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A N N U A L

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AI Dreams vs Reality

Patricia L. Angulo
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Abstract

This article will focus on how educators and instructional designers can best stretch the AI their organizations have available to them and be as creative as they can be, given the AI tools within their technology perimeters.

Introduction:

As the educational landscape evolves, it is imperative to use AI integration in university teaching and corporate training to enhance learning experiences for students. Through adaptive learning platforms and intelligent tutoring systems, AI can generate personalized learning pathways that cater to individual students' needs, abilities, and learning styles. AI-driven educational content and simulations can give rise to immersive and captivating learning environments, fostering critical thinking, problem-solving skills, and creativity. Also, AI-powered analytics enable educators to identify areas where students may encounter difficulties and facilitate targeted interventions and personalized feedback. The challenges educators face in adopting AI also impact the prospective opportunities for collaboration and innovation across the organization (Al-Zahrani, 2024).

For the purpose of this article, the definition of artificial intelligence (AI) is the theory and development of computer systems capable of performing tasks that historically required human intelligence, such as recognizing speech, making decisions, and identifying patterns (Retrieved from https://www.hcltech.com on 3/14/24).

AI tools instructional designers dream of using:

There are many AI tools available to choose from and they continue to grow, so the focus will be on the top three that instructional designers might like to creatively experiment with to make their courses/trainings more dynamic and practical for learners. These tools may not be available at every educational organization.

- Dream AI tools:
    - *Tool 1:* Holograms and hologram-like technology
    - *Tool 2:* AI Chatbots
    - *Tool 3:* Intelligent tutoring systems (ITS)
- Ways to use those dream AI tools:
    - *Tool 1 use:* 3D holograms can provide an effective means to visualize abstract ideas and translate them into tangible learning experience. An example of how to use them is in a physics course. Students can visualize complex molecular structures, and in mathematics, they can grasp geometry through interactive holographic models. (Retrieved from https://www.linkedin.com/pulse/3d-holograms-education-transformation-learning on 4/14/24)

    - *Tool 2 use:* AI Chatbots provide valuable homework/study assistance by offering feedback on assignments, guiding students through complex problems, and providing step-by-step solutions. (Retrieved from https://educationaltechnologyjournal.springeropen.com on 4/14/24).

    - *Tool 3 use:* An intelligent tutoring system aims to provide immediate and customized instruction or feedback to the learners without human intervention. Looking a little bit deeper, the ITS has its roots in expert systems, an Artificial Intelligence-based system capable of making "expert" decisions based on

processing the data accumulated using a set of rules. The ideal ITS would replicate the decision-making ability of a human expert in the field, and provide the ultimate tutoring experience to the learner, adapting to the learner knowledge during the tutoring process (Retrieved from https://elearningindustry.com/intelligent-tutoring-systems-augmented-reality on 3/14/24)

AI tools generally available for your use:

Different technologies have been developed to facilitate students' learning and build an environment where teachers can teach more efficiently (Nagao, 2019). The following AI tools are usually available at organizations for educators and instructional designers:

- Available tools
  - ChatGPT
  - Intelligent Tutoring Systems
  - Learning Analytics

- Ways you can use the available tools:
  - *ChatGPT* can be used to help with brainstorming, research, and idea generation. It can also guide an essay's content, suggest alternative approaches, and offer examples to help clarify points. It's grammar checkers serve different purposes and have different strengths when checking an academic essay (Retrieved from https://er.educause.edu on 3/14/24); (Bozkurt, A., Junhong, X., Lambert, S., Pazurek, A., Crompton, H., Koseoglu, S., Farrow, R., Bond, M., Nerantzi, C., Honeychurch, S., Bali, M., Dron, J., Mir, K., Stewart, B., Costello, E., Mason, J., Stracke, C. M., & Romero- Hall, E. (2023).
  - *Intelligent tutoring systems* save educators a lot of time on creating detailed, customized tutorials for learners. (Hamal, O.; El Faddouli, N.-E.; Harouni, M.H.A.; Lu, J.).
  - *Learning analytics* helps universities with improving administrative processes and enhancing the learner journey in and out of the classroom (in-person and virtual). Learning analytics can be used in the measurement, collection, analysis, and communication of data about learners and their contexts for understanding and optimizing purposes, learning and the environments in which it going on (Retrieved from https://www.infosysbpm.com on 3/14/24); (Hamal, O.; El Faddouli, N.-E.; Harouni, M.H.A.; Lu, J.).

Making the most of the benefits of the AI tools you have:

AI offers opportunities for university educators to alleviate administrative burdens and devote additional time to creative and engaging teaching methods. By leveraging AI-driven technologies such as automated grading systems and data analytics tools, university educators can streamline time-consuming tasks, allowing them to prioritize instructional design, individualized instruction, and personalized feedback (Al-Zahrani, 2024). The AI tools available at your organizations can benefit learning and development in several ways. Some general benefits of them are:

- *Generate Content:* AI can save time when trying to create content. What used to take months to complete can be reduced to days.
- *Personalize the Learner Experience:* AI can help tailor learning for individual needs, improving upon traditional models that assign learning paths based on job roles. AI can understand the details of content and use that information to personalize the learning experience.
- *Identify and Develop Skills:* AI can help identify skills within content and infer the skills of individuals. This aids in delivering the right training and determining its effectiveness.
- *Replace Training with Knowledge Tools:* AI can create intelligent chatbots that provide information and solve problems, potentially eliminating the need for certain types of training. This approach is more efficient and effective because it provides individuals with the information they need when they need it. (source)

More benefits of using available AI:

On the teaching side, professors and educators are beginning to use artificial intelligence tools to:

- Generate content
- Write code
- Resolve accessibility issues
- Reconfigure writing processes
- Detect plagiarism (Retrieved from https://www.bridgeport.edu on 3/14/24)

On the research side:

Higher education institutions are using artificial intelligence in research by using tools to sort through large sets and amounts of data to identify patterns, build models, recommend relevant articles, and prepare manuscripts for publication. Through this process, teachers and education administrators are equipped to make better decisions with their lesson planning, assessment, and professional development. (Retrieved from https://www.bridgeport.edu on 3/14/24)

On the student experience side:

Artificial intelligence is opening the door for more inclusion, access, and support for students, professors, and administers in higher education through:

- Rapid data analysis
- Smarter and more helpful virtual chatbots and assistants
- Identifying and preventing plagiarism and fraud (Retrieved from https://www.bridgeport.edu on 3/14/24)

Recommendations:

When making the most of the AI we currently have, it is crucial to acknowledge and act on the following:

- Embrace AI for all the good it can do to enhance student learning and do not to fear it.
- Talk about the impact of artificial intelligence on administrative, teaching, and research practices at your institution. Be proactive and transparent about the issues surrounding data collection and ownership, intellectual property, security, and rights and privacy.
- Use artificial intelligence at your institution for good to benefit faculty and students by paying attention to the tools students use most, monitoring and examining the tools for maximum efficiency and effectiveness and obtaining feedback and input of concerns and what users what to see from these tools.

- Understand that artificial intelligence isn't going away, and every industry, including higher education, should work to embrace and use the tools to make their lives better.

Conclusion

AI has been used in education in different ways. AI initially used computer-related technologies, then transitioned to web-based and online intelligent education systems, and ultimately with the use of embedded computer systems. It continues to evolve and provides many dynamic and practical options/tools for educators and instructional designers at a wide variety of organizations (Chen *et al.*, 2020a).

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A Marketing Outlook for Distance Learning: Marketing Strategies to Increase Enrollment, Retention and Graduation Rates

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Abstract

Demand for a flexible learning environment is on the rise. Many scholars, traditional and nontraditional, desire online learning options. I will discuss how implementing effective marketing strategies for distance learning and programs may help institutions meet students' needs while increasing enrollment, retention, and graduation rates, and serve underrepresented demographics.

What is Distance Learning

The National Center for Education Statistics defines distance learning as "education that uses one or more types of technology to deliver instruction to students who are separated from the instructor and to support regular and substantive interaction between the students and the instructor synchronously or asynchronously (NCES, 2024)." The demand for online course delivery skyrocketed since the COVID-19 pandemic. Since 2022, nearly 55% of all college students have taken some or all college courses online (Hanover Research, 2024).

Why Distance Learning?

According to Ghasempour et al., 2024, many factors contribute to a student's academic success. One of the success factors is a student's learning environment which includes social and cultural systems. The learning environment also includes physical and virtual components that impact students' educational experiences. Students who participate in a distance learning environment see a positive impact on their academic success. Other factors such as increased well-being social, emotional and self-esteem. Additionally, distance learning provides a platform for students to improve upon their academic statuses (Ghasempour et al., 2024).

Students from different demographic backgrounds may need alternative learning environments. The term nontraditional student most often refers to any student who does not fit the typical 18-year-old, first-time college student. The National Center for Education Statistics (2024) defines a nontraditional as a student who did not receive a standard high school diploma, but may have earned a General Education Diploma, (GED), a student who is independent of their parents, works, or has dependents. Distance learning options may be attractive to nontraditional students by providing pathways to degree completion for this demographic group.

Higher education institutions now experience a more diverse student population than ever before. Just as students may show diversity in race, ethnicity, religion, and socioeconomic status, their educational needs are just as diverse. Petroniz and Petroniz (2020) suggest that a blended approach, combining face-to-face, synchronous, and asynchronous options, is more suitable for today's students.

Distance Learning Recruitment and Marketing Strategies

Recruitment Strategy

As a recruiter, it is important to know your target audience. Knowing your target audience means that you are familiar with your customers' needs. Recruiters must be able to match the customer, in this case the potential student, with the program that best meets the students' needs. Not only does this mean matching a student with the major that fits their career goals, but this also means matching students with the proper modalities that best fit their desired learning environment.

Marketing Strategy I-Survey Your Student Population

Capture students' needs at the beginning of the interest and/or application process. Marketing and recruiting staff should use their institution's customer relationship management software, or CRM, to capture this data. Many CRM options are available such as Salesforce, TargetX, and Ellucian CRM, or Banner.

Marketing Strategy II-Manage the Relationship

The CRM tools mentioned above are great starting points; however, it is important to manage the customer relationship through the end of the product life cycle. In terms of higher education, this means from start to finish. In other words, we want to monitor the relationship from application to graduation. Students' needs may change due to changes in employment, financial status, health, transportation, family conditions, and other factors. These changes may also cause a shift in students' learning environment. Therefore, when an interruption in students' daily lives occurs, distance learning may help students prevent a disruption in their learning process. Maintaining a relationship through various CRMs may help colleges and universities experience higher retention and graduation rates.

Marketing Strategy III-Deliver the Demand

Find out what your students want and design those programs. Once you design those programs, be sure to include program-specific information in your marketing and branding materials. Higher education marketing professionals should include the method of course delivery in the institution's communications. These communications should also include information on which programs and courses are available in person, synchronously, and asynchronously. Students want a variety of options. It is important to highlight distance learning options in marketing materials.

Marketing Strategy IV-Debunk the Myth

Before the COVID-19 Pandemic, many students and higher education professionals alike believed that online learning was inferior to face-to-face instruction (Rapanta et al., 2021). This is quite the contrary. Providing distance learning options adds value to students' educational experience. Institutions must be able to communicate the added value to current and potential students. Providing students with information on distance learning options can enhance students' learning experience and increase overall student satisfaction. Marketing strategies that show the overall positive impact of distance learning may help debunk the myth that distance learning is not as effective as face-to-face instruction.

Conclusion

Distance learning is a modality that post-secondary students and higher education professionals may not have held to high regard in the past. Since the COVID-19 pandemic, students and educators on all levels encountered a forced paradigm shift that accelerated the need and acceptance of distance and online learning. The online modality, whether synchronous or asynchronous, has grown in demand. Options for online instruction and distance learning may help institutions increase enrollment, diversity, graduation rates, and retention in underserved populations.

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Using Q Methodology to Enhance Online Learning in a Leadership Class

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Abstract

This study examines the use of Q methodology in an online doctoral class to enhance understanding of leadership attributes in community college contexts. Students in a Zoom classroom sorted 54 leadership attributes using a forced distribution grid, fostering interactive learning and critical analysis. The data collected was analyzed to form factor groups, enabling students to engage in practical leadership case studies and revise their responses for inclusivity. This approach highlights the effectiveness of Q methodology in online higher education, demonstrating its capacity to promote active learning, critical thinking, and reflective analysis. The research underscores the potential of digital platforms in developing future leaders and contributes to educational leadership by showcasing innovative teaching practices suitable for diverse learning environments.

Keywords: Problem-based learning, Q methodology, Online Education, Future Leaders Using Data for Practice, Workforce Development in the Classroom

Introduction

I used Q methodology (see the work of Stephenson, 1935a, 1935b, 1936) to enhance learning in an online leadership class, part of an online Ph.D. program in community college leadership. Students first sorted leadership attributes, which were then analyzed. In the next class, they were divided into small groups based on the analyzed factor groups by similar leadership viewpoints (see the work of Brown, 1993) and wrote a response to a case study. We ended with a discussion on how to write narratives as a leader to ensure all perspectives are captured, and students were permitted to revise their response draft.

Theoretical Framework

In this study, the theoretical framework primarily aligns with Q methodology, which facilitates the exploration of subjective viewpoints and individual perspectives, offering insights into leadership attributes in community college contexts. While not centered on problem-based learning (PBL), elements of PBL are incorporated as students engage in active learning, self-directed reflection, and real-world application through the sorting of leadership attributes and practical leadership case studies. Incorporating principles of problem-based learning (PBL), this study introduces complex leadership challenges through practical leadership case studies, encouraging active engagement and critical thinking (Anggraeni, et al., 2023). It promotes self-directed learning as students revise responses for inclusivity and showcases elements of collaborative learning through interactive discussions. Furthermore, the study underscores real-world application by having students apply leadership attributes to practical scenarios, demonstrating how to apply these concepts in their own work practice beyond the classroom.

Linking Theory to Practice and Assessing Learning Outcomes

The study bridges educational theories and classroom practice, connecting concepts from leadership, online learning, and adult education with practical application. This linkage is supported by evidence from the research, demonstrating how theoretical principles can be effectively implemented in real-world teaching scenarios (Berndtsson, Dahlborg, & Pennbrant, 2020; Myran et al.). The effectiveness of teaching strategies is evaluated using data from the study. Assessments include analyzing students' understanding of leadership before and after the intervention, student reflections, outcomes of case study analyses, and students' ability to revise their responses to

capture all viewpoints. This evaluation helps to understand the impact of the applied teaching methods on student learning and comprehension.

Purpose and Research Objective

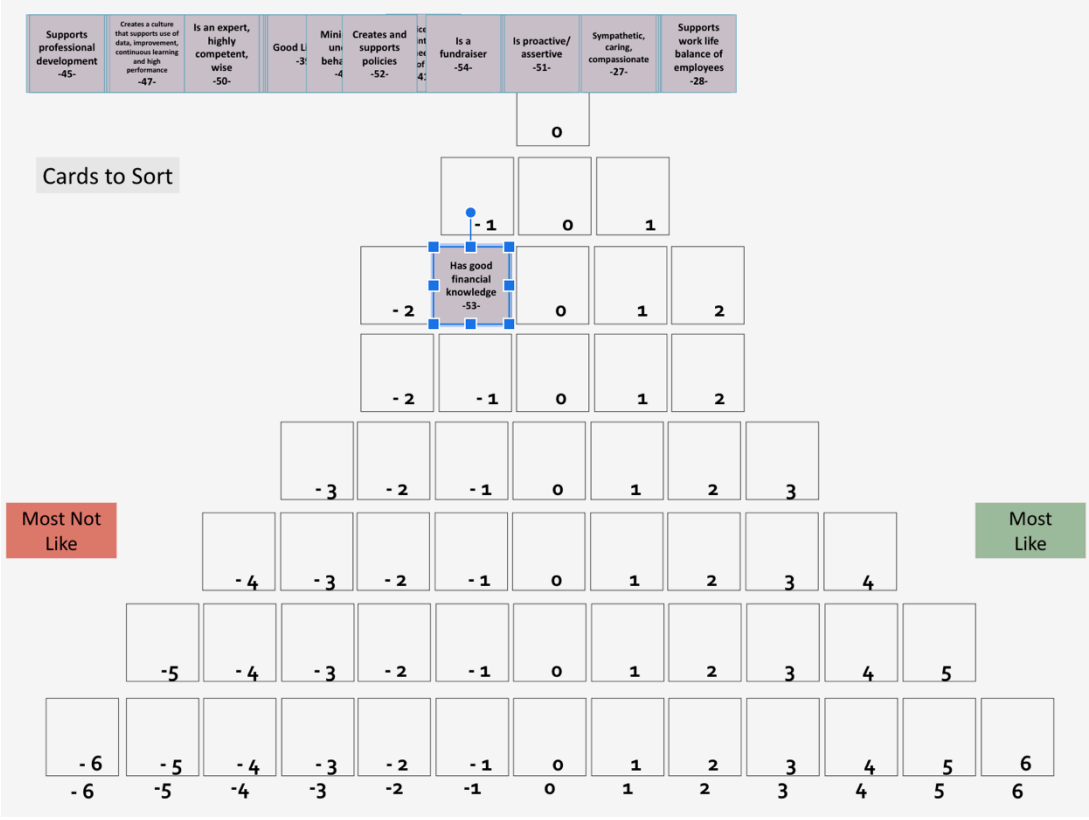
This study aims to explore the use of Q methodology as a pedagogical tool in an online doctoral class, specifically focusing on its role in deepening students' understanding of leadership within the context of community colleges. The study will provide insights into how digital platforms can be leveraged for interactive and reflective learning experiences by integrating this method into an online learning environment. Through analyzing students' sorting of leadership attributes and subsequent discussions, the study seeks to uncover the nuances of how emerging leaders perceive and prioritize different aspects of leadership. This exploration is particularly relevant in understanding the complexities and demands of leadership roles in community colleges. The overarching goal is to contribute to the field of educational leadership by highlighting problem-based teaching practices that can effectively prepare future leaders. Therefore, the research objective is to investigate how applying Q methodology in an online doctoral class enhances the understanding and application of diverse leadership attributes among future community college leaders.

Implementation of Q Methodology in an Online Classroom

In a Zoom-based online classroom, students engaged in a unique learning activity using Q methodology to explore leadership attributes. They were presented with a PowerPoint slide featuring a forced distribution grid and 54 leadership attribute cards. The exercise focused on identifying the most effective characteristics of a community college leader, aligning with their Ph.D. program's focus on community college leadership. As depicted in Figure 1 of the presentation below, the grid and cards facilitated the sorting process. The forced distribution is on the master slide so those boxes will stay put while students can drag the cards with the leadership attributes and place them on the grid.

Figure 1

Grid and Cards with Leadership Attributes



After sorting the attributes on the grid, students answered reflective questions from subsequent PowerPoint slides. These questions encouraged them to articulate their reasoning, asking them to identify and explain their choices for the most and least effective leadership attributes. This introspective exercise, illustrated in Figure 2 below, provided deeper insights into their perceptions and priorities regarding leadership qualities.

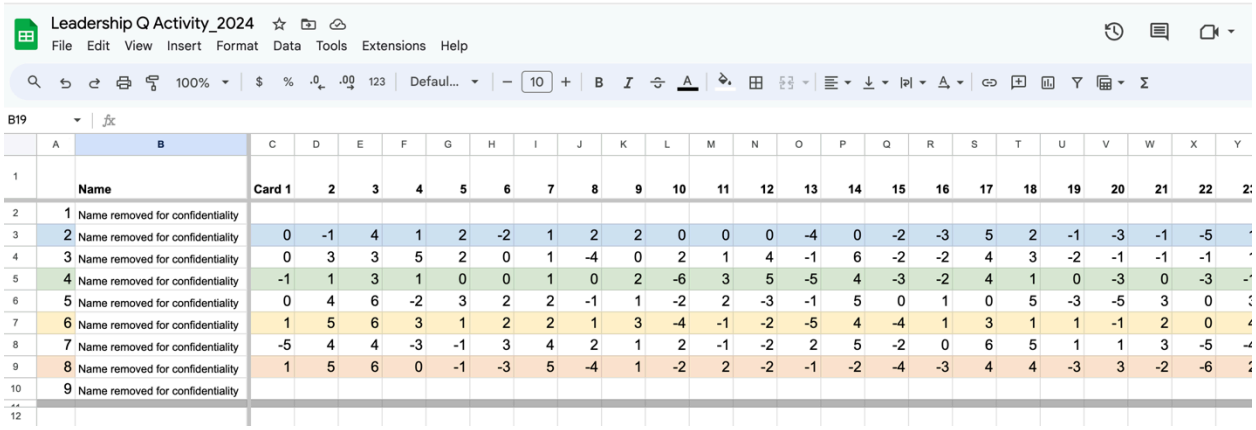
Figure 2

Full Visual of the PowerPoint Slides Students Completed

Students entered their sorted data into a shared Google Sheets form (shown in Figure 3 below), enabling the collection of all participants' responses in one accessible location.

Figure 3

Google Sheet with Student Responses



Leadership Q Activity_2024

File Edit View Insert Format Data Tools Extensions Help

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y
1		Name	Card 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
2	1	Name removed for confidentiality																							
3	2	Name removed for confidentiality	0	-1	4	1	2	-2	1	2	2	0	0	0	-4	0	-2	-3	5	2	-1	-3	-1	-5	1
4	3	Name removed for confidentiality	0	3	3	5	2	0	1	-4	0	2	1	4	-1	6	-2	-2	4	3	-2	-1	-1	-1	1
5	4	Name removed for confidentiality	-1	1	3	1	0	0	1	0	2	-6	3	5	-5	4	-3	-2	4	1	0	-3	0	-3	-1
6	5	Name removed for confidentiality	0	4	6	-2	3	2	2	-1	1	-2	2	-3	-1	5	0	1	0	5	-3	-5	3	0	3
7	6	Name removed for confidentiality	1	5	6	3	1	2	2	1	3	-4	-1	-2	-5	4	-4	1	3	1	1	-1	2	0	4
8	7	Name removed for confidentiality	-5	4	4	-3	-1	3	4	2	1	2	-1	-2	2	5	-2	0	6	5	1	1	3	-5	-4
9	8	Name removed for confidentiality	1	5	6	0	-1	-3	5	-4	1	-2	2	-2	-1	-2	-4	-3	4	4	-3	3	-2	-6	2
10	9	Name removed for confidentiality																							
11																									
12																									

This data was then analyzed using the KenQ Analysis Desktop Edition (KADE) to interpret the group's varied perspectives on leadership attributes (Banasick, 2019). Based on the data analysis, students were grouped into "factor groups," placing them with others with similar viewpoints. Within these groups, they could see their highest and lowest-rated statements, points of consensus, and distinguishing statements. Time was allotted for each group to creatively name their factor group, fostering a sense of identity and collaboration. As part of the learning process, the students, being PhD candidates, were given a detailed explanation of Q methodology. This included insights into how the statements were created and how the data was analyzed, providing them with an understanding of the methodology's application and relevance in research. After a break, students reconvened in Zoom breakout rooms to apply their understanding of leadership in solving a case study. Upon returning to the main room, each group shared their responses, leading to revelations and "light bulb" moments as they recognized how their answers reflected their factor group's perspective. Students were then returned to their breakout rooms to revise their case study responses to reflect all viewpoints. This is a vital skill for community college leaders to be able to articulate a message to groups with varying perspectives.

Recommendations for Implementing Q Methodology in Your Class

Implementing Q methodology in an online class setting can be an enriching and effective way to deepen students' understanding of complex topics. To ensure successful integration of this method, educators should first gain a thorough knowledge of Q methodology, potentially through training or workshops. This preparation includes selecting statements relevant to the subject matter and designing a user-friendly forced distribution grid suitable for an online platform. Choosing the right digital platforms, such as Zoom, PowerPoint, and Google Sheets, is essential, and educators should test these technologies beforehand to ensure smooth operation. Providing students with clear, step-by-step instructions, examples, or demonstrations can significantly aid their understanding and participation in the activity. Group discussions and breakout sessions should be encouraged to allow students to share and compare their sorting choices, fostering a collaborative learning environment. Following the sorting exercise, educators should analyze the data using appropriate tools such as KADE and debrief the students, discussing the results and their implications in the study context. Incorporating case studies or real-life scenarios where students can apply their newly gained insights encourages practical application and problem-solving. Furthermore, asking students to reflect on their learning experience and linking the activity to broader course objectives can enhance their understanding and appreciation of the subject matter. Collecting student feedback post-session is indispensable for refining the methodology for future use. By adhering to these guidelines, educators can effectively utilize Q methodology in their online classes, creating an engaging, reflective, and data-driven learning environment.

Application of Q Methodology Across Various Academic Disciplines

Q methodology is beneficial across diverse academic disciplines. In a psychology class, for example, Q could explore student attitudes towards mental health and therapeutic approaches. In education, a class could examine viewpoints around educational policies. Business and management classes could analyze leadership styles or employee engagement strategies, environmental studies students could benefit from exploring climate change opinions, political science students could dissect political ideologies or voter behavior, and many more… In each discipline, Q methodology enhances understanding and informs decision-making by providing a deeper insight into subjective viewpoints, enriching the learning experience, and offering valuable insights.

Conclusion

Applying Q methodology across various academic disciplines demonstrates its versatility and effectiveness as a pedagogical tool. By enabling an in-depth exploration of subjective viewpoints, educators and students have a unique platform for understanding complex topics from multiple perspectives. Whether diving into psychological perceptions, exploring political ideologies, assessing attitudes in health sciences, or understanding consumer behavior in marketing, Q methodology offers a valuable approach to enriching the educational experience. Its adaptability to different fields underscores its potential as a significant asset in modern academic and research environments, fostering a more nuanced and comprehensive understanding of diverse subjects and contributing to the development of critical thinking skills among learners.

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Exploring Distance Learners' Views on In-Person Summer Institutes

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Abstract

The week-long, in-person summer institute offers students a unique and enriching experience that greatly influences their educational journey. One of the key benefits is the opportunity for face-to-face interactions, which can be transformative in an era dominated by online learning. Students can engage in real-time discussions, forge meaningful connections with peers and instructors, and immerse themselves in a dynamic learning environment. However, this format also presents some challenges. The intense nature of the institute can be physically and mentally demanding, and students may struggle to balance it with their other commitments. Additionally, some students might face geographical or financial barriers that limit their participation. Despite these challenges, the impact of summer institutes is profound. They provide a chance for students to deepen their understanding of the subject matter, develop essential skills, and gain valuable insights from experts in the field. Moreover, the sense of camaraderie and networking opportunities can enhance their academic and professional development. This experience highlights the importance of integrating in-person components into predominantly online programs. It underscores the role of human connection in education, which can positively influence student motivation, engagement, and retention. Specifically, the Summer Institute program is for online doctoral students who often feel disconnected, especially through the dissertation process (Melián, Reyes, & Meneses, 2023). Many of the students are older working students who have been consistently successful in graduate level coursework, but may be fearful of the day when courses end and the more isolated dissertation process begins. In a broader context, it prompts a discussion about how online education can be enriched by blending digital resources with real-world interactions. As universities and institutions continue to adapt to evolving educational landscapes, the lessons learned from these summer institutes can inform more effective strategies for student support and engagement by distance learning administrators.
Keywords: Distance Student Engagement, Summer Institute, Thematic Analysis

Introduction

Online learning has democratized access to education, allowing learners from diverse backgrounds to access a wide range of courses and resources from anywhere in the world. However, despite the convenience and accessibility of online education, the importance of creating a sense of community and belonging cannot be overstated. In-person experiences can provide opportunities for direct interaction, hands-on activities, and social engagement, which are crucial for comprehensive learning and personal development. This study aims to explore the perceptions of a week-long, in-person summer institute, examining how such immersive experiences can impact the learning process in a Ph.D. program.

Methodology

A case study design guided the exploration of doctoral students' experiences in an online program attending a face-to-face summer institute. Yin (2018) champions this qualitative approach for its suitability in deeply investigating complex social phenomena within their real-life contexts. Researchers conducted structured interviews with participants post-institute to capture insights into their experiences and perceptions, thus enabling a comprehensive understanding of the impact that face-to-face interaction has in an otherwise online learning environment. Researchers applied thematic analysis to analyze the data, a method ideal for identifying, analyzing, and reporting data patterns, aligning well with case study research (Braun & Clarke, 2006). This method facilitated a rigorous and systematic analysis of the qualitative data, generating meaningful insights into the students' experiences. Throughout the research process, the team strictly adhered to ethical considerations, including obtaining IRB approval, securing informed consent, and ensuring confidentiality. The researchers' institution granted IRB approval before data collection began.

Setting Description

Summer Institute is a significant annual event for online doctoral students at a Research 1 southern state university and occurs over eight days in June and provides a blend of academic and social experiences. Summer Institute is held on campus so students are able to get to know the culture and feel part of the university community. Summer Institute has been offered for over 20 years and is anecdotally connected to the doctoral program's high completion rate. Students attend courses specific to their year in the program, including 'Foundations of Higher Education', 'Research Design and Analysis' for first-year students, and 'Seminar on the Modern Community College: Foundations, Philosophy, and Vision' and 'Program Evaluation in Education' for second-year students. The Institute also features guest scholars presenting on topics relevant to future leaders. Alongside academic sessions, students engage in various social and networking activities, including meals together and the invited DuBois Leadership Lecture, creating a comprehensive learning and community-building environment.

Participants

In this study, a census sampling strategy was utilized, inviting all first and second-year doctoral students in the online doctoral program who attended the Summer Institute to participate in interviews. This method ensured a comprehensive inclusion of the target population, aligning with the principles of census sampling where every member of a population is invited to participate (Etikan, Musa, & Alkassim, 2016). The study's sample comprised the first eight students who agreed to be interviewed, allowing for a manageable and representative subset of the broader group. This approach was intended to gather diverse insights and experiences from students involved in this specific academic context.

Data Collection

Data collection involved conducting face-to-face, structured interviews with the first eight doctoral students from the online doctoral program who agreed to participate. These interviews, lasting approximately one hour each, were held after the students attended the Summer Institute. The discussions focused on their experiences and perceptions of the program. All interviews were audio-recorded and subsequently transcribed verbatim for detailed analysis, providing a comprehensive understanding of the participants' experiences within the program and the impact of the Summer Institute. IRB approval was granted prior to the start of data collection.

Data Analysis

Data analysis followed Braun and Clarke's (2006) thematic analysis approach. Initially, transcripts from the interviews were read and re-read for familiarization. This was followed by generating initial codes from the data. These codes were then organized into potential themes, carefully reviewed and refined for coherence and consistency. The themes were then defined and named, capturing the essence of what each theme represented about the data. This process ensured a rigorous and systematic analysis of the qualitative data, enabling the emergence of meaningful insights about the doctoral students' experiences at the Summer Institute (Braun & Clarke, 2006). Additionally, codes and themes were provided to two leaders in the online program for review, to ensure accuracy and credibility of the results (Creswell & Miller, 2000).

Anticipated Findings

When submitting the full conference proceedings paper by the due date of March 15th, it's important to note that our data analysis will not be fully completed at that time. As a result, the paper will primarily include preliminary findings. However, we anticipate that the full analysis will be concluded in time for the conference in July, at which point we will present our final findings.

In our anticipated findings for student perceptions of the summer institute, we expect findings to fit within four overarching themes. The first theme, "Expectations and Experiences," will likely reveal contrasts between what participants initially envisioned and the realities they encountered, along with highlighting the most impactful aspects of their experience. The second theme, "Challenges and Adaptation," is expected to uncover the various logistical and in-person learning challenges faced by participants and their strategies for overcoming these obstacles. The third theme, "Personal, Academic, and Professional Growth," should provide insights into how the institute contributed to the participants' educational advancement, professional skill development, and personal evolution. Finally, the fourth theme, "Feedback and Program Integration," will focus on the participants' reflections on the institute's influence on their doctoral journey, the support and resources provided, and suggestions for improvement, thereby assessing the overall integration of the institute within their broader educational objectives. These themes collectively are anticipated to offer a comprehensive understanding of the dynamics and impacts of the summer institute.

Discussion

Upon the completion of our data analysis and the finalization of our findings, a comprehensive discussion section will be added to the study. This section will cover several critical aspects. Firstly, it will analyze how face-to-face interactions during the Summer Institute have influenced the educational experiences of the participating students. This includes examining the impact of direct communication and networking on their learning and development. Secondly, the role of such institutes in skill development, deepening subject matter understanding, and providing exposure to experts will be explored. This part of the discussion will assess the effectiveness of the Summer Institute in enhancing the overall educational quality and competency of the students. Thirdly, the balance between online and in-person components in education will be evaluated. This evaluation will offer insights into how blending these modalities can optimize learning outcomes. Finally, the discussion will address the broader implications for educational policy and practice, particularly for administrators of distance learning programs. This will include recommendations and strategic insights that could guide future initiatives and improvements in the structure and delivery of blended learning environments. This comprehensive discussion aims to contribute significantly to the ongoing discourse on the evolving nature of educational methodologies and their impact on student success in a digital age.

Conclusion

This study underscores the transformative power of face-to-face interactions, especially in an era where online learning predominates. Students benefit from real-time discussions, forge meaningful connections, and immerse themselves in a dynamic learning environment. Despite the challenges such as physical and mental demands, and potential geographical or financial barriers, the Institute's impact is profound. It deepens students' understanding, helps develop essential skills, and offers valuable insights from field experts. The sense of camaraderie and networking opportunities further enhance their academic and professional growth. This experience emphasizes the importance of integrating in-person components into online programs, highlighting the vital role of human connection in education. It contributes to student motivation, engagement, and retention, and opens a dialogue on enriching online education with real-world interactions. As educational landscapes evolve, insights from the Summer Institute can inform strategies for student support and engagement in distance learning, reinforcing the interplay between digital and in-person educational experiences.

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Appendix A: Interview Protocol

1. What were your initial expectations of the summer institute, especially considering its in-person format contrasting with the predominantly online nature of your program?
2. Could you share some specific experiences during the summer institute that were particularly impactful for you?
3. Were there any challenges you faced to attend the institute, considering its in-person format? How did you address these challenges?
4. Were there any challenges you faced during the institute, considering its in-person format? How did you address these challenges?
5. In what ways has participating in the summer institute benefited you academically?
6. In what ways has participating in the summer institute benefited you professionally?
7. In what ways has participating in the summer institute benefited you personally?
8. Can you describe any specific skills or knowledge you gained from the institute that you wouldn't have acquired through the online components of your program? (ok, if they can't answer)
9. How has the summer institute influenced your overall journey as a doctoral student? (second/third)

   How do you anticipate the SI will influence your overall journey as a doctoral student? (first)
10. What types of support or resources are most beneficial to students in relation to the summer institute?
11. Do you have any suggestions for improving future iterations of the summer institute or similar programs?

Supporting Contingent Faculty in Online Programs

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Abstract

Higher education has become reliant on contingent faculty. While this hyper-reliance seems to be the new norm, there is little research that speaks to the experiences of those who are both contingent and working in online programs. While some of their experiences may mirror those of contingent faculty who are working in non-online programs, there are also challenges that are unique to their online teaching status.

Introduction

Higher education has become reliant on contingent faculty with almost three-quarters of all current faculty positions now filled with contingent appointments (Colby, 2023). While this hyper-reliance on contingent faculty seems to be the new norm for higher education, there is little research that speaks to the experiences of those who are both contingent and working in online programs. This gap in the research matters because their needs may be very different than tenure-seeking faculty who are working in online programs. This scholarly work focuses on the contingent faculty experience in online environments and the challenges that they may be experiencing. While some of these experiences may mirror those of contingent faculty who are not working in online programs, there are also challenges that are unique to their online teaching status.

What Does it Mean to be Contingent?

The term *contingent* in relation to faculty roles holds a variety of interpretations depending on the institution. The AAUP (n.d.) has defined contingent faculty "as adjuncts, postdocs, TAs, non-tenure-track faculty, clinical faculty, part-timers, lecturers, instructors, or nonsenate faculty" (para. 1). The thread of commonality amongst the roles of these varying titles is that they "are insecure, unsupported positions with little job security and few protections for academic freedom" (AAUP, n.d., para. 1). For institutions of higher education, contingent faculty positions are often seen as a cost savings option; however, this may not always be the case when looking more holistically at total compensation costs for all employees and in particular, costs related to benefits (Hulburt & McGarrah, 2016; Jaschik, 2017).

Benefits and Challenges to the Contingency

Being a contingent role does have its perks for both the individual and the institution. There is a lot of flexibility in being a contingent faculty (Chapman, 2011). Individuals can pick and choose their availability to teach and are free to accept or decline teaching offers. Likewise, institutions benefit from the ability to fill teaching gaps with individuals who are experts in their fields, can be quickly hired without a full candidate search, and can also be quickly released from the position if the enrollments do not make (Halcrow & Olson, 2008; Mueller et al., 2013).

There are also challenges to the contingency. Individuals working in contingent positions have little, if any, onboarding to their positions or informational overview of institutional resources (Chun & Evans, 2016). Likewise, they may have limited teaching experience and knowledge working in the online environment (Butters & Gann, 2022). This may, at times, leave them feeling as an outsider who is undervalued by the institutions (Benton & Li, 2015). For institutions of higher education, there is the challenge of retaining contingent faculty. Contingent faculty may only stay for a few semesters which means there is a need to constantly recruit individuals for the contingent

hiring pool. This is challenging when investing in any sort of at-cost training for these individuals because they may leave after just one semester.

The current political climate has also impacted the contingency within higher education. Legislative assaults on academic freedom and the political weaponization of curriculum has given many in contingent positions no assurance of the vary protections academic freedom is supposed to provide (Chatterjee, 2023). These efforts "to restrict faculty teaching and speech" (Chatterjee, 2023, para. 1) have a direct impact on contingent faculty who may feel unprotected not only by their institutions but also within states where legislative oversight has created an uncertain future (American Psychological Association, 2024).

Future Directions

Future directions for all contingent faculty are dependent upon the academy (Spitalnick, 2023) and the future impacts of legislative action to higher education overall (Chatterjee, 2023, para. 1). With over two-thirds (68 percent) of faculty positions held by contingent appointments and an approximate 24 percent of faculty lines in 2021 dedicated to tenured lines (Colby, 2023), there is no doubt that contingent positions are going to remain essential to the higher education environment. For online programs, in particular, this may require additional actions related to support and retention.

Implications for Best Practices

Future practice related to the contingency will need to be re-imagined. A 2022 AFT report (Weingarten et al., 2022) noted that 81 percent of contingent instructors who participated in the study stated that they were working part-time and would prefer full-time employment. Therefore, we recommend that higher education work to create pathways to move part-time contingent positions into full-time roles – contingent full-time or tenure-eligible pathways. Specifically for online contingent faculty roles, we suggest that online programs also seek to increase instructional support aid in this process and consider providing longer-term contracts that go past just an initial semester – perhaps a one-year commitment with the option for extension. This way time invested in supporting the online instructional process becomes an investment and is not seen as a loss.

Conclusion

In closing, the state of contingent faculty is ever changing for a variety of reasons including most recently the political climate and legislative actions related to academic freedom. However, the need for contingent faculty has never been higher. In online programs, more work must be done to support these individuals and to create pathways for more job security and instructional support.

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Developing Quality CBE (Competency Based Education) Community College Programs from Planning to Launch

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Abstract

In the summer of 2022, the Tennessee Board of Regents (TBR) developed a state-wide workshop to support future development of Competency-based Education (CBE) programs for individual colleges and identify stakeholders as resources and support for all colleges under TBR. As Director of Online Learning at Nashville State Community College (NSCC), I was tasked as the CBE Development Ambassador for my institution and assigned to construct a collaborative process to launch a CBE program at NSCC.

The CBE Team at TBR was launched August 23, 2021, with the hiring of three Competency-Based Education Coordinators. This team worked in partnership with Community Colleges and system-wide stakeholders to lay the foundation for the development of CBE programs across TN. In January 2022, TBR launched the CBE Development Grant, a one-time grant funding opportunity for community colleges to get financial support to develop CBE programs in TN. In May of 2022, the CBE Team partnered on the development of 8 programs at 7 participating community colleges in Tennessee.

Planning CBE

Our goals for this project at Nashville State are to offer CBE programs that meet employer workforce needs, increase institutional retention and completion rates, decrease costs of higher education for learners, provide acknowledgement of prior knowledge, and accelerate time to degree completion.

Nashville State prioritized that the Logistics Supply Chain Certificate would be an ideal program to deliver as a fully online, asynchronous CBE model. TBR's Competency-Based Education Coordinators assigned 10 topic areas for CBE Development Ambassadors to research and draft recommendations based on college stakeholders and define current and adaptable protocols for considerations regarding CBE programs and potential students. A summary of findings for each topic area is provided in the efforts to deliver a successful CBE program.

Program Structure & Policy

Considering the current online program structure for the Supply Chain Certificate, the academic department must determine if the program would be scaffolded, offered sequentially, or if course will be offered all at once. A determination must also be made as to how many courses a CBE student can successfully engage in at once. The division Dean and the Program Coordinator will determine the number of classes offered to students at one time.

As CBE courses are not defined by time but on meeting observable skills, they still must fall within a semester timeline to coordinate within the academic calendar to keep with deadlines associated with financial aid and engagement reporting. The number of courses the student can engage in will depend on any prerequisites being met but we recommend a limit of 3 open courses if all prerequisites are met. If courses are scaffolded due to prerequisite requirements, then sequential courses are opened as prerequisite courses are successfully completed.

Financial Aid

NSCC has opted to use a subscription cohort model for CBE programs. Students will be charged using a subscription model in which they register and pay for 12 credits but can earn more than 12 credits in a term. The Associate Vice President of Academic Affairs will provide a cohort code to provide Financial Aid (FA) for tracking purposes. No current policies or different financial obligations would need to be applied towards CBE programs

now. NSCC's Financial Aid Office will need to determine enrollment status for each student in the CBE program. Each student must have an academic plan established that ensures the student is completing at least half-time coursework if applicable to student loans. This enrollment status lets Financial Aid determine how to classify student's financial aid.

Enrollment, Records, & Transcripts

Nashville State plans to partner with local businesses to promote the Supply Chain Technical Certificate to interest stakeholders who are interested in credentialing. The CBE program has open enrollment to all students but will require an application and a vetting process. Our ideal candidates would be knowledgeable in the field of study and would be seeking an academic credential within a year of registration.

CBE courses have a designated section number identifier and enrollment in those courses would require approval. Records will be kept for students enrolled in CBE cohorts. These students would have to be registered as full-time students. The transcript process for grades, transfers, and reviews would not have to be altered from current practices.

Technology

Nashville State utilizes Desire2Learn (D2L) Brightspace as the learning management system and will build master courses emphasizing the CBE delivery model. Campus email and Microsoft Teams are the primary modes of communication used for these courses. Supported learning technologies are available for video (Yuja), accessibility (Panorama), plagiarism (TurnItIn), and virtual proctoring (Respondus Lockdown Browser with Monitor).

Courses designed for online delivery will abide by NSCC accessibility standards and seek to achieve an accessibility score of 90% or higher. All video content will require transcripts. All multimedia content will be flagged as accessible. The Office of Online Learning works with the Access Center and Program Coordinators to ensure reasonable accommodations can be made.

Marketing

TBR has provided grant funding for marketing to students and employers about CBE and the available programs. Sharing information with strategic educational and non-profit partners and school districts is vital to the successful marketing of these programs. NSCC's marketing team is tasked with developing marketing strategies via earned media, website advertising, and social and paid media and plan to promote a full-scale marketing plan in the summer of 2024 to recruit the first CBE cohort of students.

Nashville State will work with advisory committees that include industry partners that already work with 2-year degree and technical certificate programs to ensure program outcomes and competencies align with industry needs. Additionally, working with program advisory committees would involve several other departments at NSCC including Career Services, Workforce Development, Academic Affairs, and industry contacts.

Student Success

NSCC's Office of Online Learning developed a CBE Student Orientation where students are assigned a Student Success Advisor and have an outlet to find vital information, resources, and direct access to an assigned campus contact. The Student Success Advisor would be expected to contact the students throughout the semester.

Grade categories in CBE courses will be set to "A," "B," or "F" with associated rubrics. When a student completes all the objectives for a single course, the next course will become available. That sequencing would continue until the program is completed. To ensure successful support for both faculty and students, instructors will be required to create an intervention plan for students to ensure engagement expectations are being met. This also ensures that students can communicate with the instructor regularly and consistently. Planned instructor interventions have been integrated into all major summative assessments within each course to ensure that the learner can apply feedback and resubmit work if objectives are not met upon first submission.

Faculty & Staff Development

Faculty training is needed to emphasize how CBE courses are managed differently than other delivery modes and associate content and development applying best practices in CBE course design. NSCC's Office of Online Learning

has developed a CBE Course Design resource to assist faculty in learning about the specifics of competency-based education. Instructional Designers assist instructors with technical, learning, and andragogical support.

Faculty will need to closely monitor students' progress through a CBE course so those needing more support will receive it promptly. Also, it will be important to help support students with non-academic issues that may come up when taking CBE courses with the help of Student Support Services.

Student Success Advisors will be assigned to each CBE cohort and enrolled in the CBE orientation as one method of engagement. These advisors would follow department protocols to maintain regular contact with CBE students to identify students who may be having difficulty or provide needed support.

Course Development

Courses contracted for CBE development will complete the Office of Online Learning's quality course design process which will use the Online Learning Consortium's OSCQR (OSCQR – SUNY Online Course Quality Review Rubric, n.d.) rubric to assess quality standards in course design. CBE program designs will require curriculum mapping with competency alignment for programs and all associated courses. An Instructional Designer is assigned to faculty members for all contracted course developments. CBE courses are designed to be completed faster than 7-week course offerings. Course designs in D2L will utilize best practice in CBE including uses of summative assignment design and rubrics.

Workforce Impact & Needs Development

Demand for CBE credentials is high in many sectors that are seeking speed to market and currently Nashville State is focused on researching potential CBE programs in areas related to IT, healthcare, and advanced manufacturing. Deans and Workforce representatives are communicating with local businesses and industry stakeholders to communicate and promote CBE programs for applicable employees.

Proactive Materials for Implementation

Nashville State's Office of Online Learning has worked with the Logistics Program Coordinator to build the seven courses needed to fulfill the Supply Chain Certificate through a CBE delivery mode. All courses in this program have completed successful curriculum mapping, quality assurance reviews, and met department standards for accessibility. The CBE Student Orientation was also developed, and student success advisors will be assigned to the first CBE cohort launching in Fall of 2024.

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Results of a Quality Assurance and Review Process for Online Courses

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Abstract

Nashville State Community College's (NSCC) Office of Online Learning (OOL) has worked with campus administrators and the Distance Education Committee to develop a quality review process for online master courses. Creating common standards for quality in online courses is essential to meeting federal requirements and accreditation standards for online learning and a means to identify best practices in quality and promote student success. The OOL initiates and conducts quality reviews to promote a collaborative and efficient process considering time and availability. Course designers are the points of contact for each course review and work with an instructional designer to ensure each benchmark of the review expectations are met.

In the fall of 2021, the OOL established a 4-year quality review cycle to ensure NSCC online courses are meeting and maintaining NC-SARA (U.S. Department of Education Issues Final Rules on Distance Education and Innovation | NC-SARA, n.d.) requirements for distance education. OOL also adopted the SUNY OSCQR rubric (OSCQR – SUNY Online Course Quality Review Rubric, n.d.) as NSCC's quality standards as it represents the desired elements of quality and accessibility in online course design. Our goal is to comprehensively review the design of the course and not the delivery, as we want to ensure that students are able to comprehend the course materials as instructed to meet expectations, determine if objectives and assessments are aligned, identify how students are being assessed and to what levels of mastery, and ensure that general accessibility standards are being met.

Quality Assurance and Review Process

Online master courses have been categorized into a 4-year rotation cycle. Selected courses have already been taught online. Some courses may have previously been developed using a quality development process, as the goal of this review is to update all online courses to address any objective or alignment changes, ensure the technology and materials are current with improved accessibility scores, ensure content and instructions are clear and intentional, and identify regular and substantive interactions within the course as necessary to maintain continuous quality. The timeline to complete a quality review is approximately six weeks.

Course Designers work with an assigned Instructional Designer to complete a course map template that identifies measurable course and module level objectives, module content expectations, a list of assessments with score distribution, and depicted alignment between assessments, module objectives, and course objectives. The course syllabus is expected to reflect the latest template approved by the Faculty Senate. Once the course map and syllabus are completed, the course review begins.

In the course review, Instructional Designers provide extensive and constructive feedback on each module of the course notating potential issues or errors with recommendations on improvement. Following the recommendation in the OSCQR rubric, the content is scored according to the justification for each standard. There are requirements for module agendas, clear instructions, associated rubrics, student-to-student engagement, and instructor presence to meet minimum requirements in quality for online course design. There are also requirements for the courses to meet minimum scores for the OSCQR rubric at 80% and a minimum accessibility score of 90% to be considered successful.

Summary of Results

Nashville State Community College currently offers 47 online degrees and certificates. As of spring of 2024, there were 160 online master courses in the NSCC system. With 59 course designers participating, 95 courses have successfully completed quality reviews in the first two years of this 4-year review cycle process. The average OSCQR rubric score in this period is 94% with courses maintaining an average accessibility score of 95%. This process has strengthened our online offerings and has helped the OOL build relationships with our faculty in the efforts to inform and improve our institution. Nashville State will continue to pursue this quality assurance process and work with additional stakeholders to improve the process and collect more data on outcomes, experiences, and retention.

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Ethics: Teaching How to Think, Not What to Think

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Abstract

Higher education is facing an unprecedented drop in public confidence. Part of this is the popular view that our colleges are more interested in indoctrination rather than education. This presentation will discuss the need to teach sound ethical reasoning to non-philosophy students to help encourage critical thought in the spirit of classical liberalism. The objective is to not only educate students but regain public confidence in higher education.

Introduction

It is a fair assessment to characterize our society in this nation today as polarized. Cultural, religious, political, and social differences seem to prevail at every level. Increasingly, institutions of higher learning have been criticized for "indoctrinating" students into a prevailing sociopolitical worldview. A YouGov poll in 2022 asked more than 22,000 Americans on how a college education affected a person's political ideology and found that 47% believed it makes people more liberal and 6% said it made them more conservative (Orth, 2022). Gallop reported recently that the percentage of Republicans who had a "a great deal" or "quite a lot" of confidence in higher education has dropped from 56% in 2015 to just 19% in 2023 and dropped among Democrats from 68% in 2015 to 59% in 2023 (Brenan, 2024). While such criticism is not always justified, it is accurate to conclude that universities, on balance, have failed to produce graduates that have good critical-thinking skills that they sorely need to be quality workers in today's knowledge economy and to be responsible citizens capable of discernment. This is not a new problem but one that assumes greater importance in our present time of explosive technological achievements such as artificial intelligence, rapid growth of knowledge, and increasing civic skepticism.

It is no longer enough to equip students with answers to questions, we must now provide them with the critical thinking skills to think beyond rhetoric and assumptions – to question, demand proof, weigh evidence, and methodically apply reasoning – to what they encounter. To think critically!

Inherent in critical thinking is the challenge to teach students *how* to think, not *what* to think. A precedent for this idea can be traced to Socrates some 2,500 years ago as he applied his deep questioning technique to get students to question commonly held beliefs, examine assumptions, and methodically separate the logical from the illogical. This was followed by his disciple Plato, Aristotle, and other Greek philosophers who pursued this approach. Critical thinking is represented in the classical works of great thinkers through the centuries from Socrates to Kant. Its modern advancement can be traced to William Graham Sumner's *Folkways* (1906), and the subsequent work of John Dewey, Ludwig Wittgenstein, and Piaget. At each point in history, these great thinkers have built upon the foundations of critical thought and its essential structures.

What Is Critical Thinking?

While there are many definitions and explanations of critical thinking, Edward Glaser's (1941) concise definition is succinct:
The ability to think critically, as conceived in this volume, involves three things:
1. An attitude of being disposed to consider in a thoughtful way the problems and subjects that come within the range of one's experiences
2. Knowledge of the methods of logical inquiry and reasoning
3. Some skill in applying those methods. (Glaser, 1941)

Critical Thinking as a Process

It is difficult to find a consistent explanation of critical thinking in the extant literature. Three perspectives are offered. First, a *reductionist* perspective attempts to break down critical thinking into thinking patterns that must be mastered before critical analysis can occur (Davis-Seaver, 2000). Second, a *developmental* perspective focuses on the importance of maturation and the person's level of intellectual development in critical thinking (Dewey, 1910). Finally, there is a *constructionist* perspective that supports critical thinking as experiential and possible at any age when relevant to a person's life world (Maiorana, 1992, Petrosky, 1986).

There are many taxonomies for critical thinking in application. Dick's (1991) comprehensive review of the literature yielded his taxonomy:

1- Identity arguments: This includes themes, conclusions, reasons, and organization
2- Analyze arguments: This includes assumptions, vagueness, and omissions.
3- Consider external influences: This includes value, authority, and emotional language.
4- Scientific analytic reasoning: This includes causality and statistical reasoning.
5- Reasoning and logic: this includes analogy, deduction, and induction. (Dick, 1919 as cited in Alsaleh, 2001, p. 26)

Halpern (1977) proposed a critical thinking taxonomy for instructional guidance:

(a) Verbal reasoning skills: This category includes those skills needed to comprehend and defend against the persuasive techniques that are embedded in everyday language.
(b) Argument analysis skills: An argument is a set of statements with at least one conclusion and one reason that supports the conclusion.
(c) Skills in thinking as hypothesis testing: The rationale for this category is that people function similarly to intuitive scientists who explain, predict, and control events.
(d) Likelihood and uncertainty: Because very few events in life can be known with certainty, the correct use of cumulative, exclusive, and contingent probabilities should play a critical role in almost every decision.
(e) Decision-making and problem-solving skills: In some sense, all CT skills are used to make decisions and solve problems, but the ones that are included here involve generating and selecting alternatives and judging among them. Creative thinking is subsumed under this category because of its importance in generating alternatives and restating problems and goals. (p. 452)

The Challenge

As college instructors, we are challenged to transfer critical thinking skills to adult learners – to produce students who can: analyze complex problems and ideas, evaluate the quality, reliability, and validity of the information presented, logically interpret this information, make good inferences, clearly articulate their conclusions, and be aware of their own limitations in the process. There are three broad impediments to this goal. The teacher, the student, and the environment. The teacher has responsibilities to address in each area.

The Teacher as Impediment

When we teach students what to think rather than how to think we are doing them a great disservice. To avoid this impediment to learning critical thinking, teachers should begin by reflexively examining their own roles in the process. Our perspectives, thoughts, ideas, and words are value-laden and reflect our own biases, prejudices, and experiential learning (Andelkovic, Milutinovic, and Lungulov, 2023). Great care should be exercised to avoid indoctrination in the pursuit of teaching, regardless of our personal feelings about a problem or phenomena. Such reflexivity is supported by principles of andragogy. This can be facilitated by actively encouraging students to question all suppositions, including our own and to value open and honest debate in the classroom and by giving them the ethical and critical analysis tools and skills to successfully practice critical thinking.

The Student as Impediment

Students bring with them challenges to critical thinking. When prior experiential or vicarious learning conflicts with critical thinking, they may resist something they view as unfamiliar or threatening. They may have trouble

recognizing the relevance of the phenomenon to their own lives and thus resist expending the energy to engage in it. Students bring with them varying degrees of cognitive skills, and some are better able to grasp critical thinking concepts than others (Alsaleh, 2020). Still other students have successfully relied on superficial learning like memorization and are less likely to commit to the work required to think critically.
Teachers can employ various techniques to address these impediments. Real-world topics relevant to the learner's life and discussions centering around current events that stir controversy can help to get and hold the student's attention. Literature examples and case studies in their areas of interest can be used that require the student to apply critical thinking concepts.

The Environment as Impediment

Lack of time is a real impediment to teaching and practicing critical thinking. For the teacher, time is required to design and implement critical thinking frameworks for the student to use and the correct assignments that will facilitate practice. An important component in this involves instructor feedback which should reflect and support critical thinking. Such feedback requires more time. Critical-thinking skills development is a slow and arduous process that must extend throughout a student's academic journey and beyond.

Using Ethics to Teach Critical Thinking

The relationship between ethics and critical thinking is a fascinating dynamic. The arduous process of applying ethical reasoning to specific questions requires competency in the application of logic. It can be said that ethics is applied to critical thinking. Ethical challenges arise in every subject and field of study making this particular subject unique in its application. Studying critical thinking without the ethical component represents an incomplete educational experience. Paul and Elder (2009) warns that

> teaching critical thinking without ethics one runs the risk of inadvertently fostering sophistic rather than fairminded critical thinking. In fact, students often commonly become skilled in critical thinking without developing the understandings requisite to living an ethical life. These students develop intellectual skills which enable them to get what they want without being bothered with how their behavior might affect others. (38)

Teaching sound ethical reasoning skills including the application of ethical theory not only enhances critical thinking skills but gives it a moral foundation for its use. As Thedore Roosevelt aptly stated, "to educate a person in the mind but not in morals is to educate a menace to society." Thankfully, incorporating ethical analysis does not require one to a philosopher, just familiarity with a few key ethical theories and principles.

A useful approach is to instruct students on the basics of a few major ethical theories and principles. Though most instructors will have their favorites, a good group of theories to have in one's "ethics toolbox" include the following theories: utilitarianism, ethical egoism, Kantian ethics, virtue theory, divine command theory, and natural law (which lead to natural rights). Each ethical theory has its own strengths and weaknesses which is why most ethical problems are best addressed with multiple perspectives. For example, utilitarianism depends on the ability to see consequences. But it is impossible to foresee all outcomes of issues related to technology like artificial intelligence. For even higher critical thinking application, it is useful for students to articulate the positions on controversial issues based on ethical theory from both sides—for and against. Though false dichotomies often exist in popular debate, viewing a position from its strongest possible position leads to more effective and fair analysis. Through the careful instruction of basic ethical theory and applying these tools of logic to relevant topics and issues, instructors can help uphold the spirit of classical liberalism in higher education by teaching students how to think rather than what to think.

Conclusion

The instructor's role in these discussions or assignments is to supervise the correct application of ethical reasoning rather than interject their opinion or engage in the debate. Because instructors are in a position of power it is important that they foster critical thinking rather than persuade acceptance of viewpoints or positions. It is also important to explain to students that there is a profound difference between using ethical reasoning to arrive at an ethical conclusion and using ethical reasoning to justify an existing position.

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STLR: A Comprehensive Learner Record Assessing and Showcasing Work-Force Ready Durable Soft Skills

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Abstract

University of Central Oklahoma's (UCO) Student Transformative Learning Record (STLR) leverages the Learning Management System (LMS), rubrics, an online dashboard, transcript services, and badging to assess students' employability and durable soft-skills. Featured by the Chronicle for Higher Ed, this Comprehensive Learner Record model has helped over 30 U.S. and international institutions learn to innovate forward.

What is a Comprehensive Learner Record?

A Comprehensive Learner Record (CLR) shows more about a person than a traditional academic transcript. Academic transcripts show student grades, but do not tell a person's whole story. They do not display most of a student's true potential life or professional capacities. Registrars created the academic transcript over 100 years ago to standardize student records. Its intended use was for communicating between institutions, not directly to students or employers (Baker & Jankowski, 2020). CLRs are not designed to replace academic transcripts, but supplement them with better information for the student, employers, grad schools, and any others (AACROA, 2021). CLRs seek to capture, assess, and showcase more holistic experiences because learning happens everywhere, not just in classes (NASPA, 2019). Why not have a document that better captures learning in as many places as possible?

Why Does it Matter?
Traditional transcripts send a negative and demotivating message to students, that only those with the highest grades will succeed in life and on the job. While grades matter, research shows they may not always accurately measure learning, without intentional planning and design (Cain, et. al, 2022). Students have not been directed to see how everything in their life can be teaching them and preparing them for their future life and professions, not just coursework and tests. Learning happens in out-of-class experiences: service-learning opportunities, internships, co-curricular engagement with campus areas that support students such as career development centers, out-of-class research mentored projects, even on- and off-campus jobs. How could we help students and our institutions make learning visible in many areas? CLR's aim to do so (Green & Parnell, 2017).

Employers, legislators, and the public increasingly criticize significant skills gaps between higher ed and workforce readiness (Finley, 2023). New hires of all ages often cannot articulate their college experiences and transfer skills to real-life situations (Peet, 2024). Beyond higher ed, employers rely heavily on resumes saying academic transcripts do not tell them all of what they need to know, particularly in critical (NACE, 2024) soft-skill durable capabilities (Hutson, et. al, 2023). In a Forbes article, Robinson (2023) discussed recent rebranding of soft-skills to "durable skills," due to the connotation that soft is less than and not as important as hard, technical skills. Robinson said, "tides are changing, especially with the pervasiveness of artificial intelligence in our lives; as the crucial need for abilities such as empathy, collaboration and adaptability continue to grow, 'soft' no longer encompasses the heavy significance of these skills." LinkedIn's 2019 Global Talent Trends Report said 92% of companies reported soft skills mattered as much or more than hard skills. Even Microsoft CEO Satya Nadella urges that characterizing empathy as soft undermines its criticality. Nadella does not consider empathy a soft-skill, but the "hardest skill we learn" (in Robinson, 2023). Cook, et. al. of Deloiite Insights (2020) said businesses putting too much emphasis on hard skills as more important could lead to declining results. They recommended shifting away from the term soft skills, "to avoid diminishing the value of what makes us truly human; the term 'enduring human capabilities' [shortened to durable skills] is intended to be a more meaningful phrase to describe observable human attributes—the very abilities needed to adapt our technical skills across multiple contexts." Summer Salomonsen, head of Cornerstone Studios, a tech company developing e-learning content and learning management solutions for large companies such as Dell, Samsung, UPS, Nestle, Alaska Airlines, and Canon, said, "the concept of 'soft' is

losing its foothold in the workplace today … more and more, in the workplace I'm living in, I see worlds of gray; I don't see just soft and hard; I see everyone needing the ability to act like humans and engage with people to get their jobs done" (in Cook, et. al, 2020).

In August 2023, the Chronicle for Higher Ed held a national virtual forum, titled, "The Transcript of the Future." In the first part, national digital innovator leaders explained CLR's, their importance to display broader well-rounded capabilities, and that while not yet perfected and may not be for some time, they are the direction recommended. Higher ed has long known it needed to change but struggled to find ways to shift. These leaders stated someone must start somewhere. The second part of the webinar featured UCO's STLR program as a leader for nearly a decade, with an implemented CLR since 2014 (Swaak, 2023).

About UCO and How STLR Works

The University of Central Oklahoma (UCO) is a metropolitan, teaching-focused university with 13,000-15,000 students, located in Edmond, a suburb of Oklahoma City. Many students are non-traditional, online, transfer, commuter, low-socioeconomic, first-generation, and from marginalized communities.

UCO's Student Transformative Learning Record (STLR) is like a second-transcript, an official university record, backed by the registrar. The STLR Snapshot dashboard and printout concretely show how students grow in durable soft-skill areas employers say are critical (Cole, et. al, 2021; Murphy, 2020, 2024). STLR tracks growth in five of UCO's Central Six Transformative Learning tenets: Global and Cultural Competencies; Health and Wellness; Leadership; Research, Creative and Scholarly Activities; and Service Learning and Civic Engagement (UCO, 2024). These areas help students develop skills, like how to: work well with others; interact with those from different backgrounds and perspectives than their own; manage stress and prioritize health; think from larger organization perspective; consider ethical implications of decisions; see they are part of something larger than themselves; be community and others minded, to name a few.

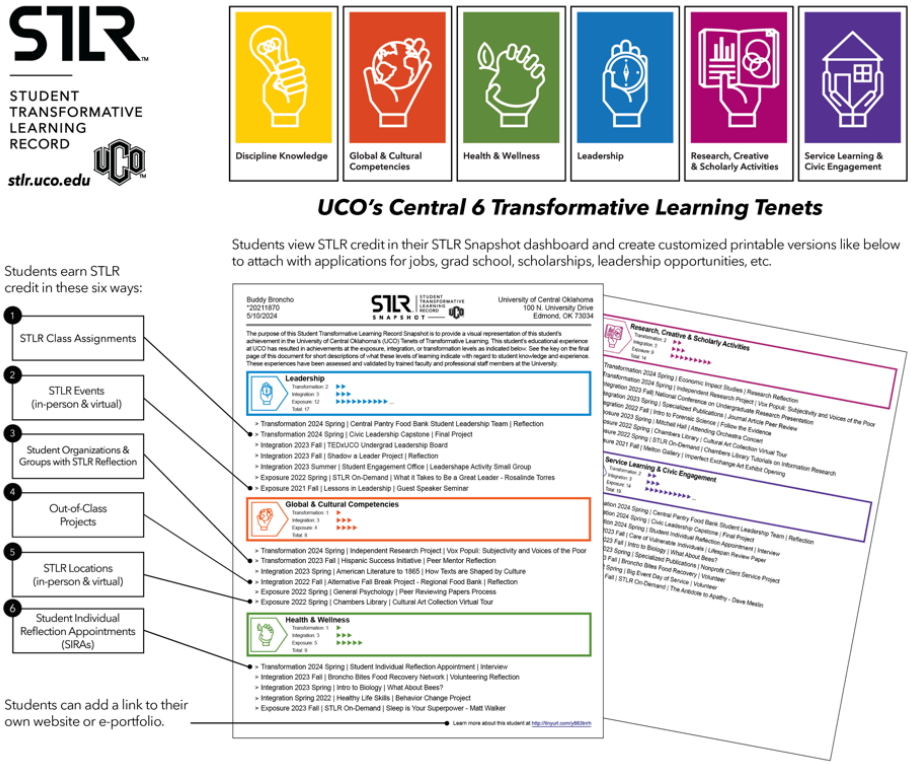

Figure 1. (Farrell, et. al, 2024).

While STLR is officially housed in the Center for Excellence in Transformative Teaching and Learning (CETTL), it is a campus-wide effort where faculty/staff implement STLR assignments and activities across the institution. STLR dedicated staff facilitate STLR faculty/staff development sessions, training how to incorporate and assess STLR.

with students. Training includes two sessions, as two-hour interactive modules with an overview, then practice with: interactive real case scenario small group activities, mapping outcomes to sample assignments/activities, using the campus-wide STLR rubric to assess case scenarios with real student reflections, backwards design their own STLR assignments/activities, and learning the technology. Shorter STLR Refresher sessions are recommended every two years as technology updates and evolves (UCO, 2024; see references STLR rubric level and tenet definitions link).

Following training, faculty/staff submit their STLR assignments/activities each semester through a STLR-tagging form where they: explain the assignment/activity and reflection activities involved; identify STLR tenets and outcomes levels planned; and list specific criteria they will look for that matches to the STLR campus-wide rubric levels. STLR staff quickly review and approve or follow up with questions if needed to help keep alignment to overall STLR outcomes and fidelity to STLR rubric levels.

Once approved, custom coding automates from an API between the form and Desire 2 Learn (D2L) Learning Management System (LMS) to create an assignment folder in the faculty's course shell and sets up the STLR rubric with objectives tied in the background, at the institution dome level for any course. For a co-curricular student group or project, the form automates a new course shell, enrolls the faculty/staff as instructor, creates a STLR assignment folder, and adds the STLR rubric. For assignments, student groups, and out-of-class projects, faculty/staff manually assess students on the STLR rubric in D2L. Co-curricular STLR events and campus location areas with tenet related programs/services track credit in two ways with custom code: 1) faculty/staff leading events use handheld, mobile Transact ID card swipers or locations use stationary swipers that send data to D2L; or 2) after leading their individual events, faculty/staff upload an excel attendance sheet to a form. Through both options, the data automation enrolls students in the D2L event shell and awards STLR credit automatically, to handle large events and mass scale. Once published in D2L, data pushes from D2L over to a custom STLR data warehouse that combines with basic student info from Ellucian Banner Student Information System (SIS). The process then posts awarded STLR credit to an in-house built custom web-based application, called the STLR Snapshot dashboard.

Students view all STLR credits in the STLR Snapshot dashboard (UCO, 2024). They create customized printouts like the one shown in previous Figure 1 and highlight up to ten credits in each tenet, as a quick-glance, clean view showing concrete examples of their soft-skills. Students can add a link to their own website or e-portfolio. Students can then set versions to be obtained as official STLR Snapshots through the university's online official transcript service portal. STLR local employer advisory board members (2015; 2019); and American Association of Collegiate Registrars and Admissions Officers (AACROA) and National Association of Student Personnel Administrators (NASPA) consultants provided guidance in developing the look of the printout and options students have to display their skills.

Where is UCO in STLR CLR Implementation?
UCO implemented a small pilot in 2014, then began large-scale launch in Fall 2015. The initial year targeted incoming freshmen through orientation, first-year courses, some general education courses, Student Affairs signature high reach events, retention initiatives, non-class campus internships, student research, and service-learning projects. From there, as more and more faculty/staff became trained, spread continued to all colleges, any course level including graduate programs, and further co-curricular learning.

While STLR is a blended approach to reaching on-campus and fully online students, all of STLR is captured and assessed in the LMS, making it possible to capture in-person, hybrid, and online STLR experiences the same way. As UCO is a highly non-traditional campus, STLR has been incorporated in class assignments in hybrid, fully online programs, and some graduate programs that have minimal, if any on-campus engagement. However, virtual co-curricular event and involvement options increased with more faculty/staff being willing to offer since COVID.

Implementation reach highlights:

- Faculty/staff STLR training:
  - To date, STLR staff trained over 900 UCO faculty and staff in how to implement and assess STLR: full-time faculty, adjunct, professional and support staff, and administrators.
  - By year two, 35% of full-time faculty trained; by year six, over 70% full-time faculty. To date, attending and implementing is voluntary, decided by campus leadership ahead of launch due to campus type, size, and population.
- STLR spread to students:

    - By Fall 2018, over 50% total population had a STLR experience; by year six, 75% of all enrolled.
- STLR spread to graduates:
    - By year three, 37% of all bachelor's graduates; by year six, 73% of all bachelor's and master's grads.

How Did UCO Make STLR a Priority and Create Long-Term Success?
UCO began shifting campus culture around 2006 to focus on student-centered practices, holistic learning, and implemented a Transformative Learning teaching/learning framework, aiming to place students at the center of their own active, reflective experiences (Mezirow, 2009; Cranton & Taylor, 2012; Brookfield, 2011; Dirkx, et. al, 2018). In 2009, Transformative Learning (TL) and the Central Six Tenets became part of the university mission (UCO, 2024). By 2012, UCO launched an annual large-scale TL teaching and learning conference, created the Center for Excellence in Transformative Teaching and Learning (CETTL) faculty development center, added tenet faculty/staff liaisons, and increased cross-campus collaboration. By its 2012 Higher Learning Commission (HLC) re-accreditation site visit, UCO showed shifted improved teaching and learning, student success, and more holistic, high-impact practices. HLC was thrilled with the efforts. As accrediting bodies often want to know, they asked what's next?

While UCO had been in deep discussion on next steps, following the site visit, three Vice President (VP) sponsors: Academic Affairs, Student Affairs, and Information Technology collaborated to create the Student Transformative Learning Record (STLR) project planning team, including leaders from their divisions and critical campus areas. They met every Friday for several years ahead of and into early implementation. They created the author's dedicated staff position first, beginning in Fall 2014, with the pilot ongoing. In Summer 2015, the author led ramp-up training with the pilot group and around 150 faculty-staff for initial launch in Fall 2015. Though UCO had dedicated campus funding, it sought and received several grants to augment and fast-track campus-wide spread further, faster, with more robust infrastructure. Grant funding allowed additional dedicated staff in 2015 and 2016, including an assessment position. One-time funds created: technology system initial integrations and customizations, the STLR Snapshot application, and fueled start up marketing and outreach efforts. UCO fully institutionalized STLR by 2019.

What Makes UCO's STLR CLR Different?
To date, UCO's STLR program is the only model in full implementation for nearly a decade that tracks such varied holistic soft-skill growth at large-scale reach across an entire institution: curricular assignments in every college, co-curricular events, student groups, non-class student projects; extensive reach across the student body and the entire campus in any setting learning can take place. The automation and dashboard help keep students involved in seeking out progress and opportunities at their own pace.

The evidence-based, authentic assessment STLR rubric, developed with input from about twenty faculty/staff, assessment leaders, and administrators, maps back to outcomes from the robust, well-validated AAC&U (American Association of Colleges and Universities) VALUE rubrics (2013). While other CLR's are starting to exist, UCO's STLR not only tracks general Exposure participation, but measures the depth and impact of learning in soft-skill development at higher levels (Wesley Chamberlain, 2018). Traditional grades and academic transcripts often make assumptions that students completing work have reached outcomes, if identified at all. That practice led employers to not trust grades as preparedness. Instead, STLR challenges students to grow beyond participation, to integrate tenets into their lives, all the way to showing transformation of embodying the tenet characteristics and skills (Baker & Jankowski, 2020, p. 12). If awarded the highest STLR rubric level, called Transformation, students earn a graduation cord in the Tenet color. To make this possible, STLR staff teach faculty/staff backwards design to plan their outcomes on what it would look like for students to reach each of the STLR rubric levels (Exposure, Integration, Transformation, Not Achieved/Not Assessed). They learn how to authentically assess by looking for evidence of student growth in reflections.

Employers want graduates who can explain how what they did in college prepared them in areas that will help their organization. Overwhelmingly, from grades and lists of participation alone, new hires of all ages often cannot articulate how, or if college prepared them and struggle to translate experiences to real-life scenarios (Peet, 2024). STLR, through the entire process helps faculty/staff shift how they talk about learning with students to be about real-world relevancy. Since 2014, STLR provides additional faculty/staff collaborative training with Generative Knowledge Institute Founder and Director, Dr. Melissa Peet (Ann Arbor, MI) on Embodied and Generative Learning to help students connect and integrate STLR experiences. Peet's methods incorporate a series of embodied reflective prompts to help students uncover their hidden learning, so they can articulate what they know and be able to transfer

it to future contexts and job scenarios. Peet's methods were developed through extensive research at the University of Michigan and are used around the world to improve student success (2015; 2017; 2023; 2024).

The STLR process promotes high-impact practices, discourse, and dialogue with students through facilitated reflection and STLR rubric feedback. The STLR rubric uses growth-mindset verbiage (Dweck, 2006) meant to communicate positively and motivationally students are on the right track, compared to the demotivational academic transcript model. Faculty/staff say these are conversations they always wanted to have with students, rather than be stuck in a grading box. Faculty/staff share they love getting to see their impact through student reflections. They see significant improvement in students getting concepts and doing better in their classes and activities.

From early on, STLR began drawing national recognition. In Fall 2015, AACROA and NASPA reached out to add UCO to their Lumina Foundation CLR project initial cohort, due to the type of institution, student population, and that UCO was beyond planning phases and already at implementation, compared to other institutions already selected. As part of the project, AACROA and NASPA discusses UCO STLR in multiple phase CLR reports (Green & Parnell, 2017, p. 5, 10-11, 90-97, 160, 178, 180; AACROA, 2021, p. 22), including their official AACROA Implementation of IMS Global CLR Standards Guide (2022, p. 4, 21, 64-67, 90). STLR was instrumental in informing IMS Global's process of developing their 1EdTech CLR Standard for data technical specifications that are the recommendations for future CLR technology systems. UCO, through a separate partnership with eLocker helped inform their process as they became of first products to receive IMS CLR Standard Certification (2021). IMS Global lists UCO STLR as an exemplar CLR in their resources for higher ed CLRs (2022, p. 20; 2023). Additional highlights of national organizations recognizing STLR as an exemplar model: Educause/Next Gen Learning Challenges Gates Incubator Program (Morris, 2015); Western Interstate Commission for Higher Education (WICHE) Cooperative for Educational Technologies (WCET, 2016); American Association of State Colleges and Universities (AASCU, 2017-2019, p.19); Quality Assurance Commons with Lumina Foundation (2018); the National Institute for Learning Outcomes Assessment (NILOA, 2020); U.S. Chamber of Commerce (2019, p. 45-46), and the National Science Foundation (NSF). (UCO, 2022).

Because the STLR Snapshot tool began development as early as 2015, launching in 2016 with the awarded AACROA NASPA Lumina grant funding with a deadline, it existed ahead of current software now on the market that seeks to meet the CLR standard. In the process as part of the ACCROA NASPA CLR funded project, UCO sought any technology solution at the time. There were none that could guarantee product delivery or close to solid proof of concept at the time. UCO sought to keep leading anyway and built its CLR in-house to keep movement forward. UCO was part of helping provide guidance on what became the recommended CLR standards because it was already at far reaching implementation stages after years of shifting campus culture, had campus buy-in, and campus-wide assessment planning, enough to be able to provide insight on what the standards should become. However, with a working system already in place, to dismantle it to adopt then and now what are still new market products, would have risked existing wide-scale STLR implementation with thousands of real students with existing STLR credit, in real-time. If current software options existed then, they may have been selected. Integrated, automated external badging large-scale software was not yet readily available either. As UCO continues into next development phases, it looks to incorporate the CLR digital standards it was instrumental in helping IMS Global inform, such as long-term interoperability with other systems outside the institution.

Currently UCO STLR holds an NSF grant leveraging AI to scan reflection narratives for qualitative research themes (UCO, 2022). So far, UCO extracted STLR assessed reflection artifacts from the LMS and scanned a sample size of around 900 through AI with a partner research firm (student names removed, holds IRB approval). At last reporting stage, in total UCO faculty/staff have assessed over 60,000 learning artifacts with the STLR rubric in the LMS since 2014.

What is the Impact?

In addition to the highlights provided earlier about implementation reach, since the beginning of STLR, UCO tracked not just majority populations that might otherwise be inclined to engage with STLR, but prioritized improving retention and student success among first-generation, low-socioeconomic, and marginalized students who make up a large portion of the student body. While currently mid-cohort nine, STLR shows eight past cohorts of freshmen fall-to-fall enrollment. Each cohort had large sample n's, consistently seeing retention and student success improvement at rates unseen before in higher ed (see figure 2 below). Students who only attended a STLR event or visited a location for Exposure participation had higher retention much above those with no STLR experiences. As

of Fall 2023: STLR-trained faculty/staff have awarded 200,767 total STLR assessments across the institution (includes rubric assessed learning artifacts and participation Exposure credit from attending events or interaction with STLR location areas with tenet related programs/services). Below are retention data highlights. At the DLA conference, the author will provide access to data slides with more details on faculty/staff involvement across the institution, deeper cohort data, improved graduation rates, and more.

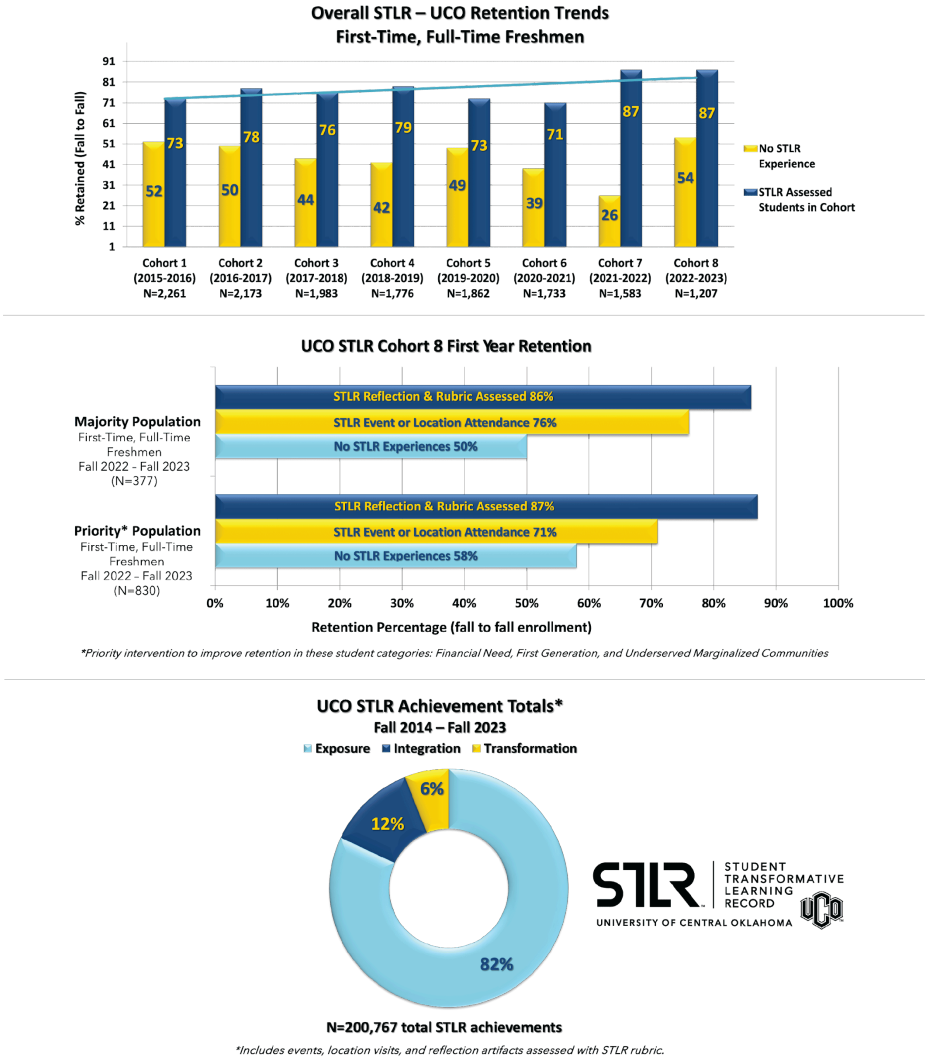

Figure 2. (Wimmer, et. al, 2024)

What do Real Students, Faculty, and Staff Have to Say About STLR?

Student quotes (names are removed for privacy, obtained from STLR outreach efforts or qualitative interviews, indicated by area of study, level at the time): *If you're bold - if you do one thing - then you're not afraid to branch out, it becomes less scary. Getting involved* [in STLR] *was like one dose of happiness that opened me up to a world of more happiness. There was a world around me I didn't know existed. It helps you find your voice.* -- Freshman, Nursing. *I can look back to see everything I have been involved in and the transformation I'm going through.* -- Sophomore, Psychology. *If you cannot find meaning in your life, it's your responsibility to create it, and STLR has helped me do that.* -- Junior, Organizational Leadership (adult, non-traditional, primarily online, transfer student). *It helps you discover what strengths you have without even knowing it. I was involved in a lot of cultural activities and didn't realize that was a strength. With the categories,* [STLR] *helped me have less stress in figuring out what I could be good at and what things I should be looking to try.* -- Junior, Community Public Health. *You get STLR credit, but you also learn why it matters. You don't find that on other campuses. STLR is something I couldn't imagine, memories and moments you can't buy or put a dollar value on. It makes you a well-rounded human.* --

Senior, Strategic Communication. *Coming from the outside world in… I kind of have a picture of what it's like* [out there]. [Students] *need something other than books in front of them to learn about what the world is like. And that is what STLR does, it gives them a picture of the world and what they can do to make it better. Or make themselves better. Or help other people make it better.* -- Undergraduate, Veteran. [Student attended Central African Art Exhibit with art techniques using multiple vantage points]: *That was something I learned that stuck with me so much ever since then… the different viewpoints on the world… the art itself and how they talked about how the artist used the world to portray their piece…In business for instance, when I'm in marketing, it's my job to look at engineering… it's my job to look at the customer's viewpoint, my boss' viewpoint... all of these different viewpoints. Just that artist's example of different viewpoints can be applied in so many other areas. There's a lot of things during that* [exhibit] *that really stuck with me.* -- Recent graduate, College of Business.

Faculty/Staff quotes: A*s a professor, this transformative learning assignment has resulted in some of the most significant and meaningful experiences in my career. I have watched students become proficient in a skill that will be required in their future jobs and have witnessed their transformation as they faced their fears and worked to provide an effective and meaningful training session for their clients. I am so appreciative to work at a university that emphasizes both the disciplinary and beyond disciplinary skills students need to succeed.* -- Professor, Mass Communication. *Students have told me they really feel like they are making a difference in their community with this project. They also told me that this project helped them listen. I think that impacted me the most. In this time it is more important than ever that we listen to one another, and this project has helped students see the importance of hearing other people's stories and giving them a place in the community.* Assistant Professor, History and Geography. *STLR has provided staff a framework that allows us to capture the learning occurring outside of the classroom and provides a way to capture the transformation students are having as they reflect on and integrate all of their experiences, curricular and co-curricular.* -- Director, Cultural Outreach & Diversity Strategies, Hispanic Success Initiative Lead Mentor.

How Have Other Institutions Been Impacted by UCO's STLR?

Since early on, while UCO was still building STLR, other institutions began finding STLR and sought out UCO for guidance in how to develop similar programs. The amount of institutions asking to know more grew enough to develop a consultancy model to help offset time spent assisting others while still needing to ensure UCO's STLR and students progress. To date, STLR has worked with over 30 institutions in various ways, providing insight on shifting campus culture, long-term planning, faculty/staff buy-in, infrastructure planning, marketing/outreach efforts, data tracking, aligning outcomes, rubrics, improving teaching/learning, authentic assessment of learning, program assessment, quantitative/qualitative research, to name a few. Highlights of institutions STLR assisted at various planning or implementation stages: La Cite College (Ottawa, Canada); Massey University (New Zealand); Technology University of Dublin (Ireland); Universidade Presbiteriana Mackenzie (Sau Paulo, Brazil); Singapore Management University; Methodist College Kuala Lampur (Malaysia); Tarleton State University (TX); Texas A&M University San Antonio; Eastern Washington University; Western Carolina University; University of North Texas; College of Coastal Georgia; Stella and Charles Guttman Community College (NY); City University of New York (CUNY); Washington State University; Defense Language Institute (CA): Columbus State University (GA); Bellevue College (WA); Northeastern University (Boston, MA); Montgomery Community College (NC); United States Air Force; Cal Poly Pomona; St. Louis College of Pharmacy; Sheridan College (Ontario, CA); University of Houston; California State University Fresno; Arkansas College of Osteopathic Medicine; Texas Women's University; Stephen F. Austin University (TX); University of Northern British Columbia (CA); Langara College (Vancouver, CA); Middle Georgia State University; University of Nebraska Lincoln College of Engineering; Baylor University (TX); University of California San Diego; University of Georgia (includes others not listed here).

Conclusion

As the Chronicle for Higher Education and digital innovator leaders suggest, higher education has to shift and start somewhere, even if the process is not perfected yet. UCO STLR continues to the lead the way in innovating teaching and learning to meet the needs of the 21st century (Sofel, 2016). While there needs to be workforce preparation shift (Gatta, et. al, 2024), the world also needs prepared students who become well-rounded citizens that consider their part in their community, collaborate to solve world challenges, and contribute, not just consume the world around them. A college president of an international institution said it well: universities can no longer afford to graduate engineers only capable of following directions; they must graduate engineers equipped and prepared to ask, "what ought to be? (Awuah, 2017 as cited in King, 2017)." UCO's Transformative Learning framework, STLR, and

innovative methods help students actively get involved in their own learning journey, improve their likelihood to persist to graduation, and become better prepared to reach their future work and life goals.

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Student Support for the Increasingly Hybrid Learner

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Abstract

The debate between online vs. on-campus student success continues to rage in the halls of the academy and in the general public. We all hear the chorus of voices arguing that one modality, and therefore one type of student, is superior. The reality, however, is that the argument is not as black and white as online vs. on-campus. There is much more grey, in fact, as undergraduate students are transitioning - becoming both online and on-campus scholars, choosing courses for convenience and opportunities for success. Middle Georgia State University realized that not only were course offerings becoming increasingly hybrid, but learners were consistently choosing a hybrid schedule. Adapting to this reality and prioritizing the accessibility of our student success strategies, we have witnessed significant improvements in student success metrics across the institution.

Introduction

As the landscape of higher education evolves, institutions must be responsive to the changing needs of students, particularly as more opt for hybrid schedules. This shift requires institutions to recalibrate their understanding of scheduling and student support. Recognizing that students are no longer exclusively taking either online or on-campus classes, institutions must adapt their policies and services accordingly. This includes offering flexible scheduling options to accommodate diverse preferences and commitments, as well as providing comprehensive support services tailored to the needs of hybrid learners. Moreover, institutions should prioritize technological infrastructure to facilitate seamless integration between online and on-campus learning modalities. By embracing this hybrid approach and reimagining their support systems, institutions can better meet the evolving needs of students and foster a more inclusive and accessible higher education environment.

Middle Georgia State University is located in the heart of Georgia with its main campus in Macon. The university was created in 2012 through the consolidation of Macon State College and Middle Georgia College, resulting in a new university that spread across five campuses and 180 square miles. In the last three years since the pandemic, we have experienced a growing percentage of faculty who teach, and a consistent population of students who learn, concurrently online and on-campus.

	AY 21/22	AY 22/23	AY23/24
Faculty Mixed Schedule Workload (Hybrid)	49.9%	54.58%	62.13%
Student Mixed Schedule Courseload (Hybrid)	31.94%	31.83%	31.83%

This hybrid style of higher education delivery and consumption gave rise to several unique ideas of how to engage with learners to improve student success.

Based in part on our prior work on learner performance by Course Modality Analysis (Jenks and Schultheis, 2023), we expanded our dive into institutional data through several additional analysis. These included Undergraduate Course Outcomes by Modality Analysis, Campus Presence and Scheduling Analysis, Program Location/Credit Hour Analysis, Faculty Workload and Teaching Effectiveness Analysis, and then we broadened our scope and sought the

opinion of the University System of Georgia office. Through their METRICS initiative, which is basically the same type of deep dive we were doing internally, we were able to use a comparative sample of institutions.

Student Success

The initial analyses concluded that while in any given semester the solely on-campus or online still exists (17.95% On-Campus vs 47.99% Online); Spring 2024). A consistently substantial number of students are now hybrid learners. We leaned into this reality immediately in our student supports services in advising, student success coaches, peer and faculty mentors, course redesign, and a new first year experience we were developing. This created holistic wrap-around services for learners that yielded consistently positive results beyond those we saw in 2021 which were impressive on their own including a 7% retention increase for first -time full-time students.

Through continued analysis and a focus on the hybrid learner, we worked diligently to reduce advising loads, increase personal one-on-one appointments with learners, and build schedules that aligned with learner success patterns. This resulted in a 7% increase in retention sustained in years two and three, a 2.1% decrease in students on probation over the last three years, and if tracked through the average trendline for our institution, a $51M economic impact to the region. This should be a tactic utilized by any institution preparing for the enrollment cliff. The easiest student to enroll is the student you already have. Student success coaching was also adapted to the results we found in our data. By catering those services to our students and marrying their efforts in wrap-around support, we experienced a 3% increase in course pass rates from Fall 21 to Fall 23 for students engaging in tutoring services and a 14% increase in persistence rates in 2022 and 2023 for students on academic alert.

We also recognized through conversations and experience that learners are much more likely to receive advice from their peers with less skepticism than if provided by university faculty and staff. Through a generous donation from the university foundation and outside donors, we were able to hire peer-mentors specifically for learning support classes. Learners in student support are among the most vulnerable to stopping out and often had a negative mindset going into courses like math. The academic mindset work dates back eight years to the origins of Georgia's Momentum work and relies on changing learner's outlook from "I'm just not good at Math", to one that accepts math as a subject that can be overcome with effort. We linked this idea with our peer mentors by identifying individuals who came into learning support math with a negative mindset, passed with a high grade, and then hired them back to help others just like them coming in the new two semesters. The results were profound in some areas. Every student enrolled in the Roundtable Mentoring Program for Fall 23 successfully exited learning support and returned for Spring 24, a significant increase over prior student support initiatives.

MGA's redesign of our Institutional Priority course (Perspectives on) exemplifies our commitment to supporting students with hybrid schedules. With intentional crafting, the course now incorporates student success content aimed at equipping learners with tools essential for their academic journey. Recognizing the unique challenges faced by hybrid learners, the course emphasizes crucial skills such as time management, oral competencies, and technological proficiency. By excelling in these areas, students can effectively navigate face-to-face and online classes, maximizing their potential, enabling them to thrive in their academic endeavors.

The revitalization of our First-Year Experience program further underscores our dedication to addressing the diverse needs of students by strengthening academic and student support and integrating academic and student affairs engagement opportunities. We pursued this by providing comprehensive support to all learners, regardless of their hybrid, online, or on-campus status through the development and implementation of a mobile app – highly accessible to students with varying schedules. This app encompassed essential features such as the Knight's Journey, Knight's Academy, and Emerging Knight's Focus Groups, crafted to meet the multifaceted needs of our student community. For example, "The Knight's Journey helps students develop and enhance their innate virtues commonly attributed to modern day knights. Using the power of story, the Knight's Journey uses an interactive fiction platform with gamification. As a reader (player), students will engage in a series of quests to help them understand and adopt the virtues of a Knight. Each quest allows students to explore certain character traits, that when adopted, will enhance their ability to lead at work, school, and in your community." (MGA, 2024). We witnessed tangible outcomes consistently across semesters, with 61.7% of residential students who engaged in the Emerging Knights Focus Groups showing improvements in their academic standing by the subsequent semester. Additionally, there

was a notable 15% surge in first-year students re-registering for their second semester following their participation in the Knights Academy program.

Conclusion

Recognizing the hybrid learner as the prevailing norm in higher education underscores all our analyses. Our expanded focus has translated into tangible results, evident in our exceptional student engagement scores gleaned from the National Survey on Student Engagement. Notably, 80% of first-year students lauded their educational journey as "excellent or good," surpassing our peer institutions. Similarly, 82% of seniors echoed this sentiment, outperforming our comparators. Furthermore, 76% of seniors acknowledged MGA's steadfast commitment to academic and learning support services, a stark contrast to the 64% reported among 2023 NSSE institutions. And importantly our students expressed a remarkably higher comfort level in utilizing academic and student support compared to our Southeast Public counterparts. By fostering an environment that prioritizes comfort, engagement, and support for hybrid learners, we recognized and addressed the evolution of the higher education experience, thereby bolstering our workforce and undoubtedly elevating retention rates for the institution for the foreseeable future.

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A Study of Activities and Effective Use as Perceived by Academic Coaches in Fully Online Higher Education Courses

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Abstract

The literature about the use of academic coaches in higher education as supplemental instructional support is primarily limited in scope to student success, retention, and credit completion. Data collected supporting the use of these types of coaches is also recent with the bulk of the research published since the onset of the COVID-19 pandemic. While academic coaching existed prior to the pandemic, the increased need for their use is accelerating. The focus of this research study is for academic coaches serving as supplemental instructional support in fully online courses of higher education. This study is designed to investigate the research gap of what academic coaches are doing in the courses for professors and students, solicit the coach's perception about the efficacy of that task, and their suggestions for best utilizing an academic coach. Implications for higher education professionals will be discussed, as well as suggestions for further research.

Keywords: academic coaching, instructional coach, supplemental instruction, learning activities, online student success, best practices in online education

A Study of Activities and Effective Use as Perceived by Academic Coaches in Fully Online Higher Education Courses

Introduction

Education is widely viewed as a vehicle for economic and social mobility. Politicians, economists, and many others comprehend the need for a skilled workforce to propel a healthy economy. This brings education to a favorable place in many states' budget as it is considered critical to the future of that state.

It is a double-edge sword. The attention and funding comes with responsibilities, standardized testing, and regulations for public schools and universities that complicated curricula over the past few decades as advancements in technology has already increased the amount of knowledge for students to learn. When adding to the curricula for student learning, some institutions are also expected to limit their hours of instruction due to state laws. Such examples are found in Texas where school districts are using hours instead of the traditional 180 days for instruction and universities are forced to apply for permission to exceed 124 semester credits for a bachelor's degree.

The challenge then becomes on how to help students quickly learn large amounts of content, and retain it over a long period of time, with minimal loss. The feat is only complicated by removing the physical classroom and shortening the sixteen-week course to eight weeks or a blistering four-week course. A course in higher education taught online, or hybrid/blended/hyflex course, is taught by an instructor and not artificial intelligence (AI) pre-programmed to score students' work. Teaching and learning, whether it takes place in a classroom or virtual environment, still requires a human to be effective.

The modality of a course is not a significant obstacle for everyone. In fact, many students enjoy the freedom and flexibility of online learning. The move to online benefits the university as there is less demand for physical space. The university views shorter courses as a faster timeline to the student earning a credential. The pacing between sixteen, eight, six, and even four-week courses is a matter of adjustment for faculty and students. The shorter the course, the more compact and faster paced the curriculum. In a four-week course, assignments might be due every other day. Whereas in a sixteen-week course the assignments are due once per week. This concerns not only the delivery of the content, yet also the turnaround of feedback on graded material.

Revisiting the mention of state budgets earlier, the motivation for colleges and universities to increase class sizes is to reduce faculty salary costs. The online course, coupled with larger enrollments, are cost efficient and financially profitable for universities. The additional workload on faculty due to more students, with shortened term lengths, and a lack of physical presence due to the modality of a course, complicates stressors for instructors. Enter in the academic coach as a solution to the conundrum.

The Academic Coach

The definition and role of an academic coach is open to interpretation. Another title, instructional coach, is sometimes used interchangeably with academic coach. While the two may appear quite similar, the roles are defined differently at various institutions.

The instructional coach applies primarily to highly trained and experienced individuals who mentor teachers. The instructional coach works closely with the educator to improve the teaching methods used by the educator through observation and feedback, suggesting activities and techniques reflecting best practices, and providing access to other professional resources.

The academic coach, on the other hand, is more closely associated with supporting the course instructor acting as a learning activity facilitator with students, grading student work, or responding to student questions. The academic coach of an online course in higher education may work in tandem with the instructor to grade a portion of the student work while the instructor grades another portion of the students. The coach could also grade all assignments while the instructor facilitates instruction and student questions. The role of an academic coach varies and is often determined by the course instructor. Yet, the instructor is often the least knowledgeable about the benefits, abilities, and best practices for the use of academic coaches.

There is another definition of academic coach in higher education related to student retention, advising, and counseling. Robinson and Gahagan (2010) provided a definition of academic coaching as "focusing on strengths, goals, study skills, engagement, academic planning, and performance" (p. 27). The academic coach, in this definition, is not directly related to a specific course or instructor, yet to the overall success of the student toward degree completion at the institution. The academic coach acts as an interventionist directing the student to resources, providing advice, and strengthening the student's opportunity for retention and persistence to graduation.

For this study, I have chosen to use the definition of academic coach as an individual who is hired to interact, grade, or support the instructor and students in a specific fully online course at an institution of higher education.

Purpose of This Study

The literature for academic coaching is in its infancy with less than a hundred scholarly articles published and most of those within the last three years. The vast amount of the published studies explore the effectiveness of academic coaches on student performance or retention in higher education. However, few researchers have analyzed what roles are performed by academic coaches in higher education courses. The gap in the literature beckons exploration as to what is being done, how the academic coaches perceive it is working, and their suggestions for improving the use of academic coaches moving forward.

The primary research questions driving this research study are:

1) What types of activities/roles are academic coaches performing in higher education online courses? [A sample of likely activities are grading discussion forums, monitoring discussions, answering student questions, grading written papers, facilitating group projects, recording attendance of virtual synchronous sessions, scoring presentations, communicating student issues to the instructor, etc.]
2) Are academic coaches confident that their contribution by completing those activities/roles is making a difference for student success? Why or why not?
3) What activities and roles do academic coaches believe are the most effective use of their skills and that will lead to increased student success rates?

Using a grounded theory framework for analysis of the survey, the coded data will be triangulated using member checks and independent reliability verification. The statistical reliability correlation will be provided.

This study will significantly contribute to the existing body of research on academic coaching by extending beyond the typical success rate investigation into the why and how coaches influence the success. The research study will also analyze the academic coaches' perceptions of their impact and where they believe they could be even more useful to course instructors.

Literature Review

The literature for academic coaching is in its infancy with less than a hundred scholarly articles published and most of those within the last three years. Alzen, et al. (2021), one of the existing articles that explores the effectiveness of academic coaches on student performance or retention in higher education, studied higher education interventions where academic coaches were not tied to specific courses. Their research was focused on the academic coach as the resource for university students in retention, degree planning, and academic goal setting. The academic coach was envisioned as a bridge between the counselor and the academic advisor. The researchers noted few existing published articles about academic coaching at the time of their study.

A study by Howlett, et al. (2021) involved 169 participants regularly interacting with academic coaches for in-person meetings (N=52), online meetings (N=54), or the control group without meetings (N=63). Their study determined that students who attended meetings with an academic coach to discuss academic goals, understand their thinking patterns, and create effective study skills, were significantly more metacognitively aware of their learning from pre- and post-test scores.

Capstick, et al. (2019) described the goal of the academic coach as the "development of self-awareness; strength building; academic planning; and definition of the student's purpose, interests, and values in order to aid in completion of the degree" (p. 220). Goal setting appears throughout the literature (Lovell, 2017; Wolff, et al. 2020) as a central role of the academic coach. The use of SMART goals is touted as a method to help at-risk learners to develop their goals: specific, measurable, action-oriented, realistic, and time-framed long-term and short-term goals.

A cluster of studies investigated the use of academic coaches on at-risk populations of students such as those with attention deficit/hyperactivity disorder (ADHD). Richman, et al. (2014) performed a mixed methods study to ascertain if academic coaching improved overall academic skills of 24 undergraduate and graduate students diagnosed with a learning disability, ADHD, or both. Participants reported six broad ways that academic coaching improved their academic skills: self-advocacy, improved grades and GPA, help with writing papers, improved study skills, increased persistence with college, and improved ability to submit assignments on time (pg. 42). Participants in a study by Bellman, et al. (2015) reported time management, goal setting reading skills, study skills, breaking projects down into smaller steps, and how to utilize existing resources as the key skills gained from academic coaches.

However, few studies have analyzed what roles are performed by academic coaches that serve as supplemental instructional support in online courses. The research gap needs to be explored and documented as to what the roles of these individuals are, what the academic coaches believe their most effective contribution are to the students and faculty, and what activities the academic coaches would like to participate in more during future courses.

Materials and Methodology

The research design was a qualitative method using an electronic survey to gather the data. The researcher's institution reviewed the survey for IRB approval prior to launch to ensure participate safety. The survey resided on Google Forms following current university policy for research data collection and data security. The descriptive survey was a combination of closed and open-ended questions.

The beginning of the survey stated the informed consent for participation in the research study as the first question to consent or exit the survey. After consent, the survey continued with additional questions that required some responses in particular for submission such as the email address for the member check verification during the triangulation of data. Demographic data was also collected from academic coaches to ascertain experience as an academic coach, degree(s) and certification(s) earned, academic discipline, and formal teaching experience(s). Anonymity was not be offered due to the need for triangulation of data in the member checks portion of the study. However, once member checks were completed, the identifying information related to individuals were deleted from all data to ensure participant privacy. Questions for the survey were a mixture of multiple choice, multiple answer,

short answer, and long answers. Thus, data for study was objective and subjective due to the closed-ended and open-ended nature of the questions.

One of the first questions was “Were you oriented to the course by the instructor?” and participants were provided with a simple yes/no/other response. The “other” response is purposeful in this survey for participants who wished to explain their situation. The technique was used on many of the “yes/no” questions of this survey. For instance, the next question, “Where you provided with a copy of the textbook (either physically or electronically)?” was a yes/no/other response.

The next question asked the participations if students were provided access by the institution for these campus support services prior or during their time as the academic coach: Online Writing Lab (OWL), tutoring services, advising center, university library, registrar’s office, testing center, counseling center, health services center, financial aid, veterans’ services, campus bookstore, Title IX, accessibility services, career services, campus safety/police, or other. This question was intended to reveal which services were explicitly communicated to online students as available benefits as university students.

Turning to the orientation of the academic coach, the next question asked if the instructor discussed the course calendar, due dates for assignments, challenges such as fall break/spring break, or when final grades were due with the academic coach prior to the start of the term. The possible answers were the yes/no/other. A follow up question asked how often they met with the instructor to discuss the assignments, individual students or grading. This question was provided as a short answer. A third question over instructor communication asked if the coach engaged with the instructor in a discussion over grading rubrics, coordinating how to grade particular assignments, or aligning grading with each other. The guidance further asked to describe how they interacted, discussed, were trained, or aligned their grading. Again, a short answer space was provided to the survey participant.

The participants were asked how they communicated with students. The multi-answer list included: feedback on assignments as attached comments, feedback within grading rubrics, messages through the Learning Management System (LMS) such as Blackboard or Canvas, email messages, text messages, SMS services such as Remind, Slack/Discord, or other internet-based instant messaging service, or other.

The following question asked participants to share what types of activities, or roles, they completed as an academic coach. The multi-answer list offered: grading discussion forum, monitoring discussion forums, answering student questions, grading written papers, facilitating student group projects, recording attendance of virtual synchronous sessions, scoring presentations, communicating student issues to instructor, grading tests/quizzes/exams, or other. This question aims at the purpose of this research study – what are the academic coaches doing in online courses of higher education.

As a follow up to the previous question, I wanted to know what the academic coaches believed their value was to the students so the question was asked: “In your opinion, did your completion of these activities contribute to student success? Please explain.” A long answer text space was provided. The next question delved deeper to ask “What activities/roles that you performed were the **most** effective use of your skills and led to increased student success? Please elaborate.” Another long text answer space was provided.

The following six questions were primarily demographic data: age, gender, ethnicity, highest college degree earned, if they held a state level teaching certificate of any kind, and teaching experience of any nature.

The participants of the survey were existing academic coaches employed by a large national employer who sent the email invitation to all their 1,000+ academic coaches. Participants were at least 18 years of age, served as an academic coach in the past 12 months for a course in higher education, and willing participated in the survey. Upon completion of the survey, participants could opt-in for a twenty-dollar honorarium paid by a grant to fund this research. The research, and the national employer of the academic coachers, were not made aware of which respondents received the honorarium.

Results

There were 114 valid survey responses to the survey during the collection period. All participants were over 18, had performed duties of an academic coach for a fully online course within higher education during the previous 12-month period, and consented to complete the survey. Their self-reported ages categorized as 19-29 (2.6%), 20-49 (38.6%), 50-64 (43%), 65-74 (13.2%), and 75+ (2.6%). The participants were 5.3% Latinx, 3.5% Asian, 19.3% African-American, 1% American Indian, 71.1% White, and 1% Middle Eastern. Their genders were 74.6% female, 23.7% male, and 1.8% non-binary.

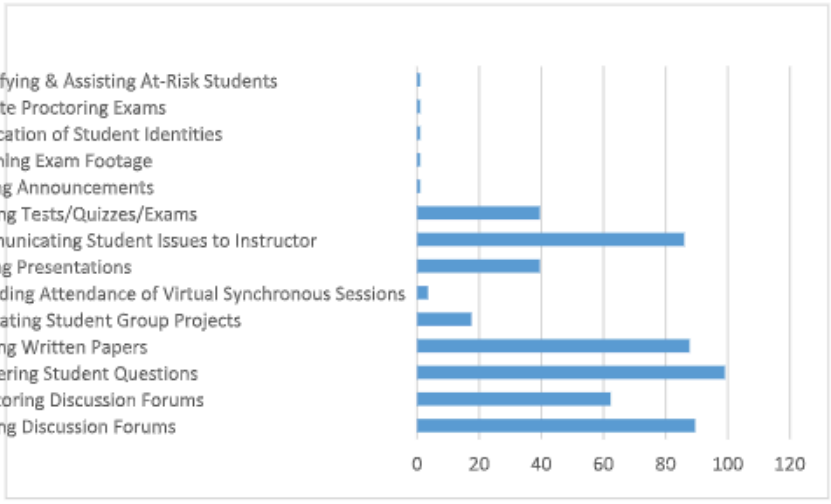
The highest college degrees earned of the participants were master's degree (49.1%), doctorate degree (46.5%), post-doctorate degree (2.6%), educational specialist (.9%), and law degree (.9%). The participants were 40% state credentialed to teach, either currently or at one time, in the discipline they were coaching. Their amount of teaching experience ranged from zero to over 40 years with an average of 14.83 and from preschool, upper-elementary, middle school, visual arts, to community college, and graduate courses at major research universities.

Participants were oriented to the course by the instructor 87.7% of the time. In one instance, the lead coach oriented and another the coordinating coach. In an interesting twist, 29.8% of the participants were not provided with a copy of the textbook. One participant replied that they were given a link, yet not the permissions so the link was not viable.

The instructors did much better at communicating the course calendar and due dates for assignments with the academic coaches. The participants recalled that 89.5% of the instructors discussed these dates with them at the beginning of the term. As for regular, recurring meetings with the instructors, the academic coaches reported data that categorized into four broad categories: weekly (44.7%), bi-weekly (12.4%), rarely/never (18.4%), or when needed throughout semester (24.5%). The regular meetings, or emails messages, were used to discuss grading rubrics, coordinating/aligning grading, discussing particular students, preparing for upcoming units or assignments. This was confirmed by the survey question about how the academic coaches engaged with the instructor.

The survey participants overwhelmingly replied that their communication with students was through feedback on assignments (86%), feedback on grading rubrics (88.6%), messages through the LMS (82.5%), email messages (88.6%), and text messages (6.1%). The types of activities and roles the academic coaches fulfilled in the courses are reflected in Table #1. When asked if they believed these activities led to student success, 97.3% affirmed their presence led to a higher student success rate/pass rate in the course. As to what activities the academic coaches thought were a best use of their assets, their responses fell into a trio of categories: providing effective feedback (61%), grading with the instructor's rubric (23%), and openly communication with students as resource besides professor alone (16%).

Table #1 – Types of Activities Completed



Discussion

The lack of orientation to the course for over 12% of the academic coaches should be concerning as it leads to how the coach is to do their task successfully if they are not trained in the environment. As a new movement in higher education is focused on the orientation of new faculty, so should the orientation of academic coaches to the course and/or the faculty member in which they are working with that semester. However, if the academic coach is returning to the same institution, course, and with the same instructor, then the orientation could be abbreviated or possibly eliminated for obvious reasons.

The survey answers about the textbook revealed how necessary an orientation checklist is needed for academic coaches. A survey response that the link was provided, yet their access permissions were never activated indicated a missed step in a process that could have been avoided. Instead, an academic coach was left without a key ingredient during the grading process.

The academic coaches that responded to this survey were relatively unsure of the services provided to students by the institution. Their replies indicated that the OWL, tutoring, advising center, library, and registrar's office were all supplied to the online students above 70%. Though, counseling, financial aid, bookstore, Title IX, and accessibility were 51-69% confident in the offering. The lowest category was that of 35-50% confident that the services were offered: testing center, health services center, veterans services, career services, and campus safety/police department. These services represent a significant portion of a university's budget and play a major in a student's success to degree completion. The presence of these services inside of an online course – and funneling students to use them – is imperative for instructors, academic coaches, and students.

The primary research questions laid out for this research study were threefold:

1) What types of activities/roles are academic coaches performing in higher education online courses?
2) Are academic coaches confident that their contribution by completing those activities/roles is making a difference for student success?
3) What activities and roles do academic coaches believe are the most effective us of their skills and that will lead to increased student success rates?

The primary role of the academic coach identified in this survey is grading student work, answering student questions, and communicating about students to the instructor. While that was not surprising, there were interesting responses such as verification of student identity, monitoring remote proctoring, and early alert detection for at-risk students.

The value of the academic coach was heard in their own voice. Their comments were testaments of dedication to their students. "I am the only contact they have to clarify content, expectations/standards, and give feedback that helps improve writing skills…" "The instructor was free to teach the material and not troubleshoot." "I answer student questions in a shorter time frame than the instructor could, especially in larger scale courses." "My feedback helped improve their future assignments, communication with peers, etc." "I follow-up with students who are struggling and answer a lot of questions." "I show that I am vested in their growth." "Students rely on a helping hand for moments they get stuck in the course, but feel uncomfortable asking the main faculty."

Closing

As higher educations hurdles toward the impending enrollment cliff with its economic crisis, there will certainly be many options explored to generate revenue, alleviate stressors on overloaded faculty, and swell class sizes. The pandemic forced more institutions of higher education to invest in online learning and they are continuing those programs because students want the flexibility of hybrid, hyflex, or online courses. How will the campus adapt to equally service its e-students as it does the on-campus students?

The community college trends are moving to an ever-shorter term length with eight, six, and even four-week courses as a norm in some programs. The accelerated path to degree completion is applauded as a method to reduce student debt and time in school, yet does it come at an expense beyond college?

The academic coach will be a fixture of the online course in higher education for the foreseeable future much like the teaching assistant of the hallowed lecture halls of the past. The academic coach, however, is better equipped with at least a master's degree and maybe a teaching certificate, almost 15 years of teaching experience, and dearly wants you to succeed. Compare that to the TA assigned to a course of 250 students in 1970 who was also working on his

dissertation and taking classes himself. I wonder how much effective feedback on assignments those students received.

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Ten Steps to Quality Assurance in Distance Education

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Abstract

The increased demand for online courses correlates to increased workloads for faculty, staff, and leadership. Hiring, staffing, and other logistical matters often trump the emphasis on course quality. This paper introduces a strategic framework for creating and sustaining a successful distance education model. Tarrant County College Connect Campus is the provider of online courses and programs within a larger, urban, two-year public institution. Established as a campus in 2014, TCC Connect Campus reflects an intentional framework to ensure quality. Ten specific strategies for quality assurance in online delivery include: Online Instructor Certification, Peer Developed Courses, E-Faculty Coaching, Faculty Performance Indicators, Supplemental Evaluation Feedback Form, adoption of external standards, data dashboards, campus data team, faculty and leadership repositories, and course readiness checklist. These research-based tenets may be adapted and modified to address the needs of other distance education providers.

Keywords: Distance education, online learning, quality assurance, faculty performance, professional development

Distance education is not immune to the lingering effects of a global pandemic. Hastily planned remote instruction differs from fully planned and intentional online college programs (Wood, 2024). For institutions and educators, restoring the reputation and validity of distance education requires intentional effort. Emphasizing quality is paramount to building and sustaining an educational model that promotes retention, success, and satisfaction for all stakeholders.

While methods and processes vary among institutions and even campuses, there are research-based tenets applicable to all providers of distance education. Among the online learning trends, there are proven practices to ensure online course quality. This article highlights ten practices- presented as non-chronological steps- geared towards quality assurance.

Step 1: Online Instructor Certification

Planning is paramount in the online modality; training must be continuous (Irizzary Morales & Ocasio Casanova, 2020). Veteran faculty members may have the subject-matter expertise and pedagogical awareness needed to be successful in the physical environment, yet shifting to an online classroom requires unique professional development delivered prior to and throughout the initial teaching assignment. Faculty wishing to teach online should first complete an Online Instructor Certification (OIC) course covering research-based instructional practices for online learning, campus/ district/ state/ regional/ federal requirements and including performance-based activities to simulate building a course within the learning management system. The OIC experience may encompass two LMS course shells: one where the faculty member learns as a student and is exposed to a model of exemplary design and delivery, another where the faculty member creates various course elements and integrates tools. OIC should be required prior to teaching online. This basic introduction ensures that faculty have the baseline for preparing a successful online class.

As distance education laws, guidelines, and policies evolve and change quickly, there is a need to provide timely and responsive professional development. An OIC model should include a recertification component. For example, at Tarrant County College Connect Campus, online instructors must complete a shorter, updated recertification course every two calendar years. This ensures timely updates are shared, modeled, and applied across the online

campus.
Beginning in 2022, regular and substantive interaction (RSI) and accessibility modules were added as recertification modules; this aligned and responded to recent changes in federal policy.

Step 2: Peer Developed Courses

Like the need to prepare faculty for teaching an online course, there is a need to design courses to be user-friendly. The purpose of Peer Developed Courses (PDCs) is to improve learning outcomes and student success. For students participating in multiple online classes- with multiple instructors- there is an opportunity to:

- standardize course layout
- simplify course navigation
- collaboratively develop courses with research-supported best practices in online learning
- create rich, engaging content and authentic assessments

Academic freedom is important to educators. A PDC does not limit an instructor's content or expression. Faculty are encouraged to add content to the PDC. However, it is good practice to streamline the design, allowing students to focus time and energy on learning content as opposed to learning how to navigate the online environment. Finally, the use of PDCs results in additional benefits to the institution. A PDC promotes low-cost scalability, incorporation of Open Educational Resources (OERs), and accessibility compliance.

Step 3: E-Faculty Coaching

Online campus administrators face a myriad of complex and unique challenges. One daunting challenge involves monitoring and providing timely feedback to instructors. An online campus typically has a lean structure; a small number of Deans and Department Chairs compared to a large, transient, adjunct faculty population. Faculty may teach in varying sessions and term lengths within the academic year, which compounds the challenge of completing formal reviews or performance evaluations on a regular schedule. E-Faculty coaches support faculty and review classes non-punitively, in between formal appraisal cycles. Instructors no longer wait or rely on a formal evaluation to receive feedback and tailored support. As a result, online courses are improved in real time.

E-Faculty coaches view courses, collect data and work directly with instructors to identify strengths and areas for improvement based on standards for communication, interaction, support, and accessibility. Coaches serve as a "bridge" between instructors and campus leaders to support compliance and quality assurance measures in a non evaluative, non-supervisory setting. Instructors actively communicate and collaborate with coaches; faculty drive the conversations based on their own needs. Consider the process flow illustrated in Figure 1:

Figure 1.

Kelton & Morales (2022)

Step 4: Faculty Performance Indicators

Corporations commonly rely on Key Performance Indicators (KPIs) to relay expectations and align metrics. The Faculty Performance Indicators (FPIs) model communicates and focuses on ten essential elements of performance for faculty teaching in an online modality. Those ten elements include:

1. Online Instructor Certification (OIC)
2. End of Course (EOC) Evaluation Response Rates
3. Student Success Rates
4. Instructor Presence
5. Instructor Interaction
6. Course Communication
7. Embedded Media
8. Attendance
9. Course Readiness
10. Open Educational Resources (OERs)

Emphasis on these ten FPI- specific to online teaching- supports recent principles of good practice for distance education, per the Texas Higher Education Coordinating Board (THECB) Division of Digital Learning (2023). These indicators are measured according to the next step.

Step 5: Supplemental Evaluation Feedback Form

According to the Texas Higher Education Coordinating Board (2023), "an institution must have clear criteria for the evaluation of faculty teaching distance education courses and programs". Many institutions have a formal evaluation process that is either limited to face-to-face modality or has minimal online-specific elements. Incorporating a supplemental set of criteria is critical to assessing the performance of online instructors. Once the Faculty Performance Indicators (FPI) are identified/ prioritized, a tool for aligned and meaningful assessment is created. This form can be integrated with the existing performance tool or used as a supplemental part of the process.

An excerpt from the supplemental evaluation feedback form (SEFF)- based on threeFPI identified in Step 4- is shown in Figure 2:

Figure 2.

Criteria/ Element	Notes/ Feedback	Score
2.6 The instructor stated and followed a communication plan aligned with campus expectations (e.g., email response timeframe, grading and feedback timeframe, office hours, etc.).		1= Yes 0= Areas for Improvement are noted
2.7 The instructor effectively used media (beyond the contents of a PDC) to enhance engagement and learning.		1=Yes 0= Areas for improvement are noted
2.8 The instructor recorded student attendance aligned with campus expectations.		1= Yes 0= Areas for improvement are noted

Tarrant County College (2024)

Step 6: Adoption of External Standards

Online institutions should rely upon research-based, peer-reviewed external standards. One example of an external partner is Quality Matters. Quality Matters (QM) defines course alignment as the way that "critical course elements work together to ensure learners achieve the desired learning outcomes" (Quality Matters, 2024). The hallmark of the process is the QM Rubric: Higher Education General Standards, which consists of eight general standards:

1. Course Overview and Introduction
2. Learning Objectives (Competencies)
3. Assessment and Measurement
4. Instructional Materials
5. Learning Activities and Learner Interaction
6. Course Technology
7. Learner Support
8. Accessibility and Usability

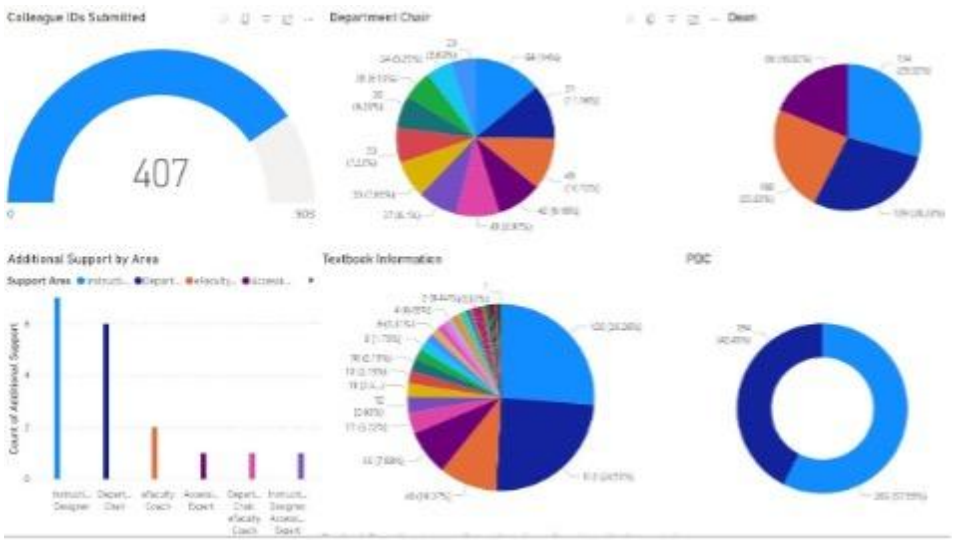
(Quality Matters, 2024)

Allowing faculty the opportunity to obtain QM Rubric (APPQMR) certification is expensive; yet institutions may collaboratively seek membership as a consortium, and group trainings are another budget-friendly option. At a minimum, all instructional designers and academic leaders should be current on external, industry-based standards for excellence in distance education. The rubric provides a framework for aligning all other quality assurance efforts.

Step 7: Data Dashboards

The use of data to inform decisions and processes is critical. Yet data is only effective when it is clearly communicated. Faculty and staff are easily overwhelmed by multiple data sources, sets, sites. Prioritizing data via dashboards is a solution. Data dashboards- generated by Microsoft, Smartsheets, or another platform- ensure simple access, visual representation, and comparison of real-time information. For example, an academic dean may facilitate a department based dashboard reporting enrollment by program/ course, student success rates, retention rates, status of instructor OIC certifications, etc. Department chairs and other administrators would have instant access, limiting the need to request reports via email or meetings. Another powerful dashboard would allow faculty to see their own performance data over time. The sample data dashboard shown in Figure 3- generated via Power Bi- summarizes submissions and trends related to the Course Readiness Checklist described in Step 10 of this paper.

Figure 3.



Step 8: Data Team

Collecting, sharing, and analyzing data is the responsibility of all stakeholders; this is a culture shift for most institutions, where data typically is distributed from the top down. Forming a campus-based Data Team of faculty, staff, and leadership can produce powerful discussion and insight. Focus groups can target instructor outcomes, programs/ courses, student feedback, etc. This structure can lead to "aha" moments at multiple levels. For example, comparing student success rates between different term sessions, such as 16-week vs 8-week sessions, may yield more useful data than simply looking at general student success rates per course.

Step 9: Faculty and Leadership Repositories

Actively communicating and providing resources to faculty, department chairs, and deans in a remote environment requires substantial organization and planning. Creating repositories within the learning management system is a streamlined and efficient way to promote consistency. A digital faculty guide and/ or department chair repository allows instant access to documents, forms, support systems, data, etc. As an added benefit, housing information within the LMS encourages modeling of best practices for course design and navigation; faculty see an online "course" with accessible and engaging content.

Step 10: Course Readiness Checklist

Effective practices for ensuring online courses are student-ready may include the submission of a course readiness checklist. The course readiness checklist, submitted prior to the official class start date, asks faculty to verify/ acknowledge items are complete and current. Examples- aligned to the campus Faculty Guide and QM Rubric- may include:

- "I timely posted my Syllabus and Curriculum Vitae."
- "I provided a link to the end of course evaluation."
- "I posted the district policy on Artificial Intelligence (AI)."
- "I activated the attendance software."
- "I included a Start Here button on the Home Page."

For each item, a resource link is provided. This ensures faculty know where to go, or who to contact, if an item is unclear. It is also recommended to provide an automation feature wherein the faculty member may request an appointment with a department chair, instructional design team member, E-Faculty coach, or other support role.

Summary

The increased demand for online courses correlates to increased workloads for faculty, staff, and leadership. Hiring, staffing, and other logistical matters often trump the emphasis on course quality. Yet to remain relevant, innovative, and sustainable, institutions must be intentional and strategic in their quality assurance efforts. While immediately implementing all ten of the steps described in this article may not be feasible, each step is valuable in its own merit. To borrow and apply a phrase from a different context, "That's one small step towards quality assurance, one giant step for campus culture" (Armstrong, 1969).

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Artificial Intelligence and Distance Learning: A Tsunami on the Rise

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Abstract

The exponential growth of Artificial Intelligence (AI) increasingly shapes almost all aspects of human society. Higher education, and in particular distance learning, will undoubtedly incorporate AI as both a method and a content of every discipline taught. As mathematics became a foundation of the scientific method, AI is now a fundamental component of our computer-based future. Distance learning, as a computer-based learning system, will both shape and be shaped by AI. The potential power of AI must, however, also be balanced by the ethics of teaching and learning. With the rapid advances of AI and the seemingly infinite ability of today's students to comprehend both its use and benefits, it is vital, as educators, to get ahead of the wave.

Introduction

The concept of Artificial Intelligence (AI) has evolved over a number of generations. It is a combination of the statistical analysis of massive data sets through computer programs to enable problem solving. Specifically, computer programs, according to Russel and Norvig (2021), strive to develop systems which would think and act like humans, and think and act rationally.

As comprehensive as our computer-supported society has become, AI also has evolved from theory to practice. In 1950, Alan Turning noted the mathematical potential for machines to move beyond data harvesting to problem solving. In 1955, The Rand Corporation's *Logic Theorist* supported the possibility of a computer program that would mimic human problem-solving capabilities (Anoyha, 2017).

Though the theoretical roots of AI moved quickly, it took longer for computer technology to advance to have the computational power, memory and access to significant data sources to provide the foundations for its practical application. However, by the latter part of the 20th century, the gap between theoretical possibilities and technological capabilities had significantly closed. In 1997, IBM's Big Blue computer defeated World Chess Champion, Gary Kasporov (Senor, Singer, 2023). In 2011, IBM Watson defeated two *Jeopardy* champions and DeepMind's AlphaGo program defeated Lee Sodol, the world champion GO player in just four moves (IBM, 2023). These public exhibitions promoted the increasing potential of AI not only as entertainment, but as a serious component for future roles in almost all aspects of society.

Since the advent of artificial neural networks in 2012, AI capabilities have significantly expanded. Basic machine learning and data mining have expanded to problem solving, decision-making and new content generation. It has been used to improve efficiency and productivity in businesses, government, the military and other institutions, including higher education.

Theoretically, AI can take a variety of forms. Not all, however, are as advanced as others or are even currently feasible. The most basic form of AI is artificial, narrow AI, also known as limited or weak AI. This is the type of AI that is currently in use today. It involves programming single or simple tasks. All of our current AI products are of this type, though recent programs such as ChatGPT, DALL-E and others have pushed the limits of weak AI. In fact, ChatGPT as a free open-source technology has unleashed a massive wave of applications in a variety of fields, including distance learning (IBM, 2023).

Other forms of AI are currently theoretical, but advances are under development. They are general and super AI. Artificial general Intelligence (AGI) will allow previously learned skills to be used to accomplish new tasks in different contexts without prior human training. Artificial super Intelligence (ASI), still only theoretical, would be able to think, learn, make decisions, and manifest cognitive abilities beyond those of human beings (Anoyha, 2017).

Today, the form of weak AI which offers the most applicability to higher education and distance learning is generative AI. Based on large language models (LLMs) which provide extensive data sets for more than analyzing and classifying data, generative AI can create something entirely new (Daugherty, 2023). These new generative AI applications, such as ChatGPT harness text, images, audio, and other forms of communication that can be adapted for an almost infinite range of tasks without requiring task-specific training (Daugherty, 2023).

This new wave of AI driven applications is varied and often shaped by the environment they seek to address. The Lawler Model, one of the more popular strategies, is a comprehensive, multi-faceted approach widely used for product design and the application of AI to a variety of problem-solving environments. It focuses on understanding the problem space, data considerations, algorithmic choices, ethical concerns, interactive design, and deployment and monitoring strategies (Krause, 2023). Other product frameworks, such as Crisp-DM, Agile Development, the FAIR Model and Ethical AI have been developed to meet a range of specific applications (Krause, 2023).

Rapid advances in computer technology combined with new models of application allowed AI to shape almost every aspect of our daily lives. Finance, advertising, sports, management and manufacturing are a few of the areas where we interact with AI. Education and distance learning are no exceptions to this trend and are creating an environment of exponential growth and change.

AI and Distance Learning

Distance learning has come a long way from correspondence courses, television courses and satellite centers (Bates, 2012). The recent pandemic accelerated the growth and spread of distance learning from a peripheral delivery to, in some cases, the major delivery system for some institutions. Coinciding with this transformation of higher education was the rapid development of AI infused learning technologies.

Not a day goes by without at least one article in the *Chronicle of Higher Education* or a similar journal addressing the growing role of AI within higher education. A recent article (Dogan, Dogan, Bozurt, 2023) examined 276 articles and publications from around the world that focused on this transformation through AI assisted on-line learning. This comprehensive survey noted three general groupings of emphasis. They were:

1. educational data mining, learning analytics and artificial intelligence for adaptive and personal learning;
2. algorithmic online educational spaces, ethics and human agency;
3. and online learning through detection, identification, recognition, and prediction.

Institutionally LMSs are now employing AI in distance learning environment to enhance learning experiences, engage students more effectively and personalize their learning process (Martin, 2023). Textbook companies, using AI, are making personalized and interactive assets that provide multiple avenues of learning.

This tsunami of AI enhancements to online learning platforms elevates the context and content of distance learning. Martin (2023) notes that AI enhanced platforms can leverage student data, learning patterns and performance indicators to tailor personalized curriculums for students. Linking this potential with other AI related vehicles, such as virtual reality and game linked learning experiences, improves engagement, academic success and retention NMSU-A,2024).

AI - Benefits to Students/Faculty

Generation Z students have been raised on smart phones, electronic games and now ChatGPT. Stuart (2024) noted that their participation in virtual reality simulation and gaming-based distance learning supplements such as, badges, personal avatars and problem-solving activities, increased student engagement by 68%**.** Likewise, a 300% increase in homework completion was accomplished. Thus, publishers are now providing links to these types of supplements in their course packages, since most instructors are not qualified to develop this level of interactive AI support.

As students more frequently surf the AI enhanced learning environment, many educators have expressed concerns over the ease with which students can use generative AI to do their work for them. This view, while accurate, is somewhat myopic and ignores the real learning tools that AI provides students. Among the many benefits the students receive are:

- Personalized Learning – Students can learn at their own pace, allowing them to focus more on some of their weaknesses, while simultaneously helping them advance in areas of strength;
- Equalized Accessibility – Students of all economic statuses and geographic locations can have access to high quality educational resources;
- Continuous Assessment – AI can assess each student's progress and provide real-time feedback, identify strengths and weaknesses. (CIS, 2023)

The benefit of continuous assessment is of great importance in the distance learning arena. Assessment generally refers to recognizing and determining an individual's mastery of complex concepts or skills, emphasizing development over time and continuous feedback on performance (Ewell and Cumming, 2017). In traditional face-to-face classes, students gain immediate feedback from their instructors verbally, in writing, and visually. This is not as easily performed in distance learning classes.

Adaptive assessments which tailor the evaluation process help to identify learning gaps and provide targeted feedback. The instant feedback facilitates student learning by identifying mistakes and clarifying concepts. Likewise, AI algorithms can direct students to relevant supplementary information which can broaden the depth of their learning experience. New AI technologies, such as chatbots and virtual assistants, encourage a more immersive environment which improves student engagement. Finally, predictive analytics helps instructors and institutions identify issues and opportunities for improvement while also saving an instructors time by managing administrative tasks (Martin, 2023).

With student advancements in using AI technology for research, issues of originality in writing assessments, for example, have had to be addressed. Distance learning instructors now have access to writing assessment programs, such as Turnitin, that can evaluate work for plagiarism, as well as AI origination (Turnitin, 2024).

AI and Distance Learning – Institutional Level

AI is not only a tool for learning and instruction, but also a subject matter that is dramatically changing the distance learning environment. As both a method and a subject it is a rising wave that is transforming distance learning. Most institutions recognize the current and future role of AI in all aspects of their operational practices and educational mission. Many, like Arizona State University, are mandating the need for a better understanding of AI across the entire range of the university system (ASU, 2024). Enrollment management, institutional finance, operational logistics, residential management, athletics, community relations and many other areas increasingly are turning to AI developed programs.

One such area of significant AI impact has been the area of enrollment management. While admission directors grapple with standardized testing, the essay has been a critical component of admissions criteria. ChatGPT, however, has created an enormous challenge in this area. Since candidates can quickly create personal essays which could pass graduate level scrutiny for grammar, citations, and references, this component of the admissions process has become problematic.

Rick Clark, Georgia Tech's Executive Director for Strategic Student Access in Enrollment Management, notes that AI can assist the student and the Admissions Office, if used properly. He suggests that students use AI as a brainstorming tool to help generate ideas and thoughts and assist in organizing details. Conversely, admission officers should look for specificity, unique details, and a personalized voice throughout submitted essays since ChatGPT does not perform these functions very well. The training for this kind of professional development is within the domain of distance learning (Herseim, 2023).

Informing and training campus leaders in the potential of AI is another role addressed by distance learning assets, both institutionally and in conjunction with partnerships with AI companies. Recently, a virtual workshop sponsored by On Course addressed the use of ChatGPT and how it can change the online learning environment. On Course

(2024) explained ChatGPT, how to implement and use it, include it in course syllabi, ensure that student learning is enhanced, and a number of other relevant strategies related to distance learning. This and similar partnerships rapidly integrate AI into the fabric of distance learning. Consequently, many institutions are now offering courses related to AI at a variety of levels and forms.

Academic programs in computer science, statistics and related fields dealing with the technical aspects of AI are growing. At the undergraduate level, the basic prerequisites are being expanded in STEM programs. Though some AI courses and programs related to technology and engineering are offered through distance education, they remain primarily within the realm of on-campus courses due to the need for sophisticated computers and lab learning. However, some virtual simulation and related software are expanding the potential environment for online learning.

The tidal wave of expansion of online AI related subjects for institutions, however, is in the application of AI tools to meet a variety of organizational and institutional needs. Thus, distance learning is emerging as a primary vehicle for the rapid delivery of topic-specific courses and programs to train and document application specialists, who are now among the top-rated jobs in the American economy (MIT, 2024).

Because of the recent emergence of AI, many members of academe are turning to distance learning programs to augment their knowledge about AI and how it applies to their disciplines. Georgia Institute of Technology, Harvard, MIT, the University of Chicago and others have now moved into the certification and credentialing field for documenting applied AI specialists. Undergraduate and graduate programs addressing both the technology and applied potential of AI in scientific and other technical areas are increasingly within the domain of distance learning (MIT, 2024).

Requirements for some of these online short courses, programs and virtual seminars may include previous knowledge of computer science fundamentals; a background in calculus, linear algebra, statistics is suggested (MIT, 2024). However, most of these short courses or seminars are focused on helping administrators and those in leadership positions on how their needs may be better addressed through targeted AI applications. MIT offers an 8-week online course requiring 5 hours per week focusing on Introduction to AI-Based Product Design for $2,832 and encourages teams of participants to enroll (MIT, 2024). Obviously, these courses have become an attractive source of significant institutional revenue for distance learning programs.

ChatGPT

The seismic event that set forth the tsunami of AI infused distance learning was the advent of the Open Source ChatGPT in 2022. This generative AI tool is designed to be modified and adapted to a range of pedagogical uses by students and faculty in higher education and specifically in distance learning. It is a type of artificial intelligence model trained to generate coherent responses on a given topic. Optimized for dialogue, users interact with a chatbot in a conversational manner. The chatbot composes text in response to the user's prompts. Based on the quality and specificity of the prompts, the chatbot is capable of generating a variety of topics in a variety of styles (UT, 2024).

ChatGTP harvests data in the trillions from the internet and other constantly increasing data sources. As a LLM unlike previous large-scale data sources, ChatGTP is easily accessible. It can produce art, music, poetry, fashion, books, power points, training videos, research papers and even computer code (Senor, Singer, 2023). The accessibility of simple verbal or written prompts, combined with the fact that basic ChatGPT is free, unleashed a world-wide wave of AI innovations and applications in every aspect of the economy and institutional environments, including distance learning. Though basic ChatGTP is free, Open Source now offers a number of more advanced systems that are offered for profit.

It is important to note that ChatGT, though free, collects information from its users: such as when and how users interact with the tool, IP address, browser type, time zone, country, type of device, operating system, country and topics of inquiry. Open-Source profits from ChatGTP come from sharing this information with third party vendors, affiliates and other potential clients. Thus, the use of ChatGTP by students and faculty, matters of privacy and the security of personal information and perspectives may be at risk. This type of data harvesting increasingly is becoming an issue as to who controls such vast amounts of data and the manifest and latent consequences for the individual and the distance learning community (UT, 2024).

The ChatGPT revolution already is reshaping both the real and virtual classroom. Higher education instructors testing it report that:

1. ChatGPT generated papers received B+ to A- grades according to a set rubric;
2. a ChatGPT generated paper did not flag the Turnitin plagiarism detector tool (though Turnitin refutes this statement);
3. ChatGPT chatbot produced grammatically well written papers relevant to the topic, but struggled with creating detailed responses that demonstrate deep learning;
4. ChatGTP was able to do everything asked, including using APA formatting and correct citations (UT, 2024).

ChatGPT, however, also has some downsides. Since it is based on trillions of data points, such as the internet, the accuracy of the information may not be as valid as assumed. Similarly, as AI generated papers become part of the LLMs, the potential for intellectual incest increases. The Google incident that identified George Washington and other historical figures as persons of color exposed the problems of politically motivated programmers reshaping reality. Finally, as previously noted, the ease of manufactured responses threatens both academic integrity and the development of actual research and writing skills among users of this new tool.

The existence and emergence of ChatGTP is not debatable. The genie is out of the bottle. The question, as it relates to distance learning, is how it will be managed?

Impact of Artificial Intelligence on Distance Learning

As AI becomes more common and developed within distance learning, its impact will expand exponentially. Students will embrace the advantages of ease of access with research and writing tools. Faculty will become more active participants in interactive learning strategies and programming learning opportunities. The need to manage what deep learning will become and the ethical issues of academic honesty will increase.

Online learning will be transformed by its ability to tutor and provide instant answers and clarifications on specific topics. With properly created course content, distant learning instructors can focus on creating and engaging digital learning experiences. As AI enhances the learning experience it also enriches the skill set of its practitioners. Also, since ChatGTP employs natural language processing capabilities, it allows students to interact and ask questions in the style and language of their choice. Finally, alternative learning supplements, like gamification and virtual reality simulation experiences, will engage and motivate the internalization of new knowledge in challenging ways (Martin, 2023).

In the integration of any new technology, transitions are not always easy. In the case of distance learning, faculty will need to revise their syllabi to address issues of ethical and academic integrity with special emphasis on how to legitimately use AI related tools. Emphases will be needed to make sure that assignments require not just facts, but how and why facts make a difference. Examinations will need to require more indicators of deep learning and not just objective information. Likewise, faculty will need to understand that generative AI has the potential to produce false content, plagiarize existing content and create original content without human effort or expertise (Frye, 2022).

Students will need to move beyond “just the facts” and advance to more creative and application focused learning. Assessment will become more challenging, and issues of authenticity and plagiarism will become more serious. Getting it done will be replaced with getting it right. Understanding that AI informed assessment tools are rapidly advancing, hopefully, will curb the appeal of efficiency over authenticity in their academic efforts (Aydin and Karaaslan, 2023).

The role and function of distance learning will likewise reflect the tsunami of change in what it is and how it does it. Asynchronous learning will not be exclusively for the alternate delivery of standard course content. Distance learning will expand its role in training and applying information. Short courses, workshops and credential documentation will, most likely, come to dominate the role of distance learning.

The dramatic rise of ChatGPT also has led to speculation that it will challenge higher education as the primary source of learning and training in society (Xue, et.al., 2022). With proper programming, will professors be needed? Increasingly, many institutions now encourage or require that basic courses be taught in a consistent manner. Common texts, common quizzes and examinations and shared rubrics for grading are increasingly the norm in

community colleges and other higher education environments. Textbook companies now provide AI developed chapter summaries, frequently asked questions/chatbots and examination questions which facilitate common content control.

Will this AI supported transformation of higher education replace those who profess with those who program? Will academic freedom be sacrificed for academic efficiency? Will these and similar questions expand the role of higher education and distance learning, or will it create a world of skilled workers trained and programmed by those who control the machines, at least for now?

Summary

The exponential growth of artificial intelligence increasingly shapes all aspects of higher education and specifically distance learning. Its evolution from theory to practice has unleashed a tsunami of issues and opportunities within almost every field and discipline. We are rapidly moving through weak AI and are on the threshold of more advanced forms of AI.

Distance learning is riding this wave of educational change. Students and faculty are adapting to more dynamic learning environments. The integration of text and related materials being addressed in a variety of new formats, combined with the professional contributions of informed faculty, and supplemented by more insightful assessment and feedback will become a new and more powerful form of teaching and learning.

With the transition beyond ChatGTP to more advanced forms of AI, distance learning programs will be transformed and expand its domains to address the needs of both traditional students and others who will need to appreciate the growing role of AI in their lives and professions. Training of skilled workers in almost all phases of society will be enhanced. However, instilling those values and perspectives that are beyond the capabilities of AI to insure ethical and responsible use of information management will become critical.

This transformation of society and distance learning, however, is not going to be easy. Challenges are going to be encountered ranging from academic honesty to institutional missions. AI is both a powerful tool and a powerful weapon. Serious questions already are emerging as to the role of higher education. Will distance learning be a form of training or a form of understanding? What will comprise the LLMs of the future that will proclaim our reality?

The problem with tsunamis is that they are beyond our control and often very messy.

Surfs up!

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Leveraging Cloud Computing and Automation to Enhance Faculty Effectiveness in Student Success Initiatives

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Abstract

Kennesaw State University (KSU) has developed a novel approach to supporting faculty in their efforts to improve student outcomes. By leveraging cloud computing technology and automation, KSU has created uHoo Analytics, a system that provides faculty with actionable insights into student performance and engagement. This paper explores the key features of uHoo Analytics, our training for sustaining use of the platform, and preliminary findings regarding the impact of uHoo on faculty teaching and learning.

Introduction

Like many institutions of higher education, Kennesaw State University (KSU) has directed institutional focus towards greater access to a degree and student success in earning that degree. In fact, KSU is built on a legacy of growth, transformation, and tenacity, which has made it one of Georgia's most innovative institutions in teaching and learning. It is the third-largest university in Georgia, with 45,000 students enrolled in over 180 undergraduate, master's, doctoral degree, and certificate programs. A large portion of Kennesaw's student body depend on financial aid and experience corresponding difficulties as a college student (Kennesaw State University, 2023).

In their effort to support all learners, faculty at KSU face the challenge of gathering and analyzing instructional data during the semester to make timely interventions that can improve student outcomes before a student fails the course. To address this challenge, KSU has developed uHoo Analytics, a cloud-based system that automates data collection and provides faculty with actionable insights into student performance and engagement. The primary objectives of uHoo Analytics are:

1. To provide faculty with evidence of supporting student success for promotion and tenure documentation.
2. To be FERPA compliant.
3. To use the Caliper Analytics standard (Oakleaf, et al., 2017).
4. To protect instructor data from surveillance.

Solution Design

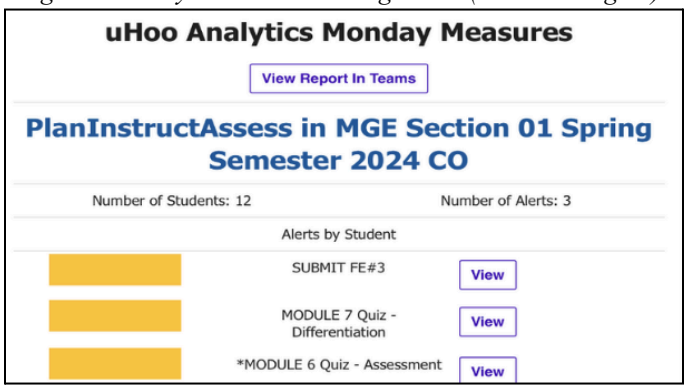
uHoo Analytics leverages cloud computing technology and automation to distribute actionable analytics to faculty and train them to interpret and act on critical data points. The system consists of several key components:

- Monday Measures Email
- uHoo Faculty Dashboard

- Faculty MicroCredentials
- uHoo Program Coordinator Dashboard

The Monday Measures Email (Image 1) that faculty receive weekly prioritizes key data from the past week, alerting them to students, assignments, and quiz questions displaying concerning trends. The email includes direct links to the uHoo Analytics dashboards.

Image 1: Monday Measures Alerting Email (redacted in gold)



The uHoo Faculty Dashboard consists of a collection of dashboards providing detailed insights into individual students, assessments, quizzes, rubrics, alerts, and overall course performance. The dashboard collection includes:

- *Course Analysis*: Data and alerts for all students in a selected course (Image 2).
- *Assignment/Quiz Analysis*: Data for quizzes, assignments, and rubrics for the selected course.
- Student Analysis: Data for each student in the course (Image 3).
- *Quiz Question Analysis*: Data for individual quiz questions in a selected quiz in the selected course.
- *Alert Analysis*: Data for assignment, quiz, and engagement alerts.
- *Rubric Analysis*: Data for individual rubric criteria in a selected rubric in the selected course.
- *Program Assessments*: Program coordinators are provided drillable rubric and quiz assessment data.

Image 2: uHoo Course Analysis Dashboard (redacted in red)

Image 3: uHoo Student Analysis Dashboard (mock data)

Our faculty microcredentials provide a sustainable solution for faculty use of uHoo Analytics with a focus on student success. The four-course series, *uHoo Analytics: Faculty as Learning Scientists*, prepares faculty to use uHoo Analytics along with their expertise as researchers to think like a learning scientist (Lokey-Vega, 2024). The first course, *Intro to uHoo Analytics*, provides an overview to accessing and using the dashboards as well as configure their D2L course design to optimize uHoo Analytics performance. *Learning Analytics 101* offers an introduction to the theories and fundamentals of learning analytics. During this second course, participants define and recognize four types of data for evaluating course and student success: descriptive, diagnostic, prescriptive, and predictive. Participants also learn about formative and summative data and are asked to analyze the success of such assessments using hypothetical data in uHoo Analytics. In the third course in the series, *Faculty as Learning Scientists: Student Success*, focuses on interrogating and interpreting individual student data within the uHoo Analytics dashboard to draw appropriate conclusions based on trends. Participants also create a remediation plan for a struggling student and draft an evidentiary document demonstrating their contributions to student success based on template data or their own course data. The final course in the series, which culminates in a Digital Certificate, is titled *Faculty as Learning Scientists: Continuous Course Improvement* and focuses on using uHoo data to inform revisions to course content. During this course, participants reflect on trends in the overall data and consider possible revisions to content, assignments, or assessments. To support their tenure and promotion documentation, they also draft an evidentiary document demonstrating their contributions to continuous course improvement.

These uHoo Program Coordinator Dashboards automate data collection and provide detailed visualizations about program assessments delivered across course sections and across semesters. These are currently under development and will be useful each semester for collecting and interpreting program assessment data. Additionally, these visualizations will provide insight to program coordinators as they work to improve their programs.

Learning Impact

Since its implementation, uHoo Analytics has had a significant impact on faculty effectiveness and student success initiatives at KSU. Key findings include:

- Over 230 faculty are currently using uHoo Analytics, with a 190% uptake in the first quarter of 2024.
- The Fall 2023 pilot research study found that uHoo Analytics supported faculty in their efforts toward student success, informed instructor-made course improvements and student interventions, guided faculty

adoption of new teaching strategies, helped faculty document teaching effectiveness for reviews, and facilitated faculty access to uHoo an average of 5 times per month.

Additionally, preliminary findings from a survey (n=26) indicate:

- Pilot participants found that uHoo helped them identify patterns or trends of student behavior or performance and predict student outcomes.
- Pilot participants stated that uHoo changed their teaching behaviors and influenced how they are supporting student success.
- Participants favored the Course Analysis and Student Analysis dashboards while the alerts were most helpful in predicting student outcomes.
- Respondents stated was the feature most likely to prompt action was the Monday Measures email.

The quantitative analysis for this study revealed that within the first semester of use 25 pilot participants had an increase of 0.10 or greater in the GPA over the same course they taught one-year prior.

Discussion

uHoo Analytics addresses several key challenges faced by faculty in their efforts to improve student outcomes. By automating data collection and providing actionable insights, the system empowers faculty to identify students in need, visualize common challenges faced by students, identify opportunities for course improvement, and streamline program assessment processes.

The KSU uHoo Analytics alerting system pulls and visualizes data from D2L to empower faculty in the following ways:

1. *Identifying Students in Need*: uHoo Analytics prioritizes faculty attention with alerts for students who may require additional support or tutoring.
2. *Visualizing Common Challenges*: The tool provides visualizations that reveal common stumbling blocks faced by students within a course.
3. *Course Improvement Insights*: uHoo illuminates opportunities to revise course content, activities, and assessments.
4. *Automation of Program Assessment Processes*: Automates the pull and visualization of key program assessment data from across course sections simplifying program coordination responsibilities for faculty.

Conclusion

Kennesaw State University's uHoo Analytics demonstrates the potential of cloud computing and automation in enhancing faculty effectiveness in student success initiatives. By providing faculty with timely, actionable insights into student performance and engagement, uHoo Analytics supports faculty in their efforts to improve student outcomes and document their teaching effectiveness for promotion and tenure.

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The Balancing Act: Leveraging Onboarding Processes to Navigate New Instructors Engagement and Course Integrity at the University of Michigan

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Abstract

The rapid growth of online education has increased reliance on adjunct instructors, who often face challenges such as limited preparation time and unfamiliarity with institutional resources. This paper outlines a structured onboarding process implemented at the University of Michigan School of Public Health to support new adjunct instructors in effectively delivering previously developed online courses. The process includes an overview meeting, a course content audit, and collaborative planning, aiming to enhance instructor preparedness, course quality, and student learning experiences. This structured approach is pivotal in maintaining high educational standards and improving the overall online learning experience.

Introduction

The rising trend in online education is underscored by significant enrollment increases in distance education courses. In 2022, an estimated 10 million students, or 54% of all college students, enrolled in at least one distance education course (National Center for Education Statistics, 2023). Despite a 10% decline in overall enrollments since 2012, distance education enrollments surged by 110% (Shriner, 2023). To accommodate these changes, institutions increasingly rely on contingent faculty, who make up 68% of faculty positions, up from 47% in 1987 (Colby, 2023). Contingent faculty, which includes adjuncts and lecturers, often fill non-tenure-track, part-time roles that are typically temporary and subject to renewal based on institutional needs (American Association of University Professors, n.d.).

Adjunct instructors face challenges such as limited preparation time and insufficient notice before teaching assignments (American Association of University Professors, n.d.). They often lack access to essential resources, including technology support, syllabi, curriculum guidelines, and an orientation to the institution (Brown et al., 2017). Improved communication with key university contacts is crucial, as many adjuncts report not knowing their point of contact, which hinders their ability to feel connected and supported (Robinson-Bryant et al., 2020). To enhance instructional capabilities and adapt to the demands of online education, adjunct instructors seek robust support systems focused on course preparation, student learning optimization, and the application of teaching technologies (Bolitzer, 2019).

This paper describes a structured onboarding process at the University of Michigan School of Public Health (UM SPH) designed to enhance adjunct instructors' effectiveness and satisfaction. This process offers a blueprint for improving preparedness and course quality in the rapidly evolving landscape of online education.

Background

In 2019, UM SPH launched an online Master of Public Health (MPH) program, initially taught by full-time tenure-track and clinical faculty. Over time, some departments began enlisting adjunct instructors to teach these online courses, often hiring them shortly before the term started, leaving minimal preparation time. This practice introduced several challenges, including technical issues, insufficient preparation, and course quality assurance problems. Adjunct instructors needed to familiarize themselves with extensive course materials, including numerous readings, video lectures, and assignments, often within a limited timeframe. Those who neglected to review content on the learning platform encountered challenges in navigating and locating course materials. Student feedback

highlighted adjuncts' perceived lack of preparedness and difficulty navigating the platform. Unprepared adjuncts often struggled to respond to student inquiries accurately, providing conflicting answers and failing to identify erroneous answer keys. Additionally, a disconnect existed between content covered in weekly synchronous meetings and content required for students to succeed in completing course assessments.

To address these issues, UM SPH implemented a structured onboarding process for new adjunct instructors teaching courses developed by others. The process aims to set clear expectations, provide necessary support, and ensure that instructors are well-prepared to deliver high-quality online education. By empowering adjunct instructors through guidance and support, the onboarding process helps foster course ownership and maintain the integrity and standards of the program while enhancing the teaching experience for adjuncts and the learning experience for students.

Onboarding Process

The new adjunct instructor onboarding process at UM SPH consists of three components: an overview of the onboarding process and course details, a comprehensive course content audit, and a collaborative planning session with the Instructional Services team. These components help new instructors understand the course, its content, and the necessary support structures to deliver a high-quality learning experience.

The first component, an overview, begins with a meeting between the instructor and the Assistant Director of Online Programs (ADOP). During this meeting, the ADOP outlines the onboarding process's purpose, instructor responsibilities, and support provided by the Instructional Services team. Instructors receive detailed course information, including a course description, syllabus link, and enrollment parameters, to help them prepare for the course's pace and requirements. The ADOP briefs instructors on program expectations for assignment deadlines, weekly live sessions, and use of the cloud-based instant messaging and collaboration tool used by students in the online MPH program. Instructors also receive a comprehensive list of key contacts for assistance with various questions. The ADOP then guides the instructor through the learning management system (LMS), explaining how to locate content in preparation for the course content audit.

The second component, the course content audit, involves a thorough review of course materials using a detailed checklist. On their own time, instructors review video lectures, readings, assignments, and grading criteria, recording the status of each item reviewed and documenting necessary and potential modifications to ensure content accuracy and relevance. This process gives instructors some autonomy while maintaining overall course design consistency and quality. Completing the audit familiarizes instructors with the course content and structure, helping to ensure alignment between live weekly class discussions and student assignments. With a comprehensive understanding of the course, instructors can better address student queries and direct them to pertinent content.

The third component, collaborative planning, entails meeting with a member of the Instructional Services team to discuss course modifications and set deadlines. The staff member outlines the information required to prepare the course on the LMS, covering assignment due dates, grading schemes, and syllabus updates. Technical aspects such as configuring Zoom links, using Slack, and integrating instructional tools are addressed, along with the process for recording a welcome video. Together, the staff member and instructor set deadlines for completing the course audit and making necessary changes, optimizing the available preparation time before the course begins. This structured onboarding process equips adjunct instructors with the tools and support needed to effectively prepare for their teaching roles, enhancing their readiness and the student learning experience.

Outcomes

The new instructor onboarding process was developed in 2023, with the first onboarding meeting held in March of that year. Since then, nine instructors have participated in the process. Of those nine instructors, seven completed either all or most of the course content audit checklist, reviewing readings, videos, and assignments. On average, departments notified the ADOP of a new hire approximately eight weeks before the course opening date, and the initial onboarding meeting occurred approximately six weeks before the course start date.

Instructors with the shortest lead times between the initial onboarding meeting and the course open date (2-4 weeks) struggled to complete the checklist. Specifically, two instructors did not complete any checklist items, and one reviewed only the first half of the course. These instructors also had the shortest notification periods between the hiring date and course start date (6-7 weeks) and faced additional constraints like holiday plans and international hiring hurdles. Conversely, instructors with ample notice started onboarding well in advance, allowing sufficient

preparation time. One instructor, who began onboarding a year before the course, appreciated the extra time for preparation and added new assignments focused on generative artificial intelligence tools.

Adjuncts valued the support from key contacts, finding prompt responses from staff and effective problem resolution beneficial. They found the detailed course content checklist helpful for organizing and tracking course content, making it easier to review and document changes. Noting changes on the checklist empowered adjuncts to suggest future course updates such as adding new lecture videos and aligning course content with current industry trends, while also identifying issues needing immediate attention, like broken links and confusing assignment instructions.

This structured onboarding process represents a significant step towards enhancing adjunct instructors' readiness and effectiveness in delivering online courses, contributing to a more positive experience for both students and instructors.

Discussion

Implementing a structured onboarding process for new adjunct instructors teaching previously developed online courses at UM SPH positively impacted instructor preparedness and course quality. This process aligns with Parker et al. (2018), who reported that adjunct faculty view onboarding and orientation as vital to success. The onboarding process provides comprehensive support, fostering a sense of ownership while maintaining course quality.

Length of preparation time impacts an instructor's ability to complete a thorough course audit. Those with ample preparation time reported feeling well-prepared, while those with shorter lead times struggled to complete the course audit. This points to the importance of early notification and adequate preparation time. Aligning employment dates with term dates can discourage instructors from early preparation. The absence of audit completion requirements or penalties also impacts participation. However, many diligent adjunct instructors take advantage of advance preparation time, even if not contractually covered.

Timely communication and early engagement with new adjunct instructors are essential. Institutions should notify adjuncts of their assignments well in advance and develop alternative support strategies for unavoidable just-in-time hiring. The onboarding process should be flexible to accommodate instructors' schedules, particularly around holidays or personal commitments. Including specific guidance on common questions, such as grading policies and handling student accommodations, can further support new adjunct instructors.

Various factors impact the broader relevancy of the outcomes. The small sample size of nine instructors limits generalizability. Expectations at UM SPH may differ from other institutions where adjuncts develop courses independently, impacting the applicability of the findings. The hiring of UM SPH adjuncts approximately eight weeks prior to the term start may be substantially greater than the timeframe at other institutions, allowing for more time for instructors to prepare and complete an onboarding process.

Conclusion

The use of a structured onboarding process at the University of Michigan School of Public Health helps prepare new adjunct instructors to effectively deliver high-quality online courses. By providing comprehensive support and clear expectations, this process empowers instructors, improves course quality, and helps to align content with current trends. Early notification and adequate preparation time are critical for successful onboarding. While the study's small sample size and specific institutional context limit its generalizability, the findings emphasize the value of structured onboarding for new adjunct instructors. This process represents a vital step towards improving the overall teaching and learning experience in online education.

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Exploring Social Capital Theory for Distance Learning: A Framework for Enhancing Outcomes Both in School and After Graduation

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Abstract

This paper explores using a social capital framework in designing and facilitating online courses. Social capital encompasses not only connections and networks but also specific qualities of those connections. The purpose of using a social capital framework is to help enhance educational outcomes and post-graduation success. The social capital framework discussed in this paper is based on Grootaert et al.'s (2004) dimensions of social capital—groups and networks, trust and solidarity, collective action and cooperation, information and communication, social cohesion and inclusion, and empowerment and political action. The paper also compares social capital and the widely known Community of Inquiry framework, which includes social, cognitive, and teaching presences. This integration provides a theoretical foundation for designing more engaging and effective online educational programs and encourages using alternative lenses to view engagement in online learning.

Introduction

Social capital refers not only to the networks individuals and organizations have but also to the strength and value of those networks. When accumulated, social capital benefits individuals and communities (Stanton-Salazar, 2011). Social capital frameworks have been applied in several fields, including education, to improve the breadth and depth of our understanding of these formed networks (Almeida et al., 2021; Dika & Singh, 2002; Glass, 2023; Schwartz et al., 2023; Stephany, 2019). At first thought, one might think about the number of connections or the size of their networks as essential indicators. Social capital theory improves understanding of those networks' qualities and values. When applied in an educational context, it can be used to improve student outcomes and encourage post-graduation success. Social capital theory is not meant to replace existing instructional design or course facilitation approaches but rather a companion framework for viewing and understanding the depth and breadth of classroom relationships that can have a positive effect in school that can follow through graduation. This paper briefly explores social capital theory, compares it to the Community of Inquiry, and discusses how a social capital framework can inform and influence distance learning.

Social Capital

One practical approach to measuring and understanding social capital was developed by Grootaert et al. (2004). Drawing from various frameworks, these scholars defined six dimensions to describe social capital. The first dimension, groups and networks, is perhaps the most straightforward, referring to the people and groups a person is connected with. The remaining five dimensions, trust and solidarity, collective action and cooperation, information and communication, social cohesion and inclusion, and empowerment and political action (Grootaert et al., 2004), provide a more nuanced understanding of how these groups and networks can be characterized. In an academic setting, these dimensions find direct application. For instance, fostering trust, cooperation, empowerment, communication, and information sharing in an inclusive environment can create a highly engaging classroom atmosphere.

Another way to think about social capital is through the three forms as described by Woolcock and Sweetser (2002). These include bonding, bridging, and linking social capital. Bonding social capital describes our close connections, including family members and friends. In an academic context, bonding social capital includes classmates. Bridging social capital reaches beyond bonding social capital and can consist of connections to colleagues at other organizations. In an academic context, bridging social capital can involve connecting with students in different

departments or other institutions. Linking social capital involves connections to those in positions of power or authority. In an academic setting, this can include student relationships with teachers and administrators.

These networks, qualities, and our understanding of how social capital works can help graduates develop and use their accumulated social capital as they embark on their professional careers. In one example, Burt (2005) discusses the concept of structural holes. These are gaps in an organization's network. Those individuals who can bridge those gaps by using their network are in a better position to succeed in the organization. Thus, intentionally applying social capital theory in design and content can have lifelong benefits.

There are other frameworks for analyzing social engagement in online learning environments. Redmond et al.'s (2018) engagement framework focuses on "social engagement, cognitive engagement, behavioral engagement, collaborative engagement, and emotional engagement" (p. 199), sharing several aspects with social capital. In examining improving communication and information sharing, Cummings et al. (2003) applied a student-focused model incorporating the structural opportunity to share, the cognitive ability to share, and the motivation to share.

Another popular framework is the Community of Inquiry (CoI). Garrison et al. (2000) described three presences within the framework: teaching, social, and cognitive. CoI shares much with social capital, and several studies have incorporated both concepts (see Kovanovic et al., 2014; Toma & Berge, 2023). Where CoI can help design and evaluate the broader learning experience, a social capital framework provides 1) a deeper look into that learning experience and 2) a focus on how the relationships formed during these learning experiences can yield lifelong benefits.

Applications in Distance Education

While developing interactions in distance courses, the social capital framework can complement CoI by providing additional perspectives for inclusion based on Grootaert et al.'s (2004) dimensions, including groups and networks, trust and solidarity, collective action and cooperation, information and communication, social cohesion and inclusion, and empowerment and political action.

Social Capital in the Content

When providing social capital-specific content, we are open and direct about using a social capital framework to help students develop strong networks and accumulate social capital. Specifically discussing theories such as Burt's (1995) structural holes in organizations can help students understand the importance and use of social capital.

Social Capital to Assist Course Development and Facilitation

Online discussions are often intended to help build engagement among students and with the instructor. The success of the interactions, specifically in terms of developing a network, is in question. Creating prompts and replies that encourage more authentic engagement may be one way to help students develop a meaningful network.

Collaboration can also help students develop social capital. Liu and Li (2012) investigated virtual student teams, focusing on the concept of knowledge sharing using a class wiki. Not only can knowledge sharing be impacted by the existing social capital in a classroom (think about trust, cooperation, and communication), but also as bonds form and strengthen, knowledge sharing may increase. Mentoring programs have also been described as useful tools for developing social capital in online courses (O'Neill, 2004).

Observing students engage with each other throughout a course can provide opportunities to develop additional social capital dimensions. These opportunities may be more impactful for students in fully online programs, as other opportunities for engaging with other students can be limited outside the classroom.

Conclusion

This paper focuses on developing social capital to benefit individuals and learning community members. It uses a social capital framework to provide an alternative, longer-term perspective on student engagement in online courses.

By understanding the dimensions of social capital and its impact on student engagement, educators can create opportunities for students and the class to develop social capital.

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Championing 10 years of Student and Faculty Success: The Role of an Online Campus

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Abstract

Selected in 2020 as the Top Online College in the United States, the TCC Connect Campus operates through planning, forecasting, and data-informed initiatives. The online campus of Tarrant County College is the only virtual campus in Texas built from the ground up. The campus has been at the forefront of serving non-traditional students via eLearning and accelerated programs. This article provides information on how to scale academic offerings, student services, quality, and rigor and develop best practices to support an annual enrollment of 30,000 students. The paper details the aspects associated with the evolution of a young online campus following a session presented at DLA 2024.

Keywords
Online learning, online campus, centralized distance education, student success in online learning.

Introduction
TCC Connect Campus is the only fully online campus in Texas built from the ground up (Morales, 2017) and the fastest growing of the six campuses that are part of the Tarrant County College System. Since its inception, its focus has been on serving the underserved, no-traditional students who cannot attend a traditional face-to-face schedule and campus. Online learning, a variant of distance education, is the most researched topic in higher education (Bozkurt et al., 2015). From teaching strategies to instructional technology tools, from simulations to faculty development programs to student advising, among many other themes. Established in 2014 as a campus, the TCC Connect Campus has an enrollment of 32,000 students per semester, with centralized responsibilities over online learning, weekend college, and dual credit; the Campus has been a model of innovation while developing innovative and unique practices impacting student and faculty success.

The campus is responsible for 26% of the total college headcount and full-time equivalent (Tarrant County College District, 2023), having served more than 300,000 students over ten years. The team assigned to the virtual campus continues to lead the effort through advising for the acquisition of instructional technology, annual planning, strategic planning, and pioneering protocols that model for the rest of the college system. Tarrant County College, located in Fort Worth, Texas, serves 86,000 student enrollments and has five physical and one virtual campus.

Growth and Innovation
After the concept plan was approved, an administrative unit to manage and start implementation of the campus was established. Since the early days, it was forecasted that the campus would grow exponentially due to primarily two reasons: extending the college reach to underserved populations close and far from the college and the hope of online learning as an equal access and equalizer of student learning and success. Opening its doors in August 2024 with 10,253 student enrollments (Morales, 2017), the TCC Connect administrative unit started offering courses in ten areas ranging from information technology to business. A year later, in September 2015, SACSCCOC granted initial accreditation to the TCC Connect Campus; the accreditor came five years later, in 2020, to visit and review our initial status. TCC Connect Campus was reaffirmed with an enrollment of 24,000 students in Fall 2020.

The online campus has grown since its inception, achieving a healthy and sustained 6% annual growth. Contrary to popular belief, the growth of the campus has been primarily for new students rather than a transfer of the students enrolled in the face-to-face campuses to the online campus. This is an essential aspect of the history of the campus, as, at times, there has been a perception of the online campus “draining” the students enrolled at the sister campuses when students have been attracted to the online modality in what some colloquially call “students are voting with

their feet." The growth has been steady and significant for all the known reasons: flexibility, availability of course sections, and a schedule that helps the students complete promptly.

The students who enroll and attend the TCC Connect Campus have access to multiple start dates—16, 12, 8, 7, 5, and 4-week terms—providing the most excellent flexibility in the college system. Thus, they directly exemplify and contribute to the Texas 60x30 and Texas Strong plans (Texas Higher Education Coordinating Board, 2015; 2023).

Centralized vs. decentralized distance education.
For many years, the argument that colleges and universities should have their distance education operations decentralized or centralized has been in an ebb and flow behavior. Many institutions have chosen decentralization to provide greater control at the department level for the selection and availability of courses. This approach has limitations as it is seen as a gatekeeper due to the perennial perception that online offerings erode campus-based offerings. Student success in those operations is often reported differently as part of a department rather than a modality. On the other hand, centralized distance education is designed with the student in mind. This approach gives control of the schedule, sections, and frequency to the campus and, thus, the student (Morales, 2023). In the case of the TCC Connect Campus, this has resulted in increased student success, faculty success, best practices, awards, and a focus on refining the practices. The campus has been recognized six times, including being the Top Online College in the United States in 2020 (TCC News, 2020).

Student Success
The centralized nature of the campus requires a portfolio of student services that permit students to study online and maximize the benefits of flexibility, interactivity, prompt service, and support service. Knowing that online students maximize flexibility and on-demand study, the campus must provide students with the widest set of services possible; this is also a requirement of our accreditor, SACSCOC.

Student success is made possible through the collaboration of the divisions of Student Affairs and Academic Affairs, each led by a Vice President and supported by Directors. This section highlights three key support areas: *Online Advising, Student Activities, and Success Coaches.*

Online Advising and Success Coaches
As a fully online campus, our students must have access to the same services their fellow students attending the face-to-face campuses of the college (SACSCOC 2012 principles DE accreditation). Online advising is delivered fully online by the Online Advising Department and follows the college's advising model. The advising unit operates 16 hours daily, a strategy aligned with the student's needs due to their multiple demands and responsibilities. Providing students with advice in online programs has been supported in the literature as a strategy that results in student success, progression, and completion (Morales & Gantt, 2018).
Success Coaches work side by side with academic advisors to delineate goal setting, program selection, and advice on study techniques and strategies as students transition to college life. These activities are paramount for students to succeed in online courses, as they are synonymous with independent study, and having access to the assistance of advisors and coaches aids students in navigating the demands and complexities inherent to attending college.

Student Activities
The campus has invested in creating a community for the students who attend Tarrant County College via its online campus, an important component of the student success models the college has implemented. Students attending online classes and programs have been able to have access to equivalent activities that allow them to connect with classmates, peers, and guests who deliver sessions on relevant topics. Moreover, we have developed workshops and informational sessions, among other activities, that help the students be successful in their classes, lives, and workplaces. The campus has sponsored the creation of student clubs and implemented the first virtual chapter of the Phi Theta Kappa (PTK) Honor Society in the southwest region of the United States, a testament to our commitment to student success, progression, and academic achievement. We have a Student Government Association that regularly schedules online and face-to-face activities, thus fostering students' connection with faculty, classmates, and resources in the community. These activities result from a collaborative effort between Student Affairs and Academic Affairs. Finally, our students can access travel opportunities, an activity that allows them to widen their view of the country and the world. These activities seek to provide firsthand experience in professional environments, workplaces, legislative sessions, and professional development. Faculty play a critical role in

developing activities, leading activities, being chaperones for travel, guiding students on the best way to plan an activity, and infusing leadership skills and competencies in students.

Faculty Success

Growth and presentation data programs.

Ensuring students have access to the best faculty, the campus has been afforded phenomenal teaching personnel. Designated faculty —with an appointment to teach online— is a critical component of the academy. They are the subject matter experts in two key areas: teaching and online pedagogy. The faculty makeup of the campus is 49 full-time —many more available through the sister campuses—and 500+ adjuncts. This model allows for stability of the offerings as dedicated faculty can participate in committees, program development, and planning and shape the overall teaching strategy of the online campus. A rigorous and mandatory professional development program ensures our faculty are equipped with the skills, techniques, tools, and competencies to deliver effective online education (Morales, 2018; 2022).

Faculty success is possible through a comprehensive faculty support team that includes a complete division of Academic Affairs led by a Vice President of Academic Affairs, Deans, and Directors. I want to highlight three key support areas: Academic Affairs Operations, Instructional Designers, and eFaculty Coaches.

Academic Affairs Operations

This unit is responsible for teaching, instruction, curriculum, and new program development. This unit is also responsible for developing partnerships with new organizations, including Independent School District and universities.

Instructional Designers and eFaculty Coaches

The art of online teaching requires having access to course developers who can consult with faculty about the techniques, strategies, and approaches to create the most effective lesson or a new course. The TCC Connect Campus has an instructional design department—which includes seven instructional designers, a graphic designer, and an ADA specialist— a core unit that assists faculty with all aspects of course design, professional development, and accessibility, assessing the viability and structure of an existing or a new course. Revisions of existing courses are completed under the guidance and leadership of instructional designers as they act as architects for course design and development. New course development is managed using a project management approach that includes a minimum of three subject matter experts and one instructional designer.

When the faculty starts teaching for the campus, the student is paired with an eFaculty Coach. This individual works with the instructor on the aspects of the quality of the teaching (Villasenor, 2022), expectations of the teaching, compliance with college protocols and policies, and state and federal policies and regulations. Their role is observational and in an advisory capacity. They make recommendations to faculty members on how to improve their teaching repertoire and recommend professional development (Kelton, 2021).

Conclusions

Online learning enrollments have grown steadily during the last two decades; the COVID-19 pandemic boosted them through 24/7 access to education —Emergency Remote Teaching—only through technology-enabled classrooms, Learning Management Systems, and limited oversight over the services in the academic and student affairs areas. The TCC Connect Campus was established six years before the worldwide life-changing event. This milestone for the institution allowed a seamless transition through a structured, planned, supported, and sound centralized delivery of online learning (Morales Irizarry, Casanova Ocasio, 2020). The growth and evolution of the campus have been exciting and fast, and it has been seen and recognized by higher education people and organizations. The advent of new tools and a better understanding of the modality through continuous improvement and quality assurance makes the forecast for the future bright and exciting.

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Supporting Online Education and its Infrastructure: The Implementation of a Virtual Computer Lab

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Abstract

This presentation discusses the TCC Connect Campus's success in implementing a Virtual Computer Lab (VCL) to support online learning. Students enrolled in online courses need the proper digital learning infrastructure to access the courses. Using a VCL eliminates that barrier, as students can connect to powerful servers and access software from any device, regardless of its specifications. The author will communicate the strategies employed to grow and scale academic offerings, student services, quality, and rigor and develop best practices to satisfy non-traditional students as an utterly online campus. The campus will be celebrating its 10th year of operation in 2024. The paper details the aspects associated with establishing a virtual computer lab following a session presented at DLA 2024.

Keywords
Online learning, online campus, centralized distance education, student success in online learning.

TCC Connect Campus: A Leader in Online Education
TCC Connect stands out as Texas' first fully online college, designed specifically for remote learning (source: Morales, 2017). It's the fastest-growing campus among the six in Tarrant County College District, catering to busy adults and those unable to attend traditional classes. Online learning, a well-studied approach in higher education (Bozkurt et al., 2015), is TCC Connect's specialty. They focus on everything from teaching methods and digital tools to simulations, faculty training, and student support. Established in 2014, TCC Connect boasts an impressive enrollment of 32,000 students per semester. It manages the college district's online learning, weekend college, and online dual credit offerings. TCC Connect Campus has become a hub for innovation, developing successful practices that benefit students and faculty (Morales, 2022).
TCC Connect plays a vital role in enrolling over a quarter of the college district's students (Tarrant County College District, 2023). In its decade of operation, it has served more than 300,000 students. The virtual campus team is a leader in acquiring educational technology, planning, and setting the standard for the entire college system. Located in Fort Worth, Texas, Tarrant County College District has a total enrollment of 86,000 students across its five physical campuses and one virtual campus, TCC Connect.

Student Success in Online Learning
Students enroll in online learning programs and choose the modality because of its flexibility, convenience, and learning style. Students must get the proper support to be successful. Higher education institutions are expected to provide students with equivalent services as they enroll in online programs. Online campuses, which are centralized operations for delivering teaching and learning and student support services, must comply with those requirements set by accreditors (Morales, 2023). Students, at times, enroll in online classes, and they do not possess the skills, attitude, or equipment to succeed in their classes — participate, complete assignments, transact with the institution, communicate, conduct research— and other activities required when an individual decides to attend college. That's why there is a need for a virtual computer lab. Setting up a facility in the traditional ways we know of a computer lab is counterproductive for students who enroll in online learning programs. That is because students will then be required to go to a facility at specific times and locations to use computers and access specialized software, thus breaking the purpose and goal of the modality.

Technological advances in the last decade have created the ideal circumstances for virtualizing those computer labs, ensuring that every student enrolled in an online class or in an online program has equal access to high-end computers and the latest software tools that are expected to be available for students' success. The next paragraphs discuss the approach to establishing a virtual computer lab at Tarrant County College TCC Connect Campus, a virtual campus established in 2014 as a non-traditional educational institution. Since then, more than 100,000

students have been served, helping them achieve a higher education credential through flexible, quality, convenient access through a computer.

The Case for a Virtual Computer Lab

Throughout all these years, students have been attending classes using their computers, perhaps their own cell phones, tablets, and, in many cases, a subpar device that is no longer supported or satisfies security requirements. In the case of the TCC Connect Campus, we identified the need for equal access to a computer lab and specialized software for students taking online classes during the early years. We worked with the Division of Information Technology of the college to establish an initiative that allows us to replicate, as much as possible, what students would have access to if they were face-to-face enrolled.

Differences between face-to-face and online education infrastructure

It was not until 2018 that significant differences in how students succeeded in classes became more and more visible. We identified differences between the two types of infrastructure made available to students enrolled in face-to-face programs versus what is made available for those who enroll in online programs. Among those differences is that students may not have a computer at all to access a class; similarly, in those cases that they have a computer, it could be in one that may be reaching its end of life. Some computers may not even comply with the latest security protocols imposed by the institution, the state, and the federal government. Moreover, when students enroll in classes that require them to go to a computer lab and have access to specialized software, like SPSS, Adobe Photoshop, Adobe Premiere, or any other high-end software, it disrupts the nature of distance education, which is to attend classes from anywhere. This is when we wanted to bridge the gap between the infrastructure available to face-to-face students and those attending online courses and programs. It was an enormous difference, as described above; this article's author successfully proposed the need to establish a virtual computer lab to the college administration. The College Division of Information Technology (IT) already had a VMWare Workspace ONE (VMware, 2024) installation on-prem, but it was not used when I approached them. They were very interested in putting in motion a set of actions that would allow them not only to use it but also to scale it to support online students as well as face-to-face students. In mid-fall 2019, we agreed to a soft launch for the online campus. Come March 2020, and the COVID-19 pandemic came to shore, this global emergency catapulted the need for the institution to virtualize IT services to support the entire college, now going remote (Lederman, 2020; Morales Irizarry & Casanova Ocasio, 2020). This is when IT expedited the validation of the installation and tested the VMware Workspace ONE tool, not only to support students but also to support the staff, faculty, and administration for them to continue working when the Shelter in Place mandates were given to the entire population (World Health Organization; 2020).

Once the VMware Workspace ONE was fully functional, employees were trained to use it, and faculty recommended that students start using the virtual computer lab. The tool was reliable, easy to use, convenient, and fast. Faculty and staff embraced the VCL. Early statistics showed more than 1,000 simultaneous users accessed VMware Workspace ONE daily, with Mondays as the highest day of the week showing utilization. Today, more than 3,500 simultaneous connections are supported by this tool. The top three groups accessing the tool were faculty, staff, and students. The top three tools used were the workspace, web services through VPN, and a desktop connection, followed by our CMS and SRS tools that allow us to transact with students, financial systems, etc. Students, faculty, and staff could access VMware through www.ecloud.tccd.edu.

The web-based service presents users with two options. A student workspace pre-configured with software functionality and storage. A workspace for employees was equally configured but, in this case, with tools aligned with the tasks and the activities employees, including faculty, needed to perform through the VMware Workspace ONE.

Infrastructure for online learning

The availability of VMware Workspace ONE as the backbone for the Virtual Computer Lab has been touted as a solution that provides equity and equality and widens access to technology for students and faculty. Students enrolled in online programs now have the technological infrastructure they need to be successful in classes. They no longer have to worry about how recent their computer is; they connect to the VCL and start working on their classes.

The VCL has also proven convenient for the college initiative of providing devices to students. Those devices are Chromebooks, which are slimmed-down computers; they are cheaper to acquire and maintain as they act as

terminals and connect straight to the VCL. All in all, the VCL has helped students go to college, stay engaged, and improve their success and completion rates.

Conclusions

TCC established a virtual computer lab to increase equity and access to technological tools while providing a level playing field for students enrolled in face-to-face and online programs. The initiative championed by the TCC Connect Campus has proven successful, as students have one less barrier removed as they pursue their education. It is also how equal access to technology and specialized software is delivered.

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Being Inclusive with DEI Practices from Students to Faculty & Staff

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Abstract

American College of Education (ACE) employs simple strategies to promote Diversity, Equity, and Inclusion (DEI) practices within the curriculum and virtual college experience. The use of the DEI Center is one way the institution makes the college experience inclusive for students. Faculty and staff can also participate in the college's success.

Introduction

The benefit of increasing diversity in higher education is that there is a wider range of thoughts, perspectives, opinions, and suggestions for a certain topic. When universities are more inclusive, it not only benefits the campus, but the society benefits too (Cook & Taff, 2022). Inclusive atmospheres make a positive impact on students' self-esteem, confidence, and many other psychosocial traits that are critical to learning (Cook & Taff, 2022). In the higher education space, equity implies more than just providing equal access. Equity also entails recognizing the obstacles minoritized students confront with the intent and strategy to assist them in succeeding, according to their unique requirements and starting points.

It is time for a paradigm shift away from a research trajectory, and instead, toward the needs of students and society (Jackson, Richardson, & Breen, 2022). Thus, American College of Education (ACE) implemented strategies to promote Diversity, Equity, and Inclusion (DEI) practices within the curriculum and online college experience. DEI measures should be made to determine areas of improvement within a higher education institution. Cumming, Miller, and Leshchinskaya (2023) found that six areas should be part of the DEI assessment, which included: (1) institutional environment, (2) faculty and staff hiring, (3) faculty and staff retention, (4) student admissions, (5) student retention and completion, and (6) curriculum. For the purposes of this paper, the institutional environment and curriculum will be the focus.

DEI Center

Higher institutions that have implemented DEI practices have seen an increase in student application rates, social media engagement, and website traffic (Cooper, 2024). The use of the DEI Center, located within the Learning Management System (LMS) is one way the institution demonstrates a commitment to inclusive practices. For example, within the DEI Center, ACE posts a Commitment to Freedom of Expression in order to build and maintain a learning community that is truly diverse, equitable, and inclusive.

Because the college is aware that the world is constantly evolving, reflecting a broader range of diversity, students are informed about diversity, equity, and inclusion (DEI) practices for different industries. For instance, the Center offers a number of resources for current or future professionals in business, education, and healthcare. The tools cover a range of topics, including minority health, teaching diverse learners, and pronoun usage. The resources pertaining to the different industries are meant to assist students in becoming ready for their intended workforce.

In addition, the Center includes webinar recordings and trainings covering various subjects, such as inclusive language use or early childhood education. Moreover, the DEI Center provides interactive games and activities about many nations and continents, like Jeopardy, crossword puzzles, calendars, or quizzes.

There are self-assessments available for demonstrating inclusion, cultural competency, and cultural awareness. The goal of the self-assessments is to increase students' self-awareness about where they are in their DEI journey.

The manager of Diversity, Equity, and Inclusion (DEI) organizes a synchronous panel discussion twice a year and gives the ACE community the opportunity to contribute an article to the bi-annual newsletter. Up to four panelists can participate in the conversations, which are moderated by the DEI manager. The panelists' diverse backgrounds allow them to offer various viewpoints. Among the subjects covered were polarizing viewpoints, gender, and disabilities.

Submissions of artwork for the newsletter are also welcomed, as they offer more avenues for the community to express ideas and emotions. Original pieces have been contributed by staff, faculty, and students for publishing in the newsletter. Students can access all of the newsletters and recorded panel discussions by visiting the DEI Center. In order to improve inclusive teaching techniques, faculty members are provided with professional development training and have access to several resources from the DEI Center. The resources from the DEI Center have also been featured in various courses.

Inclusion in the Curriculum

While institutions need to intentionally recruit students to diversify student cohorts, the curriculum should also be revised to ensure there is a focus on DEI (Jackson, Richardson, & Breen, 2022). The cultural background of the learners should be taken into consideration by instructional designers and faculty while creating and implementing technology into the classroom (Abramenka-Lachheb & de Siqueira, 2022). Thus, many of the recorded video lectures and simulations include a variety of people and animations to help ensure representation. The aim is for students to be able to better relate to the material.

It is also important for the institution to represent the broad community by broadening staffing practices and redesign materials (Cooper, 2024). Thus, both the workplace and students feel supported and more satisfied with the learning or work experience. The purpose of the curricular design is not to have DEI as a stand-alone learning unit or module. Instead, ACE redesigned earlier content and activities to highlight DEI concerns, using the DEI lens as a framework. A checklist of questions was created to evaluate courses to ensure the delivery of DEI in the curriculum. Some of the questions include:

- What strategies are used within the course to allow diverse learners to participate?
- What is the mechanism to evaluate and then include additional strategies in the future?
- Does the course use different perspectives in the coursework?
- Does the course create questions that develop critical thinking and reflection?
- Does the course include recently published journal articles from authors from different ethnicities and members of the LGBT+ community in the required reading?
- Does the course include articles by authors from countries other than the United States or Europe?
- Does the course utilize articles that are written by western scholars on their perspective regarding education/nursing practices/business practices in developing countries? If the article is critical, is a suitable rebuttal article also included to provide a balanced perspective?
- Does the course have a specific component (e.g. in the discussion forum or as a requirement to consult a source not included within the readings) which introduces the students to diverse perspectives?
- Does the course explicitly examine how a theory relevant to the course curriculum is implemented across various ethnicities or in other countries?
- Does the prompt sufficiently invite perspectives from the students regarding how they will accommodate diverse learners with equal opportunity to participate in their future courses?
- Does the course compare and contrast how practices in the United States differ across cultures or across other countries?

For learners to feel successful in learning with technology, they also need to understand the purpose of the assignment and how to complete that task (Abramenka-Lachheb & de Siqueira, 2022). It is critical for faculty to have a number of competencies, including cultural competence. Cultural competence is the capacity to assist

students in comprehending and appreciating their own culture, while also learning about that of others (Abramenka-Lachheb & de Siqueira, 2022). Creating inclusive and equitable learning environments requires more than just taking into account one aspect; rather, it necessitates an in-depth, and thoughtful perspective.

While providing authentic learning and authentic assessments are important to a student's learning experience, to make the learning experience equitable and inclusive would mean providing access to faculty experts and constructive feedback (Abramenka-Lachheb & de Siqueira, 2022). Additionally, giving students options for assessment supports their ability to further explore ideas that really matter to them. The Digital Tools Center is accessible to all students on the LMS and offers students a variety of technology ideas to submit assignments and assessments. Examples range from infographics, mapping, videos, presentations, and games. Faculty are encouraged to submit additional ideas to help keep the content relevant and useful.

Conclusion

In order to amplify the benefits of DEI within the institution and curriculum, ACE went beyond using the technologies provided within the Learning Management System (LMS) to include: (1) a DEI Center, (2) technologies and readings that allowed for discussions within the discussion board to share and express ideas by analyzing real-life cases and scenarios; (3) simulation tools that help offer students a deeper connection to their industry setting; (4) interactive tools that allow students to reflect upon different perspectives, considering various cultures and communities; (5) online video tools, such as Kaltura, featuring a variety of people and animations to help ensure representation; and (6) a Digital Tools Center that allow students a variety of technology ideas to submit assignments and assessments. According to Hyunjin et al. (2023), the use of inclusive teaching approaches has resulted in students having positive attitudes and a better college experience. ACE believes it is critical to encounter different viewpoints and life experiences because it fosters the best possible learning environment for staff, professors, and students. It is crucial to promote an inclusive atmosphere with individuals from all backgrounds. While accepting diversity is an important first step, more effort needs to be done to attain equity and greater inclusion. Through strategic planning and activities, the institution hopes to offer programs and develop curricula that support equity and inclusion for all. By doing this, the ACE community, as a whole, has the opportunity to reach its full potential.

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What if All of the Answers are Correct

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Abstract

Online learning is becoming more common in higher education, providing flexibility and accessibility to numerous students. Nevertheless, worries over student involvement and active learning in online courses continue. Multiple-choice questions are frequently utilized in online courses for assessment purposes, although their ability to enhance student engagement and facilitate deep learning has yet to be doubted (Costello et al., 2018). Complex tasks may necessitate advanced knowledge, skills, and abilities, often requiring more than one correct response. Test developers typically only incorporate a few correct answers due to its potential challenges in greater complexity and reduced ability to differentiate between test-takers. Avoiding the inclusion of many correct answers in tests can lead to validity difficulties due to inadequate topic coverage and irrelevant diversity in concept. Studies have demonstrated methods to enhance the design and implementation of multiple-choice tests to improve college classroom teaching, evaluation, student learning, and achievement. A research review for teachers discovered that multiple-choice questions can enhance the creation and implementation of multiple-choice tests in college classrooms to improve instruction and evaluation. Multiple-choice quizzes can aid student learning and performance and better use instructors' time and effort (Xu et al., 2016).

Studies have shown that participating in quizzes improves knowledge retention. Reviewing for quizzes aids students in moving information from their short-term to long-term memory (Roediger et al., 2011). The testing effect refers to the phenomena where remembering information improves memory and aids in future recall. Quizzes with comments help students identify areas needing more knowledge (Greving et al., 2023). Quizzes offer students feedback to pinpoint areas of incomplete understanding, allowing them to focus on their studies more effectively. Regular quizzing encourages pupils to study consistently (Gholami & Moghaddam, 2013). Regular engagement with the material can improve learning outcomes; quizzes aid in metacognitive monitoring by providing feedback on learning progress (Kwan, 2018). This can be beneficial for both students and teachers. Given these benefits, it is clear that quizzes have a substantial influence on academic outcomes. Educational researchers must continue studying this issue to understand its impacts and identify the most efficient methods for its use in various educational settings. Instructional designers primarily utilize cognitive load methods to minimize superfluous cognitive burden. The consequences for practice, research, and future research paths are highlighted by (Caskurlu et al., 2021).

Quizzing is a helpful tool for assessing student understanding in high-level academic classes. It has various benefits and can be utilized in numerous ways. Studies have shown that giving feedback during quizzes can improve memory and increase long-term retention (Caskurlu et al., 2021;Tan, 2018). Empower students to identify gaps in their understanding, allowing them to focus more effectively on their academic pursuits (Butler, 2018; Gholami & Moghaddam, 2013). Students who review after taking a quiz usually gain more knowledge than those who do not. Failure highlights areas where the student needs more understanding and where the faculty's teaching may need to be improved. Studies show that frequent quizzes can reduce the number of students failing a class, improve academic performance, and deter last-minute studying. Test-enhanced learning, or the testing effect, suggests that recalling information during a quiz might boost memory and support long-term retention (Case & Kennedy, 2021; Yang et al., 2019).

Creating successful quizzes must be closely matched with the course's educational goals and assessment criteria. Offering a pre-exam practice quiz can help students become familiar with the exam format and criteria (Gholami & Moghaddam, 2013; Roediger et al., 2011) and utilize functions like randomizing questions. Lee (2019) suggests that answering questions, utilizing timed tests (Mulig & Rhame, 2012), and giving feedback for objective-style questions might enhance the effectiveness of quizzes (Mason & Bruning, 2001).
Ensuring security is crucial when operating online. Implementing tactics such as updating test banks with new questions for each course iteration, randomizing questions, and rearranging response orders can maintain quiz integrity (Wright, 2000). Increased use of AI enables users to receive answers by accurately duplicating and transferring inquiries and responses (Weber-Wulff et al., 2023). Click or tap here to enter text. Scenario-based multiple-choice questions effectively encourage students to apply, analyze, integrate, and evaluate information. Bloom's Taxonomy is essential for defining educational assessments by categorizing objectives. Questions on analysis, synthesis, and assessment enable students to apply higher-order thinking skills. These inquiries are crucial for developing assessments based on Bloom's Taxonomy framework for educational use (Badyal et al., 2023; Zaidi et al., 2018). Instructors can utilize multiple-choice quizzes, scenario questions, multiple correct answers, and Bloom's Taxonomy to design exams that effectively evaluate cognitive ability, from basic memory to complex reasoning. This method comprehensively assesses students' understanding and improves their critical thinking and problem-solving skills (Stringer et al., 2021; Thayn, 2011). Simulated job experiences in scenario-based questions can effectively assess higher-order thinking skills (Loy et al., 2022; Salih & Abdelbagi, 2022; Zaidi et al., 2018). These questions push students to apply their knowledge and skills to solve problems that may be relevant to their real-world experiences.

Method
Over four semesters, more than 300 Master's students were given multiple-choice questions aligned with each chapter in the research material. The study examined how alterations in the quantity of inquiry attempt to impact the promptness of response availability. Four distinct teaching approaches were integrated, incorporating improvements based on prior study findings. The first version examined educational problem-based situations using psychology and educational research expertise and assessed students through formative evaluation with multiple input options. This study investigates how multiple-choice questions improve students' critical thinking skills in research fields. The students had to choose the most suitable answer from four legitimate options. The curriculum improved students' critical thinking skills by analyzing essential topics for applied research. Students need to comprehend subjects to succeed rather than memorize them. Students were presented with the following questions.

Do quizzes help you understand the course material better?
Responded affirmatively (yes and A lot) -76%
The quizzes enhanced my understanding of the course material.
Responded affirmatively (yes and A lot) -79%
The quizzes adequately prepared me for the final exam.
Responded affirmatively (yes and significantly) 81 percent

During the second iteration, pupils exerted significant effort to identify the correct answer. Each attempt was promptly followed by feedback regarding the accuracy of the selection. Individuals were then evaluated with questions similar to those they had studied, and the results showed a significant retention of the information. The impact differed significantly from similar queries in chapter quizzes and the final exam, with a t-value of 6.11 and a p-value of 0.073E08 ($p < 0.001$).

During the sixth iteration, students received two chances to answer the questions on the chapter quizzes accurately. The quiz scores differed from the final scores due to modifications made to the questions. The final exam included previously unseen questions. Four more multiple-choice questions were included in the final exam. The questions pertained to K-12 education, and each offered four alternate replies. Every potential answer was accurate, but one stood out as superior. Research offers several methods to address each problem, with some providing more comprehensive solutions. Students were instructed to rate the four questions on a scale of 1 to 10. Twenty-nine respondents answered the open-ended question, and twenty-seven percent supplied a response to the question. The mean of the numerical values was 5.26. Former practitioners of this method believed that this research approach held greater significance. One grader's comments implied that the questions caused self-doubt, leading to changes in replies or subjective interpretations of the optimal solution. Individuals in the intermediate tier emphasized the importance of promoting critical thinking and fostering further exploration. The student provided a superb solution

that assisted me in identifying the optimal decision and its rationale, highlighting the requirement for further resources during the semester to enhance support. This semester, I have started incorporating this question type more frequently in practice and actual tests. During the sixth iteration, students received two chances to answer the questions on the chapter quizzes accurately. The quiz results needed to be commensurate with the final scores due to modifications in the questions. The final exam included previously unseen questions. Four more multiple-choice questions were included in the final exam. The questions pertained to K-12 education, and each offered four alternate replies. Every potential answer was accurate, but one stood out as superior. Research offers several strategies to address each problem, some of which provide more comprehensive solutions. Students were instructed to evaluate the four questions using a scale ranging from 1 to 10. Twenty-nine respondents answered the open-ended question, and twenty-seven percent gave a response to the questions. The mean of the numerical values was 5.26. Former practitioners of this method believed that this research approach held greater significance. One grader's comments implied that the questions caused self-doubt, leading to changes in replies or subjective interpretations of the optimal solution. Individuals in the intermediate tier emphasized the importance of promoting critical thinking and fostering further exploration. The student provided a superb solution that assisted me in identifying the optimal decision and its rationale, highlighting a requirement for further resources throughout the semester to enhance support. I have started using more of this question type in practice and actual tests this semester.

This project aims to utilize a variety of online platforms instead of the conventional Learning Management System (LMS) to provide feedback on accurate responses and incorporate distractors to engage students. A Rapid Feedback Generator (RFG) system monitored students' progress and exam choices by logging timestamps of assessments. The data includes Identification, chapter number, quiz entry start time, question number, question time, feedback time, bonus points for feedback above 20 seconds, total question points, and final quiz duration. The amount of attempts allowed each question may vary depending on the iteration. The application collected data to improve instructor guidance. Each semester, data from prior semesters was analyzed and modified to give students more chances to answer questions correctly. The midterm and final tests assessed students' comprehension of the course by evaluating their knowledge of conventionally delivered information.

The research investigated several teaching approaches and technical tools over three years to offer prompt and useful feedback to individual student inquiries. Input from university professors and administrators at conferences has greatly impacted our course of action. They enhanced our tactics, analyzed data, and ensured the practical significance of our findings in various educational environments using their knowledge and keen insights. Our research will enhance our comprehension of successful teaching techniques and promote beneficial alterations in educational practices with their assistance. I focus on enhancing material delivery and assessment in my research.

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Online Learner Retention: Literature Review and Creation of Prediction Tool Through Statistical Analysis and Machine Learning Techniques

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Abstract

Higher education institutions need to be responsible for understanding the characteristics and qualities of learners who decide to take courses with them; online vs. on-campus and what it takes to keep them learning at an institution. Taking heed and modifying structures, communications, and services will help learners and institutions in this ever-increasing online degree market where organizations compete globally for learners. Today, acquiring learners through marketing and recruitment is a large portion of the higher education budget and online learners are retained at rates 10-20% less than face-to-face offerings (Hubert, 2006), making it paramount to the success of our distance and online institutions to figure out how to keep these learners. Knowing who they are and what is important to them, as well as the factors for retention will help us with benchmarks and to devise plans to see these learners through to graduation.

Examining the research and literature available on online learners and retention (key terms such as "online learner population", "online learner retention", and "distance learner retention"), and our own statistical analysis of Colorado State University Online learner retention will help us identify the characteristics of a retained population in order to support and advise learners within credit hours and services to support their learning and to help us to know when certain learner populations might need extra support to be retained.

Introduction

Semester-to-semester retention is a key metric for college administrators to predict student success because students who "stop out" are less likely to graduate (DesJardins, 2006). At schools with higher graduation rates, more of the students who stop out ultimately return (EAB, n.d.), but the delay pushes back the potential earning gains normally seen from completing. In the wake of COVID-19, between July 2020 and July 2021, 1.4 million people stopped-out of higher education programs without earning a credential, bringing the total population of Americans with incomplete degrees and certificates up to 40 million (Some College, No Credential, 2022).

We know that "nontraditional"/online learners take more breaks from their education before they finally attain their degree, which has a lot to do with who these learners are and all the competing priorities in their life. Colorado State University recently commissioned a report from Hanover Research to help us ascertain information about student caregivers and the impact that has on our learner population. With this report, we see that 20-30% of our learners have dependents, with 29% of our graduate learner population and 20% of our undergraduate population falling into this category (Rodgers, 2024). Persistence of this learner population is less likely, and they are more likely to take fewer courses, have financial and mental health challenges, and be of first-generation and non-white statuses (Rodgers, 2024). One of the first things online learners choose when deciding where they are going to take courses is their instructional modality (Stokes, 2023).

Online learning prior to 2020 was a growing field, now in 2024 it is known if not fully understood by most households in the United States. “In 2021, about 60% of all postsecondary degree seekers in the U.S. took at least some online classes. Around 30% studied exclusively online,” (Hamilton, 2023). Within Colorado State University Online alone, we have seen our student credit hours increase by 12-17% per term (year over year) for the last two years. Our subset of learners has changed in compilation in recent years with the increases as well; our current population is younger and more diverse, locationally, and ethnically, than it was prior to the pandemic.

According to the 2023 Wiley *Voice of the Online Learner* report, online learners are price-conscious and are earning their degree to help them achieve career goals and/or personal growth (Stokes). We know online learners have more constraints on their time and locations for study success than their peers (Mowreader, 2024), which could be due to the fact that there is a higher population of females in online learning (National Center for Education Statistics, 2023) and that on average females take on a higher burden of family and household duties and support compared to male counter-parts (Jolly,et.al., 2014). Obligations to family is a primary and reoccurring reason for why online learners drop an online course (Evans, 2009). Looking at the obligations of a traditional-age and face-to-face modality learner has vs. the obligations of a learner who has a family and works full-time, one can assume that it only makes sense that online learners are not retained as fully as their face-to-face counterparts. However, home factors are not for us to control, nor for us to dictate. The factors we can help with are within our institution, how we communicate to the learners, and how we support the whole learner. In their 2021 journal article, Seery, Barreda and Hein, address this as “rethinking the retention process” (p.82), wherein they mention that there are different learner characteristics for distance learners and differing demands that need to be considered for retention incentives and alternatives need to be considered.

Literature Review

Research into challenges impacting online learner retention separates factors into three primary categories: internal challenges, such as time management and motivation; external challenges, such as lack of employer support, financial problems, and limited environments to study; and program-related challenges, such as low interaction with educators and peers, overly demanding programs, and lack of institutional support. (Kara et al., 2019).

Available research to date focuses on qualitative aspects of successful online learners; their characteristics and institutional factors which contribute to the success of these learners (summary outlined below), however the quantitative research into learner success is either lacking, outdated, or the incidence of this research is not cited as often as the qualitative research. Our own research in this paper is focused more on quantitative research and analysis. Within the online modality, we have an even bigger responsibility to retain our learners and support them due to the nature of reaching a traditionally marginalized and unreached population of learners (Prinsloo, 2022).

Online Learner characteristics

- Often determine modality of learning first (Stokes, 2023)
- Price-conscious (Stokes, 2023)
- Values collaboration and interaction (Dabbagh, 2007)
- Intrinsically motivated learners (Dabbagh, 2007)
- Learners possessing a high loci of control (Dabbagh, 2007)
- Less location bound and of more diverse backgrounds (Dabbagh, 2007)

Institutional characteristics/strategies for success

- Mandatory orientation programs (Bawa, 2016)
- Collaborative learning (Bawa, 2016)
- Social engagement (Serry, Barreda, & Hein, 2021)
- Student engagement and student sense of belonging (Muljana and Luo, 2019)
- Learning facilitation which focuses on instructor interaction, logical course structures and organization of content (Muljana and Luo, 2019)
- Course development strategies which support differing learning tactics and connect curriculum to past experiences (Serry, Barreda, & Hein, 2021)
- Student services which support the whole learner (Muljana and Luo, 2019)

Quantitative Research Methodology

The key goals of this study are:
(1) to propose a model that can accurately predict online learners' decision to stay or leave an academic institution
(2) to investigate critical online learners' features that impact their decision to stay or drop out, and
(3) to examine the nature of the relationship between learners who stay and who drop out.

This study contributes to the literature on learners' retention behavior in a couple of different stages. First, we use an interpretable machine learning method to find out online learners' critical features and identify the relationship between the response variable and predictors. The proposed data-driven non-parametric method does not enforce prior assumptions and estimates all predictors to isolate key features. Second, we consider a big institutional dataset to examine online learners' retention indicators.

Variable selection

We collect available online learners' data from a 4-year flagship institution (Colorado State University- Fort Collins) in Colorado. The cross-sectional dataset includes online learner records of 3,300+ students covering the academic year 2020-2022. The dataset includes graduate and undergraduate degree-seeking students enrolled online at the academic institution. The primary/dependent variable includes an online learner's decision to stay or leave from one fall to the next. A comprehensive list of variables impacting student retention behavior at an academic institution is mentioned in the literature (Parvez & Brown, 2019). Similarly, this study's Explanatory or predictor variables include student level, application type, attempted credit hours, earned credit hours, grade point average (GPA), and student demographics (e.g., age, race, first-generation, residency status, and gender). The above-mentioned independent variables are trained and tested to predict their impact on learners' retention behavior by using both statistical and machine learning models. All model variables are presented and reported in Table 1.

Table 1. Dataset Specifications (selected variables)

Sr No	Variables	Descriptions	Units
1	retained	The indicator for persistence is EITHER still enrolled at the institution or has graduated.	Y = 1; N=0
2	FirstGen	Indicator for whether a student is a First-Generation student during the first fall	Y = 1; N=0
3	Gpa_cal	Semester grade point average during the first fall	Number
4	Age	Age as of census during the first fall	Years
5	Attempted_credits	Total attempted credits during the first fall	Number
6	Completed_credits	Total completed credits during the first fall	Number
7	CO_resident	Indicator for Colorado resident	Y = 1; N=0
8	Student_level	Students enrolled in undergrad programs or not	Y=1; N=0
9	Application_type	Students enrolled as new or transfer	Y=1; N=0
10	Gender_female	An indicator of a student is female during the first fall	0 = Male 1= Female
11	Race_white	An indicator of a student is a White	Y = 1; N=0

Results and Discussion:

This study employed binomial logit and ML models to identify the factors affecting learners' behavior. The application of Binomial logistic regression along with data mining algorithms to predict student retention behavior is evident in the literature as well (Parvez et al. 2020; Parvez et al. 2023). As per descriptive statistics, the total number of online female learners is higher (56.2 percent) than male learners (43.8 percent) at this institution. White is this institution's dominant race (68.53 percent) compared to other ethnic groups (31.47 percent). Also, 15.81 percent of learners declared themselves first-generation here. Further, the majority of online learners have been retained (86% for undergrad and 83% for graduate) by the institution. Further, 1 out of 3 online learners are state residents. A total of 77.69% of online learners are new students compared to 22.31% are transfer students. Finally, most online learners (75.48%) are enrolled in graduate programs compared to 34.52% who are enrolled in undergraduate programs at this institution.

Table 2. Descriptive Statistics for online learners (numeric variable only)

Variables	**Mean (UG)***	**S.D.****	**Mean (GR)***	**S.D.****
Gpa_cal	2.68	1.38	3.38	1.10
Age	28.67	9.20	32.74	9.30
Attempted_credits	9.53	3.62	5.87	2.94
Completed_credits	7.45	4.65	5.41	3.19

*UG refers to undergraduate and GR refers to graduate online learners;
**S.D. refers to standard deviation

Online learners' mean GPA is higher (3.38) for graduate students than for undergraduate students (2.68). Also, an undergraduate online learner's mean college entrance age is 28.67 with a standard deviation (s.d.) of 9.20 compared to graduate learners (32.74 with an s.d. of 9.30). Further, undergraduate online learners registered (attempted) 9.53 credits (on average) in their first semester and ended up completing 7.45 credits. Contrary, graduate online learners registered (attempted) 5.87 credits (on average) in their first semester and ended up completing 5.41 credits (table 2).

Table 3. Effects of predictor variables on online learners' behavior

Logistic Regression Model Output - Response variable (dependent variable): learners' retained (yes=1)

Explanatory variables	**Marginal Effects**
FirstGen	0.003 (0.020)
GPA_Cal	0.095*** (0.008)
Age	-0.002*** (0.000)
Attempted_Credits	-0.029*** (0.005)
Completed_Credits	0.027*** (0.005)
Gender_female	-0.034** (0.015)
CO_resident	0.044** (0.015)
Race_White	-0.026 (0.020)
Race_international	0.244*** (0.062)

Race_hispanic_latino	-0.025 (0.022)
Log-likelihood	-1798.29
No. of observations	3,308

Note: Reported values are the estimated marginal effects and, in parentheses, standard errors.

*** significant at 1%, ** significant at 5%.

We estimate p-values for each explanatory variable and as per marginal effects, most explanatory variables are statistically significant. So, there's evidence that each of these has an independent effect on the probability of a learner being retained (rather than just a difference observed due to chance). Key regression results (marginal effect) indicate that "learner GPA" in their first semester has a positive and statistically significant impact on retention behavior. Also, learners who are state residents are more likely to be retained by the institution compared to non-resident learners. Online learners who registered a higher number of credits are less likely to retain. However, the total number of credits completed by online learners in their first semester is positively related to retention prediction. Another key finding indicates that international online learners are highly likely to be retained by the academic institution. Other race variables (e.g. white and Hispanic or latinx) are statistically insignificant. Female online learners are negatively related to retention behavior, however, not expected (table 3).

Implications of this research

Retaining online learners is a concern for a growing number of institutions and learners who embark upon such a journey. Our findings suggest that in order to keep learners at our institution, it is important for undergraduate learners to attempt around 8 credits per term and for graduate learners to attempt around 6 credits per term. This does not mean that CSU Online will be limiting the credits a learner can take or adding to the barriers and red tape which already exist for our learners, but rather means that in the advising and orientation process for our learners we will be explaining how attempting certain credit amounts can support the learners' success.

Our learners are retained at 86% for UG and 83% for graduate learners. We know that online learners are more often female than male, and with this research we see that our female learners aren't retained at as high of a rate as their male counterpart in the same program of learning. This means that we need to support our female learners differently to retain them.

We see that learner GPA has a positive impact on learner retention, which seems inconsequential to some, however this could be due to the fact that if learners feel they are more successful they will want to pursue, rather than just assuming that if a learner has a good GPA it means that they will pursue because they have the aptitude.

One area we didn't consider is that Colorado residents are positively impacting our retention. It is possible that this is due to the timing and availability of extra resources being closer to campus, however we will look further into what aspects of being in Colorado impact persistence.

Limitations and suggestions for future research

Our research reviewed literature available in the wider online learning space, but our data for this study was limited to Colorado State University (CSU) and our Online learners only. We are limited to the centrally supported offerings of CSU which is a land-grant R1 institution. If an institution offers programs differently or is a fully supported online program apart from a physical university, these findings may be very different.

We would like to continue our research in the following ways:

- More statistical analysis on which of the GPAs lead to the highest retention rate.
- Completed credits in UG and Grad leading to the highest retention rates.
- Different program retention rates.
- What adds to our Colorado residents being retained more successfully than outside of Colorado limits?

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How Institutions Can Connect with Their Fully Online Students

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Abstract

Online enrollments continue to rise, even as overall higher education enrollments have declined since their 2010 peak (NCES, 2022). With the looming threat of the "enrollment cliff" on the horizon, many college and university leaders are looking to online education as a strategy for mitigating losses of "traditional" student enrollments and for maintaining the fiscal health and viability of their institutions (WECT, 2024).

While investments into online program development and into marketing and recruitment of new online students is critical to the achievement of an institution's goals for growth, these efforts will be futile if the students do not remain at the institution. The literature on attrition and retention of online learners is broad and the data vary greatly across institutions and disciplines. Interpreting the data poses significant challenges. IPEDS data from the federal government does not include transfer students, who make up a significant percentage of online learners (Harris, 2022). Some of the studies are contradictory (e.g., some show different rates between the sexes, while others do not). Some show differences by discipline (e.g., STEM disciplines tend to enjoy higher retention rates). Not all studies interpret retention in the same way—some focus on persistence across terms, others across years, and others across programs (Boston, et al., 2016; Mujana & Luo, 2019: Seery, et al., 2021; Shaikh & Asif, 2022).

However, there is consensus that, overall, average retention rates for online learners tend to fall below their on-campus peers. The largest studies (consisting of learners at community colleges in two states) observed online retention rates that were 8-14% lower than on-campus (Xu & Jaggars, 2011; 2013), while most studies (relying heavily on anecdotal evidence) state that online retention is 10-20% below that of on-campus learners.

Several factors that most significantly affect online learner attrition are usually outside of a university's control. These include changes in students' financial support, changes in job/career situations, health issues, and family/personal issues. All students are susceptible to these issues; however, online and adult learners, who are often attending part-time, are particularly vulnerable. There is often little that an institution can do in these instances. However, in other cases, studies have shown that strategies employed within and outside of online courses can promote the retention and success of online learners (Travers, 2016).

Within the Online Course: Promoting Online Student Retention

When online student attrition and retention is researched and reported, the independent variable most often considered is whether the students were enrolled in online or on-campus courses. Systematic reviews of two decades of online student attrition/retention studies (Boston, et al., 2016; Mujana & Luo, 2019: Seery, et al., 2021; Shaikh & Asif, 2022) have provided insights on actions that can be undertaken within online courses to promote the retention and success of online learners, shown in in Table 1 below.

Table 1
Course-Based Activities for Promoting Online Retention & Success

- Course is designed using minimum standards (e.g., Quality Matters, OLC Scorecard)
- Course structure and navigation is logical and consistent across courses
- Courses developed using faculty and instructional designers
- Curriculum and assignments aligned with course and program learning outcomes
- Student expectations are made clear
- Assignment/assessment directions made clear
- Regular course announcements

- Use of video/multimedia instruction
- Regular and Substantive Interaction, including:
    - Timely grading and responding to student inquires
    - Providing helpful feedback
    - Facilitating course discussions
    - Providing direct (synchronous) instruction

Beyond the Online Course

While looking at whether students are enrolled on online versus on-campus courses is essential and logical to the study of online student attrition and retention, to focus solely on the course provides an incomplete picture of the causes of attrition and the promotion of retention. Table 2 includes a list of activities and services that occur outside of online courses.

Table 2
Activities Occurring Outside an Online Course

- Admission
- Bookstore
- Campus fine arts, speaking events
- Career services
- Counseling services
- Credit for prior learning
- Credit transfer
- Enrollment into courses
- Financial aid
- Library resources
- Mental health resources
- Ombuds/grievance services
- Physical health services
- Program advisement
- Recreation facilities
- Recruitment
- Sporting events
- Student clubs, affinity groups
- Technology issues & support
- Tutorial services

~~The list above includes activities and resources that can influence attrition and retention. Studies that do not take i~~nto account the online student experience outside of courses and the inequities of experiences, services and resources between on-campus and online students paint an incomplete picture of the differences in persistence between online learners and their on-campus peers. Table 3 below lists factors identified in studies that constitute barriers to online learner success within online courses while Table 4 list institutional barriers that occur outside of online courses.

Table 3
Couse-Based Barriers to Online Student Success

- Poor course design/structure
- Instructors lack technology expertise
- Instructors lack skills in online teaching
- Lack of instructor engagement (responding to student inquiries, providing feedback, timely grading)
- Courses “too easy” (redundant, busy work)
- Courses “too difficult” (online course requires more work than F2F or misaligned with credit hours)

Table 4
Institution-Based Barriers to Online Student Success

- Policies and procedures assume that student is on campus
- Overestimating students' technology & time management skills
- Online students not feeling connected to the institution
- Receiving "the runaround" when contacting campus
- Not being able to access services (e.g., tutoring, counseling, advisement, career services, tech support, etc.) virtually or after "business hours"
- Not being able to participate in student life (e.g., clubs, campus activities)
- Lack of transferability of prior credits
- Lack of credit for prior college-level learning
- Accessibility and usability issues in websites and forms (e.g., forms reset if an error is made)

Connecting Online Students to Their Institutions

Various authors have stressed the importance of establishing community and connection with online learners to increase their satisfaction and to promote their retention and success (e.g., Borup et al.; Palloff & Pratt 2007; Shepard, et al, 2024). Transactional distance studies have sought strategies to reduce the psychological or perceived distance between online learners and their instructors. As with the attrition and retention studies, these have tended to be course- and instructor-centric in their focus. However, a small but growing number of scholars are recognizing the central role that institutional efforts to provide services, resources and community outside of the online classroom can play in the success of online learners (Bradoch, et al., 2018; Travers, 2016; Shepard, et al., 2024). Table 5 below lists institution-based strategies for promotion of online student retention and success.

Table 5
Institutional Strategies to Promote Online Retention & Success

- Mandatory online student orientation (technology & time management & connection to institution)
- Institutional "swag" provided to new online students
- A "concierge" assigned to each online student as primary point of institutional contact and problem solving
- Train administration & student services personnel in unique needs of online students
- Extended hours for student services and ability to provide services virtually
    - Tutoring
    - Library
    - Financial aid counseling
    - Program advisement
    - Counseling & mental health
    - Life and career planning
- Develop student life for online students (e.g., clubs, activities, contests & games)
- Regular "reach out" activities from institution to online students ("health checks," birthday greetings)
- Track and monitor interactions between institution & online students (e.g., Customer Relationship Management System)
- Allow students to easily access degree planning audits, & financial account audits
- Minimum design standards for online courses
- Instructional designers to build online courses
- Incentivized faculty development to improve online teaching
- Usability testing of websites and online forms
- 24/7/365 live technical (LMS) support

Conclusion

As leaders of higher education institutions seek to establish or expand online education at their institutions, they would do well not to follow the lead of those who have focused exclusively on rapid course development and recruitment of new students, while neglecting the resources, services and supports to meet the needs of fully online learners (Piña, 2017). In an era where colleges and universities are losing their accreditation, shuttering programs, being acquired by other institutions or closing their doors, being able to recruit new students and retain them has become more important than ever.

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