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Exploring Integrated Active Learning Practices in an Accelerated Fully Online Graduate-Level Course at a Hispanic Serving Institution

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ABSTRACT

The purpose of the study aimed to explore integrated active learning (IAL) practices in a graduate-level fully online, accelerated course at an HSI, with a focus on students' perceptions, and to evaluate the implementation of integrated active learning based on student feedback and reflections. Course instructors started implementing IAL practices for the same course in 2022. Data from before and after IAL implementation in terms of course syllabi and course designs on Blackboard, the LMS used in the HSI, were collected. To investigate students' perceptions, survey methods were also conducted. Findings revealed that graduate students overwhelmingly preferred IAL over traditional online learning approaches. Implications and recommendations were discussed.

Keywords*: active learning, HSI, integrated active learning, IAL, online learning, graduate*

INTRODUCTION

Background of the Study

Online learning and online degree programs are assumed to provide students with many learning benefits and potential challenges (Li & Irby, 2008; Liaw, 2008; Gilbert, 2015; Fadde & Vu, 2014; Kim, Liu & Bonk, 2005; Lowenthal, York, & Richardson, 2014). They provide students with the flexibility to attend classes from anywhere and complete assignments on their schedule while still offering the one-on-one time with faculty and the collaborative experiences with peers they need to get the most out of their education (Gilbert, 2015; Fadde & Vu, 2014; Lowenthal, York, & Richardson, 2014). They also provide students with affordable graduate education. Students may receive the same level of quality education with fewer expenses (Gilbert, 2015; Fadde & Vu, 2014; Kim, Liu & Bonk, 2005). Through online programs, students can broaden their network with people with diverse backgrounds (Kim, Liu & Bonk, 2005; Lowenthal, York, & Richardson, 2014). The pandemic expedited the spread of online learning, replacing many undergraduate and graduate programs (Xhaferi & Xhaferi, 2020). However, providing online courses itself does not guarantee students' better learning (Lowenthal, York, & Richardson, 2014; Li & Irby, 2008). Implementing an online course that is not based on rigorous empirical studies and theoretical background engenders a negative impact on student learning, such as the inability to meet students' learning needs at their own pace (Hetzner & Leen, 2012), lack

of communication between instructor and students (Jaggars & Bailey, 2010), failure of adjusting the level of difficulty (Alexander et al., 2012), and so forth. These issues are related to the high dropout rate, especially in online graduate programs (Herbert, 2006; Heyman, 2010; Xu & Jaggars, 2011). It was found that online courses had a 10% to 20% higher attrition rate than traditional classes courses (Herbert, 2006), which is one of the biggest concerns in online education. Since online learning environments are different from traditional learning environments in many ways (Kumari et al., 2021), it is, therefore, necessary to explore a more effective online learning approach or online course design to maximize students' learning (Khan et al., 2017).

Importance of the Study

Although quite a few studies explored best practices in online learning and have been in the literature for a while (e.g., Khan et al., 2017; Keengwe & Kidd, 2010; Abel, 2005; Sunal et al., 2003), studies are rare that explored graduate students' perceptions of online learning where students engage in course design and/ or course development.

What makes this study unique from previous online learning studies is that students are from graduate online accelerated programs, and the study views students as "*prosumers*" in the field of education. Students are traditionally regarded as customers in education services, so they largely play a passive role in their learning by receiving information from an instructor. The authors adopted an active learning framework as a tool (Keengwe & Kidd, 2010; Abel, 2005) where students engage in the course development process before the course starts. Followingly, they were assumed to actively participate in the course activities and were expected to have ownership of the course.

The accelerated online master's program course had 7-week intensive weekly modules where students were expected to show mastery in course materials that are comparable with a standard master's degree program course with a length of 16 weeks. Specialized graduate online programs were developed to provide students with more flexibility and with more affordability; therefore, students get a graduate degree while they work full time.

Despite the effort to promote active learning in institutions of higher education (IHEs) for over three decades (e.g., Bonwell & Eison, 1991; Keengwe & Kidd, 2010), many subject matters are still taught in a traditional, teacher-centered approach in IHEs (Borte et al., 2023).

Purpose of the Study

Unlike many studies that investigated active learning practices in undergraduate courses, face-to-face settings, and predominantly White institutions (PWIs) (e.g., Gilbert, 2015; Fadde & Vu, 2014; Kim, Liu & Bonk, 2005), the purpose of the study is to explore integrated active learning practices in a graduate-level fully online, accelerated course in an HSI, with a focus on students' perceptions, and to evaluate the implementation of active learning instructions based on student feedback and reflections.

LITERATURE REVIEW

Active Learning Term/ Definition

Bonwell and Eison (1991) claim that active learning lacks "an identifiable origin or a common definition" (p. 18), and that remains true even nowadays. Despite the lack of a defined origin, educators seem to have deduced the core meaning of active learning: learners must be active (Bonwell & Eison, 1991). The earliest conceptions of active learning could be accredited to American philosopher John Dewey (1916). He wrote how learning consists of two meanings: objective, external knowledge, and subjective, internal comprehension (Dewey, 1916). As Dewey (1916) describes how learning is subjective, he states, "learning means something which the individual does when he studies. It is an active, personally conducted affair" (p. 390). Even if Dewey (1916) had not coined the term "active learning," the idea that learning can be effective when the student is active is a consensus among most educators.

The multitude of attempts to define active learning primarily emphasized the involvement of student engagement during learning processes (Driessen et al., 2020). Influences from constructive theorists, such as Freire, Piaget, Vygotsky, and Dewey, have contributed to the overall understanding of what "active learning" means (Phillips, 1995; Drew & Mackie, 2011). Constructive learning theory is based on the learning that students "construct" from their own prior knowledge (Bada & Olusegun, 2015). In its most basic element, active learning and constructivism overlap in terms of definition. However, constructive learning theory only allows educators to act as facilitators, and findings must be considered absolute in the eyes of some constructivists (Larison, 2021).

Active Learning Strategies/ Methods

A study set out to define "active learning" examined 148 active learning in biology education research articles, and of those, only 17 had defined "active learning" with references (Driessen et al., 2020). In contrast, 53.42% of the 148 articles provided examples of active learning strategies or methods to define active learning as best as possible (Driessen et al., 2020). Multiple theories and pedagogical strategies are surrounding student engagement while learning coincides with the overall objective of active learning.

To summarize, active learning methods and/or strategies consist of, but are not limited to, problem-based learning, inquiry-based learning, project-based learning, discovery-based learning, and case-based learning (Cattaneo, 2017). Problem-based learning is a learning style that allows students to develop problem-solving skills by actively engaging and reflecting within facilitated group work and self-directed learning (Maudsley, 1999; Savery, 2006). Inquiry-based learning is a learning style designed around formulating questions and inquiries that allows the opportunity to create new knowledge and develop problem-solving skills with the help of learner-centered strategies, self-assessment, reflection, and a focus on process (Lazonder & Harmsen, 2016). Project-based learning

emphasizes content and process displayed via project output (Helle et al., 2006). Discovery-based learning is an intrinsically motivated style of learning that allows students to explore themes without boundaries freely or learning objectives placed by an educator (Bruner, 1961). Lastly, case-based learning is a type of pedagogy that involves case exploring, diagnosing, problem-solving and repeating to reach understanding with the use of learner-centered activities, collaborative learning, and reflection (Cattaneo, 2017). The value elements crucial to constructivist ideology vary in each active learning method or strategy (Cattaneo, 2017). These elements are learner-centered activities that have a focus on process, content, interdisciplinary activities, methods, reflections, and assessments. Hence, the ambiguity of the meaning of "active learning" is all too complex and broad. In addition, some strategies and tools can effectively guide active learning, such as "active" lectures, clickers, peer reviews, and games (Patton, 2015). Therefore, attempts to differentiate active learning elements and methods and/ or identify whether active learning is a learning theory or a pedagogical approach separated from constructivism may seem to be difficult and not particularly useful for practitioners to promote awareness of effective teaching.

Active Learning in Higher Education

As more buzz is made around the benefits of active learning, the primary method of instruction in higher education is the traditional lecture style of teaching, the teacher-centered approach of passive learning (Meguid & Collins, 2017). Traditional teaching practices seem to be attached to the identity of academia, separated from K-12 teachers, as they do not interact with children but instead with mature, higher-thinking adults who should be able to attain knowledge via listening to an authoritative figure. However, studies have provided empirical data to support significant differences between students learning via passive and active learning in higher education (Freeman, 2014; Theobald et al., 2020; Bosio & Origo, 2020). Even with active learning gaining popularity, further research should be conducted to support the implementation of active learning strategies in higher education. Research on active learning in larger university classes is close to non-existent (Freeman, 2014). While practical in theory, active learning requires more resources than traditional lecturing does. Core identifiers in active learning are student-centered learning and collaborative work, which may be difficult to achieve in classes of more than 50 students. Active learning can require more time, materials, equipment, and funds to be effective (Wang et al., 2017). Research exploring the possibility of designing active learning lessons for online courses also needs to be explored in order to provide the most effective environment for online learners.

Integrated Active Learning for Online Courses in IHEs

The authors proposed that *Integrated Active Learning* (IAL) in higher education be an instructional approach that places students at the center of the learning process, encouraging them to engage actively with course design and development, course content, participate

in class discussions, collaborative projects, and apply what they have learned through various activities. This teaching methodology is in contrast to traditional, teacher-centered, passive learning methods, where students mainly listen to lectures and absorb information passively. Most distinguishably, IAL notably differs from the general term of active learning by allowing learners to actively design and develop the *whole* course before and during the course, including syllabus design and development, course content, textbook selection, course meeting time and frequency, learning assessment methods, types of assignments, course evaluation methods, grading percentages of each task or assignments, course delivery methods, meeting length, collaborative project group formation, multiple pedagogies initiated by learners. The online active learning strategies are similar to those implemented in face-to-face learning settings. However, the IAL teaching and learning environments are different from traditional classes in many ways, especially in that an instructor and students design a course together. Also, the lack of qualitative and quantitative data defining the parameters of active learning should be considered. The wide range of methods and strategies under active learning, as it is interpreted now, must be considered when designing class lessons for a diverse selection of subjects and students. To explore integrated active learning (IAL) practices in a graduate-level, fully online, accelerated course at an HSI, with a focus on students' perceptions, and to evaluate the implementation of integrated active learning based on student feedback and reflections, the study sought to address the following research questions.

Research Questions

1. What are graduate students' perceptions of integrated active learning (IAL) in a fully online accelerated course before and after taking the course?
2. How do graduate students reflect on their experience in the fully online accelerated IAL course?
3. What are the differences and similarities of the EDFR 6302 course before and after the IAL implementation?

METHOD

Design and Data sources

Course instructors started implementing IAL practices for the same accelerated online course in a Hispanic Serving Institution in Texas in 2022. All data were collected from participants enrolled in three sections of the same fully online accelerated EDFR6302 course in Spring and Summer 2022. They consisted of a pre-course survey (Pre-Survey), post-course survey (Post-Survey), Institutional Course Evaluations, and student reflections on the learning management (LMS) system, Blackboard (Bb reflections). Data from before and after IAL implementation in terms of course syllabi and course designs on Blackboard were also collected. To investigate students' perceptions, survey methods were also conducted.

Participants and Sampling

Graduate students taking EDFR 6302 in Spring and Summer 2022 were invited to participate in the study. As these courses were offered by the College of Education, all participants in the study were current teachers. A convenience sampling method was implemented. The sample in the Pre-Survey consisted of n = 79 graduate students, with 61 females (77.2%), 17 males (21.5%), and 1 other (1.3%). In terms of race, most identified themselves as Hispanic (n = 57, 72.2%), followed by White (n = 18, 22.8%), Black (n = 1, 1.3%), Asian (n = 1, 1.3%), and Others (n = 2; 2.5%). Among them, n = 36 (45.6%) were in the Master of Education in Curriculum and Instruction (C&I) program and n = 43 (54.4%) were in the Master of Education in Educational Technology (Ed Tech) program. These graduate students had an average of M = 8.32 (SD = 7.60) years of teaching experience. On average, they had taken M = 6.61 (SD = 3.02) graduate courses. In addition, on average, they had taken M = 9.42 (SD = 5.97) online courses. Their average GPA, out of a possible 4.0, was high, with M = 3.84, SD = 0.28. The sample in the Post-Survey consisted of n = 63 graduate students, with 51 females (81.0%) and 12 males (19.0%). In terms of race, most identified themselves as Hispanic (n = 46, 73.0%), followed by White (n = 13, 20.6%), Black (n = 1, 1.6%), Asian (n = 1, 1.6%), and Others (n = 2; 3.2%). Among them, n = 23 (36.5%) were in the Master of Education in Curriculum and Instruction (C&I) program, and n = 40 (63.5%) were in the Master of Education in Educational Technology (Ed Tech) program. They had an average of M = 9.57 (SD = 9.56) years of teaching experience. On average, they had taken M = 7.00 (SD = 3.19) graduate courses. In addition, on average, they had taken M =11.81 (SD = 9.33) online courses. Their average GPA, out of a possible highest value of 4.0, is high, with M = 3.80 and SD = 0.55.

Instruments

Qualtrics surveys for both Pre-Survey and Post-Survey were developed before the course, and they were implemented before and after the course. The surveys were developed by the researchers, with the introduction passage on the first page: “This Survey is for all EDFR 6302 students. Please freely express your opinions and thoughts. It will only take about 5 minutes.” There was a total of 28 questions. In addition to the demographic questions, most of them were 5-point Likert scale items, except for the last item, which was open-ended for suggestions/ comments.

Data Analysis Methods

Quantitatively, exploratory data analysis (EDA) with descriptive statistics was conducted. Qualitatively, content analysis was conducted.

RESULTS

To address research questions 1 and 2 and investigate these graduate students’ perceptions of integrated active learning (IAL) in a fully online accelerated course before and after

taking the course, descriptive statistics in the forms of means and standard deviations of the graduate students' responses and ratings of active learning from Pre-Survey and Post-Survey were calculated. The results are demonstrated in Table 1.

Table 1. Perceptions of Active Learning from Pre-Survey and Post-Survey Responses

	Pre-Survey		**Post-Survey**	
	M	SD	M	SD
In terms of my learning for the course, I'd like to design the course or contribute to the course design. (Post: had liked)	3.51	0.99	4.65	0.97
In terms of my learning for the course, I'd like to be an active learner. (Post: had liked)	4.40	1.01	4.81	0.59
In terms of the course content, I'd like to gain a broader understanding of topics. (Post: had gained)	4.48	0.98	4.71	0.66
In terms of the course content, I'd like to gain a deeper understanding of topics. (Post: had gained)	4.53	0.99	4.75	0.62
In terms of the course content, I'd like to have ___ topics covered. (Post: # topics appropriate)	6.25	3.99	4.76	0.64
I'd like to have weekly synchronous web-conferencing sessions. (Post: had liked)	3.50	1.30	4.62	0.71
I'd like the length of each weekly synchronous web-conferencing sessions to be: (Post: length appropriate)	0.53	0.50	4.49	0.71
For this course, I'd like to work in groups. (Post: had liked)	2.77	1.34	3.89	1.38
I am familiar with technology used in the course. (Post: tech appropriate)	4.44	0.90	4.90	0.30
For this course, I'd like to use free textbook(s). (Post: had liked)	4.91	0.37	5.00	0.00
I'd like to get a good grade for the course. (Post: I think I got a good grade.)	5.00	0.00	4.89	0.54
I'd like the course to be rigorous. (Post: had liked)	3.61	1.07	4.33	0.93
I'd like the course to be stress-free. (Post: had liked)	4.68	0.67	4.24	1.03
I'd like to put in my best effort for the course. (Post: had)	4.95	0.27	4.75	0.57
I'd like the course to be student-centered. (Post: had liked)	4.51	0.70	5.00	0.00

Post-Survey ratings, on average, seemed to be higher (M = 4.65, SD = 0.97) than Pre-Survey's (M = 3.51, SD = 0.99) on "In terms of my learning for the course, I'd like to design the course or contribute to the course design." Post-Survey ratings, on average, seemed to be higher (M = 4.81, SD = 0.59) than Pre-Survey's (M = 4.40, SD = 1.01) on "In terms of my learning for the course, I'd like to be an active learner." Note the Pre-Survey's standard deviation seemed to be larger. Though both were high, Post-Survey ratings, on average, seemed to be higher (M = 4.71, SD = 0.66) than Pre-Survey's (M = 4.48, SD =

0.98) on "In terms of the course content, I'd like to gain a broader understanding of topics." Though both were high, Post-Survey ratings, on average, seemed to be higher (M = 4.75, SD = 0.62) than Pre-Survey's (M = 4.53, SD = 0.99) on "In terms of the course content, I'd like to gain a deeper understanding of topics."

Participants indicated in Pre-Survey that "in terms of the course content, I'd like to have 6.25 (SD = 3.99) topics covered." In Post-Survey, participants rated high (M = 4.76, SD = 0.64) on the number of topics covered in the course as appropriate.

Post-Survey ratings, on average, seemed to be higher (M = 4.62, SD = 0.71) than Pre-Survey's (M = 3.50, SD = 1.30) on "I'd like to have weekly synchronous web-conferencing sessions." Note the Pre-Survey's standard deviation seemed to be larger.

Participants indicated in Pre-Survey that "I'd like the length of each weekly synchronous web-conferencing sessions to be not more than an hour (M = 0.53, SD = 0.50)." In Post-Survey, participants rated high (M = 4.49, SD = 0.71) on the length of each weekly synchronous web-conferencing sessions being appropriate.

Post-Survey ratings, on average, seemed to be higher (M = 3.89, SD = 1.38) than Pre-Survey's (M = 2.77, SD = 1.34) on "For this course, I'd like to work in groups."

Participants indicated high in Pre-Survey that "I am familiar with technology used in the course" with an M = 4.44 (SD = 0.90). In Post-Survey, participants rated high (M = 4.90, SD = 0.30) on the technology used in the course being appropriate. Participants indicated high in Pre-Survey that, "For this course, I'd like to use free textbook(s)" (M = 4.91, SD = 0.37). In Post-Survey, all participants rated the highest (M = 5.00, SD = 0.00) on "For this course, I had liked using free textbook(s)." Participants all indicated the highest in Pre-Survey that, "I'd like to get a good grade for the course." (M = 5.00, SD = 0.00). In Post-Survey, participants yielded an M = 4.89 (SD = 0.54) on "I think I got a good grade for the course." Participants, on average, rated an M = 3.61 (SD = 1.07) in Pre-Survey on "I'd like the course to be rigorous" and a seemingly higher M = 4.33 (SD =0.93) in Post-Survey on "I had liked the course being this rigorous." Participants, on average, rated a M = 4.68 (SD = 0.67) in Pre-Survey on "I'd like the course to be stress-free" and a M = 4.24 (SD = 1.03) in Post-Survey on "I had liked the course being this stress-free." Note, the Post-Survey's standard deviation seemed to be larger.

Participants, on average, rated an M = 4.95 (SD = 0.27) in Pre-Survey on "I'd like to put in my best effort for the course" and an M = 4.75 (SD = 0.57) in Post-Survey on "I had put in my best effort for the course."

Participants, on average, rated a M = 4.51 (SD = 0.70) in Pre-Survey on "I'd like the course to be student-centered" and the highest M = 5.00 (SD = 0.00) in Post-Survey on "I had liked the course being student-centered."

From the Pre-Survey, participants indicated topics of course content for the Foundations of Human Cognition and Development course. Frequency counts of content topics participants had selected and whether the topics were eventually chosen/ covered in the course were demonstrated in Table 2.

Table 2. Topics of Course Content Chosen by Students in Pre-Survey

Topics	Freq. Count	Chosen/ Covered in Course
Neuroscience	16	
Behavioral Learning	60	x
Social Learning	44	x
Cognitive Learning	45	x
Cognitive Development	36	x
Personality & Social Development	45	x
Moral Development	20	y
Intelligence	26	x
Creativity	41	x
Memory	30	x
Perception	22	y
Language Development	28	x
Motivation	50	x
Others (3D technology)	2	
Learning Sciences	21	y

N.B. x chosen as first topics covered in class; y chosen as second topics covered in class.

In terms of topics of course content selected by graduate students in the Pre-Survey, Behavioral Learning had the highest count of n = 60, followed by Motivation (n = 50), Cognitive Learning (n = 45) and Personality & Social Development (n = 45), Social Learning (n = 44), and Creativity (n = 41). As a class decision, the following topics were ultimately chosen to be covered in class (also as first choices): Behavioral Learning, Social Learning, Cognitive Learning, Cognitive Development, Personality & Social Development, Intelligence, Creativity, Memory, Language Development, and Motivation. Three extra topics were decided to be back-up, second choices: Moral Development, Perception, Learning Sciences.

To address research question 3, syllabi from both before and after IAL implementation were collected and compared. Course designs on Blackboard were also compared. Table 3 demonstrated the similarities and differences between the previous EDFR 6302 course and the IAL EDFR 6302 course.

Table 3. Comparison of EDFR 6302 before and after IAL Implementation

	Previous EDFR 6302	**IAL EDFR 6302**
Course Name	Foundations of Learning, Cognition, and Human Development	Foundations of Learning, Cognition, and Human Development
Years Offered	Before 2022	Since 2022
Course Delivery	Online	Online
Course Length	7 weeks	7 weeks

Web-conference	Not offered; (Asynchronous)	Offered (Synchronous sessions optional)
Instructor Background	Educational Psychology	Educational Psychology; Learning Sciences; Cognitive Psychology
Student Background	Mostly current educators seeking MEd	Mostly current educators seeking MEd
Level	Graduate	Graduate
Credits	3	3
Offering Dept	Teaching and Learning	Teaching and Learning
Offering Prog	Master of Education- Curriculum & Instruction	Master of Education- Curriculum & Instruction
Materials	Major Publisher Textbook/ e-textbooks; Major publisher's Online Lab; Major publisher's Online Exams	Instructors' handouts; OER; selected chapters from free e-textbooks
Textbook Cost	~$200	$0; Free
Access to Materials	Required log-in to publisher's website in addition to LMS	Freely downloadable and accessible from LMS; All on LMS
Course Design	Pre-determined by instructor	Designed mainly by students
Course Format	Lecture-based	Integrated Active Learning
LMS Layout	Mainly follow major publisher's online resources and e-textbook chapters with service learning project and discussion requirements on LMS	7 weekly modules on LMS with all materials, discussions, and assignments on LMS
Instruction	Teacher-centered	Student-centered
Service Project	Yes (one service project required)	0; None (decided by learners)
Examinations	13	0; None (decided by learners)
Learning Modality	More toward passive learning	More toward active learning (IAL)
Course Development	Pre-determined by publisher and instructor	Developed mainly by students
Course content	Pre-determined by publisher and instructor	Determined by students
Level of Rigor	High	High
Level of Stress	High	Low
Assignments	Major Publisher Textbook/ e-textbooks reading; Major publisher's Online Lab; Major publisher's Online Exams; Discussions on LMS	Group projects; short papers; Discussions (All on LMS; All decided by learners)
Grading Percentages	Determined by major publisher Determined by instructor	Each assignment's grading percentages determined by students
Student Feedback	Mostly mixed with both positive and negative feedback	Overwhelmingly positive (all positive so far)

Similarities between the previous EDFR 6302 course and the IAL EDFR 6302 course

include: course delivery method being fully online, course length being 7 weeks, students taking the course, level of the course being a master's course, number of credits being three, course offering department and program, and level of rigor. Some notable differences between the previous EDFR 6302 course and the IAL EDFR 6302 course include: optional web-conferences, course materials used, textbook cost, access to course content, course design, course format, LMS layout, instructional pedagogy, service project requirement, examinations, learning modality, course development, level of stress, assignments, grading percentages, and student feedback.

Student Feedback on Course Evaluation

Overwhelmingly positive student feedback was received via the official HSI's course evaluation and on the LMS Discussion Forums. In fact, the authors had received positive feedback from all the IAL courses. Table 4 demonstrated some student feedback examples, total number of mentions, and foci of commentary areas.

Table 4. Student Feedback and Foci of Commentary Areas

Focus of Comments	Examples of Student Feedback	Total # of Mentions
IAL Course Design	"I actually really enjoyed that I was able to have my own input for the course design" "Dr. XYZ giving us the opportunity to have input on the course design." "He did take our survey responses into account." "...took the stresses and worries of his students into consideration at all times throughout the course" "...the implementation of the expectations survey at the start of the course was an effective strategy" "he made the course engaging" "Well-organized and motivated to be independent learners" "Thank you Dr. XYZ for making it such a pleasurable experience" "Your instructional approach to this course was very informative in a motivating and refreshing way." "Your in-depth weekly lectures were very engaging!" "I am glad he allowed students to give their input on how we prefer to learn, that was very much appreciated" "The experience was very positive for me. I really appreciate being surveyed on what would be best and actually putting it into practice."	25
Learning	"I did learn a great deal about... " "Very insightful information to use in my career" "The weekly agenda was vital and helpful to my learning" "good and engaging course that was helpful to my learning goals with my program" "...I have learned a lot"	18
Enjoyment	"I truly enjoyed each topic that we studied!" "I enjoyed taking this course with Dr. XYZ" "I very much enjoyed this course " "Enjoyed your class very much" "... enjoyed learning the content of this course" "enjoyed being able to see the recorded videos in case I couldn't attend the live meeting"	19
Course Structure	"...class was very well organized and easy to follow week by week" "Assignments were clear and concise" "Well-organized"	12

Instructor	"Such a caring professor" "well-prepared each week to deliver instruction" "...very considerate of students needs" "Thank you ... for being very supportive" "Thank you for being so patient" "Excellent teacher" "Thank you for always being available to help!" "He is a considerable professor." "I enjoy Dr. XYZ's personality and enthusiasm and of course his passion for education" "thank you for the time-effective communication"	22
Level of Stress	"This was a great class - it was manageable and stress-free" "...took the stresses and worries of his students into consideration" "he made the course stress free" "I was able to be 100% in class, work and family. Definitely was not stressful." "Thank you for never overloading us with assignments"	18
General Applause	"This class has been one of the best" "Great course direction. Thank you." "Thank you for your lectures" "Thank you for your direction and guidance throughout this course" "I appreciate all the guidance and assistance after returning to school after many years of being away." "This course was wonderful and Dr. XYZ did a great job!" "This was an excellent course!" "This course was awesome!"	26

DISCUSSION

Overwhelmingly, graduate students at the HSI provided very positive feedback on IAL's active approach to learner participation of the course design. As one graduate student said, "*I was very apprehensive about this setup at the beginning of the course because I have never had a course using this approach. I can honestly say that it was surprisingly great! I feel like it takes into consideration the students needs and time which made the course much more tolerable without being overwhelming. I would definitely recommend continuing this approach for future classes. I feel like I could deep dive into the topics without fear of falling behind because of the design that was chosen by our group*." Many comments are quite similar in that they expressed the IAL approach with the Pre-Survey was a great idea and the IAL design in fact decreased their level of stress. IAL helped learners focus on their own learning. For example, another student said, "*The initial surveys were a great idea! Getting feedback from graduate students on how they want the course to be organized and the grading was something I truly appreciate. As many have stated, having that feeling of just learning versus being graded was a huge stress reliever*."

Aside from the code of general applause being with the highest total number of mentions of 26 in student feedback, the code of IAL course design had the second highest total number of mentions of 25, showing their positive experience. Other codes included mentioning of instructor (22), enjoyment (19), learning (18), level of stress (18), and course structure (12).

By participating in the course development process, the students showed an increased perception of active learning and positive learning experiences. The students expressed their own preferences about the number of topics, course structure, learning activities, the type

of assessment, and so forth. Most of the students worked full-time, and it was the students who knew the availability of time and manageability of the learning tasks throughout the weekly modules. Therefore, when the course is organized based on self-estimate, it is more likely that the students feel a sense of control over the course. The authors argue that having a sense of control over the course alone is not the only factor for the students' increased perception of the course. The instructor of the course carefully reviewed the students' requests and actually reflected on them for the course. The real ownership by the students comes after the feeling of control over the course. Both the change to participate in the course development and the observation of the change as evidence contributed to the students' perception change. Most of the students are not professional students. They work full-time and have family members to take care of as well. If an instructor only focuses on a teaching goal without considering the students' personal learning environments, no matter how good the curriculum plan is, it is more likely to end up with less success in student learning.

One of the most striking findings is that after participating in the course development, the students showed less interest in the course grade itself and valued deeper engagement in the course work more. For example, the students rated having a good grade as less important in the post-survey than in the pre-survey. Also, they rated stress-free classes less in the post-survey than in the pre-survey. It could be interpreted that even though students felt quite stress-free, they embraced the stress that was necessary for learning in the course work and showed a willingness to cope with some stress because they felt they had control over the course activities that were developed for and by themselves.

The authors implemented the student-led course development as an integrated active learning activity for the graduate accelerated course. The students participated in course development based on the syllabus draft that the learners designed and developed. Most of the students work full-time, and all the students have experience with various types of assignments and assessments in their undergraduate study or their current teaching professions. The authors assumed that the graduate students, from their experiences, have both knowledge of academic work and time management skills. It is assumed that this specific qualification that the graduate students have made the integrative active learning courses successful. Therefore, if the same course format is implemented in a course for undergraduate students, the same learning benefit may not be expected. This means that the effect of the implementation of IAL would be limited to students with specific qualifications. A follow-up study needs to suggest the possibility of its implementation for students with various backgrounds so that an IAL course can be implemented, especially for undergraduate students. Also, the study did not fully address structured guidelines and students' behavioral data during the implementation. Therefore, future studies may consider investigating IAL course development with more structured guidelines and collecting behavioral data for further analysis.

CONCLUSION AND RECOMMENDATIONS

The authors proposed that Integrated Active Learning (IAL) in higher education be an instructional approach that places students at the center of the learning process, encouraging them to engage actively with course design and course content, participate in class discussions, collaborative projects, and apply what they have learned through various activities. This IAL methodology emphasizes learners' active engagement in course design and development, among others, and to shy away from the more traditional, teacher-centered, passive learning methods, where students mainly listen to lectures and *try to* absorb information passively.

The authors recommended some key aspects and strategies associated with IAL in higher education: (1) Student Engagement: Integrated active learning aims to engage students actively in the whole learning process. This can include course design, discussions, debates, group work, problem-solving activities, and hands-on projects. It shifts the focus from the instructor as the primary source of knowledge to students as active participants in constructing their understanding. (2) Collaboration: Many integrated active learning strategies involve collaboration among students. Group work, peer teaching, and collaborative projects can help students learn from one another, develop communication skills, and see different perspectives on a topic. (3) Problem-Based Learning (PBL): PBL can be an integrated active learning approach where students come up with different real-world problems or scenarios for other groups to solve. Learners work in groups to research, analyze, and propose solutions to problems or scenarios presented by other groups of learners, which often requires them to apply course concepts in practical ways. (4) Flipped Classroom: In a flipped classroom, traditional lecture content is delivered outside of class through videos or readings, while class time is dedicated to interactive activities, brainstorming initiatives, and deeper discussions. This approach maximizes in-class engagement and active learning. (5) Classroom Technology: Technology tools such as clickers, online discussion boards, interactive simulations, and learning management systems can facilitate active learning by allowing for prompt or real-time feedback, assessment, and online collaboration. (6) Inquiry-Based Learning: This approach encourages students to ask questions, explore topics, and conduct their investigations even before the course officially starts to the course ends. It promotes critical thinking, problem-solving skills, and independent learning. (7) Peer Teaching: Students can take turns teaching each other, which not only reinforces their understanding of the material but also helps them develop presentation and communication skills. (8) Socratic Method: Instructors, as well as learners, can use questioning techniques to encourage all learners to think critically and participate actively in discussions. This method promotes deeper exploration and elaboration of topics. (9) Reflection and Metacognition: Integrated active learning often includes opportunities for students to reflect on their learning process, assess their own understanding, and set goals for continuous improvement. This metacognitive aspect enhances their ability to self-regulate their learning. And, (10) Assessment: Assessment in integrated active learning environments is often formative and

continuous. It can include quizzes, discussions, group projects, and presentations, allowing instructors to gauge student progress and adjust teaching accordingly.

The benefits of integrated active learning in higher education include increased student engagement, improved retention of information, better critical thinking skills, and enhanced problem-solving abilities. However, implementing integrated active learning strategies may require a shift in the traditional teaching paradigm, dedication of time and effort in preparation and in content delivery, ongoing faculty development, and careful consideration of course design and assessment methods from and by learners.

In summary, integrated active learning in higher education focuses on fostering student engagement, collaboration, critical thinking, and problem-solving through various teaching strategies and methods that encourage active participation in the *whole* learning process.

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