, program outcomes, and accreditation standards. *New Directions for Teaching & Learning, 2021*(166), 43-57. https://doi.org/10.1002/tl.20451
- Sugden, N., Brunton, R., MacDonald, J. B., Yeo, M., & Hicks, B. (2021). Evaluating student engagement and deep learning in interactive online psychology learning activities. *Australasian Journal of Educational Technology*, *37*(2), 45–65. https://doi-org.coloradotech.idm.oclc.org/10.14742/ajet.6632
- Thibodeaux, T., Harapnuik, D., Cummings, C., & Dolce, J. (2020). Graduate students' perceptions of factors that contribute to ePortfolios persistence beyond the program of study. *International Journal of ePortfolio*, *10*(1), 19-32.
- Vaughan, N. D. (2010). A blended community of inquiry approach: Linking student engagement and course redesign. *Internet and Higher Education, 13*(1), 60–65.
- West, L., & Halvorson, D. (2021). Student engagement and deep learning in the first-year international relations classroom: Simulating a UN security council debate on the Syrian crisis. *Journal of Political Science Education*, *17*(2), 173–190. https://doi-org.coloradotech.idm.oclc.org/10.1080/15512169.2019.1616298
- Whitmore, C., & Thacker, S. (2021). Using ePortfolio for team-based transformational learning experiences in a health education course. *International Journal of ePortfolio, 11*(1), 1-9.
- Wilson, D. A., Dondlinger, M. J., Parsons, J. L., & Niu, X. (2018). Exploratory analysis of a blended-learning course redesign for developmental writers. *Community College Journal of Research and Practice, 42*(1), 32-48. https://doi.org/10.1080/10668926.2016.1264898
- Wolverton, C. C., Guidry Hollier, B. N. & Lanier, P. A. (2020). The impact of computer self efficacy on student engagement and group satisfaction in online business courses. *Electronic Journal of e-Learning*, *18*(2) 175-188.
- Wolverton, C. C., & Guidry Hollier, B. N. (2022). Guidelines for incorporating active learning into the design of online management courses utilizing the Successive Approximation Model (SAM). *International Journal of Education and Development using Information and Communication Technology*, *18*(1), 264-274.