FACULTY PERSPECTIVES ON WEB LEARNING APPS AND MOBILE DEVICES ON STUDENT ENGAGEMENT

Pedro Coelhoso	Munster Technological University Cork, Ireland	pedro.coelhoso@mtu.ie
Stavroula Kalogeras *	Heriot-Watt University, Dubai, UAE	s.kalogeras@hw.ac.uk

* Corresponding author

ABSTRACT

Aim/Purpose	The digital ecosystem has contributed to the acceleration of digital and mobile educational tools across institutions worldwide. The research displays educators' perspectives on web applications on mobile devices that can be used to engage and challenge students while impacting their learning.
Background	Explored are elements of technology in education and challenges and successes reported by instructors to shift learning from static to dynamic.
Methodology	Insights for this study were gained through questionnaires and focus groups with university educators in the United Arab Emirates. Key questions addressed are (1) challenges/benefits, (2) types of mobile technology applications used by educators, and (3) strategies educators use to support student learning through apps. The research is assisted by focus groups and a sample of 42 completed questionnaires.
Contribution	The work contributes to web/mobile strategic considerations in the classroom that can support student learning and outcomes.
Findings	The results reported showcase apps that were successfully implemented in classrooms and provide a perspective for today's learning environment that could be useful for instructors, course developers, or any educational institutions.
Recommendations for Practitioners	Academics can integrate suggested tools and explore engagement and positive associations with tools and technologies.
Recommendations for Researchers	Researchers can consider new learning applications, mobile devices, course design, learning strategies, and student engagement practices for future studies.

Impact on Society	Digitization and global trends are changing how educators teach, and students learn; therefore, gaps need to be continually filled to keep up with the pace of ever-evolving digital technologies that can engage student learning.
Future Research	Future research may focus on interactive approaches toward mobile devices in higher education learning and shorter learning activities to engage students.
Keywords	mobile instructional technology, mobile devices, higher education, apps in education, mobile learning

INTRODUCTION

Higher education instructors are constantly tasked with a complex set of pedagogical decisions when trying to balance the affordances and constraints of technologies with teaching goals, learning outcomes, and student access due to internet or equipment connection failures. Education is in constant technological change, where pedagogical innovations and new technologies appear that can generate new ways of learning, and "numerous institutions are investing funds in technology in hopes that it will address declining engagement and improve course learning outcomes" (Kalogeras et al., 2022, p. 1). Mobile devices have become a big part of how students engage and interact inside the classroom. One of the most common approaches, contemporary mobile learning, or m-learning, focuses on using technologies that support the mobility of learners and instructors who base their practice on learner-centered and constructivist pedagogies (Matzavela & Alepis, 2021).

The transition to online, specifically during COVID-19, where there was a surge for mobile technology in classrooms worldwide, specifically tactile devices, and instructors were challenged with engaging students in synchronous and asynchronous eLearning. Synchronous teaching increased significantly with COVID-19 emergency response teaching. Instructors with no prior online teaching experience were disadvantaged; they were found teaching to black boxes (student cameras were off), which decreased student engagement. Student motivation and engagement are ongoing challenges for most instructors, and the presentation of the learning content integrated with technology is significant for learning to be achieved (Kalogeras et al., 2022).

Today, people are interlinked with technology everywhere, and students have more opportunities for project-based learning (Zhang & Ma, 2023). With the rapid technological growth during the last years, the demand for accessing information or digital entertainment has become one of the main priorities. For most students, using mobile devices is second nature, with the virtual world and social media updates consuming a significant part of their day. By the time students reach university, they will have used some form of technology to support their learning preferences. Furthermore, mobile technology is an essential aspect of the real world, which university students are being prepared to embrace.

Raja and Nagasubramani (2018) contend that technology has revolutionized the education field and has been in transition because of the constant demand in the 21st century to adapt to the technological world. Similarly, Statti and Torres (2020) believe educators must support students in fields that rely on technology. Accessibility to technology is needed to prepare students for the shifting demands of the skills necessary for the workforce. There appears to be a parasitic relationship approach of education towards technology by using devices that initially were created for the corporate environment, and these tools are challenging higher education to develop educationally sound applications. However, the widespread appeal and availability of mobile technology and web applications may pose another problem for educators regarding choice, selection, and application to enrich the learning process (EdMonger, 2021). Students are generally on the edge of technological growth; they are more up-to-date than ever, they have access to the latest modern equipment, and it makes no sense per se that when they come to school, they have to put that growth on pause. Moreover, mo-

bile technology and web applications foster communication and collaboration, which are part of social constructivist approaches to teaching and learning, emphasizing the exchange of ideas (Greenwood, 2020).

The dependence on mobile technology devices has created opportunities and challenges for instructors and students. To take advantage of students' interest and the benefits of m-learning, faculty and educational institutions should design innovative learning methodologies (Belle, 2019). At the other extreme are instructors, trainers, and professors, typically more focused on theories than the application of real-world problems. The mission is always to minimize the gap between the market forces and the knowledge gained by higher education institutions. The new generation of learners impacts and influences change in education, and m-learning is an educational tool theoretically grounded in constructivism pedagogy and provides educators with more resources. The combination of sound pedagogical standards, humanistic approaches to education, and intelligent technology can enrich the learning experience, providing students with innovative learning solutions that prepare them for the global marketplace.

This paper investigates the use of mobile devices and learning apps in higher education, and the research questions are:

1. Do mobile devices and learning apps increase students' and educators' learning, motivation, and engagement?
2. Which apps for educational technology purposes display good results in the classroom?
3. What is the perspective of educators on educational apps?

The work involves qualitative research using questionnaires, surveys, focus groups, and participant observation to help researchers delve into topics and understand their implications. The work is analyzed by thematic analysis, which considers patterns and meanings.

LITERATURE REVIEW

The literature suggests that lecturers face several challenges in the application of mobile learning in practice since educators require proficiency in designing learning content for a mobile pedagogic format (Viberg & Grönlund, 2017). Moreover, mobile devices were not designed for teaching and learning purposes, making it challenging to integrate in pedagogical design (Biddix et al., 2016). Ertmer and Newby (1993) argue that it is important that lecturers gain technical skills as well as pedagogical knowledge of effective instructional practices that incorporate meaningful use of mobile technology during instruction. The lecturers' knowledge of technology does not equate to expertise in use as they are two different competencies or modes of competencies (Alanazy & Alrusaiyes, 2021; Dinçer, 2018; Instefjord & Munthe, 2017). Therefore, instructors should be equipped with the fundamentals to properly engage a classroom (Ifinedo et al., 2020), and this includes their knowledge, skills, attitudes, and behaviors to perform exceptionally. Moreover, competency skills and knowledge in applications and devices in designing curricula, learning materials, and assessments affect faculty interests in using mobile devices in the teaching process (Waters & Troy, 2015), and traditional forms of assessment may not easily be applied to applications and mobile learning devices (Crompton & Burke, 2018).

It is common to see students using their gadgets in the classroom, accessing information, and using it in more diverse ways. Mobile devices have become a big part of how students interact in the classroom. Mobile learning is a broad term that considers learning via the internet, using personal mobile devices such as smartphones, tablets, and laptops (Singh, 2020), and refers to learning through a mobile device. The role of mobility extends learning, and learning is not confined to traditional educational contexts. Mobile technology and personalized learning are a growing trend in higher education (Alley, 2009; Peng et al., 2009), and it is regarded as a vital learning tool for a new generation of learners who learn differently due to their shorter attention spans (Alhassan, 2016; Kalogeras, 2013a).

Similarly, the creative development and integration of learning content are key to capturing learners' attention and retention using digital strategies, and there are four keyways: "*technology*, which supports a broader reach; *process*, which is better and easier received; content, which is more ethical and democratic; and *media*, which is multicultural, multimodal, and multimedia (Kalogeras, 2013b, p. 119). Similarly, "learners, therefore, have the benefit of comparing and contrasting information from different sources when there are different modes. (Kalogeras, 2013a, p. 9), and "it may be true that different types of learners prefer different types of media" (Kalogeras, 2013a, p. 9).

Education has shifted from a standard transmission and transaction of content to a more transformative and blended learning approach when accessing information anytime, anywhere (Singh, 2020). Although the new trends (such as flipped classrooms, hybrid classes, and Bring Your Own Device) are apparent, there are still controversies along with the benefits or prejudice this movement undertakes. There may be inefficient educational methodologies and even distractions in learning (Alhumaid, 2019) that should be considered, yet the digital revolution is transforming these educational models, involving key stakeholders.

Sharples (2006) argues that mobile learning enables learners to construct their own understanding and that learning takes place beyond time and space constraints. The characteristics of mobile learning are personal ownership, informality, and the ability to be mobile, which makes it different from other forms of e-learning (Naismith et al., 2004). Criollo-C et al. (2021) are concerned about how educators will best use mobile technologies to support learner-centered pedagogical strategies, which must include the collaboration of the relevant stakeholders (educational institutions, instructors, and students) who are committed to generating knowledge to motivate learning.

The appropriate use of mobile devices and sound pedagogy in the design of learning could improve students' learning (Krull & Duart, 2017). "The benefits associated with m-learning are constructivist learning, student behavior, learning spaces, collaborative learning, informal and self-directed learning, teacher resources, technology and support, affordability and portability, availability and flexibility, and motivational learning" (Criollo-C et al., 2021, p. 6). M-learning is aligned with "the content in mobile applications and the design of activities for m-learning, educators, technology, students, learning, and educational institutions" (Criollo-C et al., 2021, p. 6). Jeno et al. (2019, p. 669) contend that using "a mobile application was more need satisfying and intrinsically motivating than using a textbook, which, in turn, predicted higher levels of well-being and achievement." Moreover, the mobile application was found to have indirect effects on positive effects through autonomy, competence, and intrinsic motivation and on achievement through competence (Jeno et al., 2019, p. 672).

According to Cavanaugh et al. (2012), the paradigm shift in education consists of integrating students' devices and technologies that are typically used for other purposes (such as mobile phones) to capture their attention and increase their performance level and competencies in eLearning environments. The idea of m-learning is to transform learning from transmission of content to transaction of content, from master teacher to master learner, where instructors stop being isolated and become more connected with the students. Likewise, courses are encouraged to focus on media-rich content using the internet and other applications, and the experience must be tactile, ensuring students' engagement and participation.

Students have different learning preferences, and the shift can be attributed to cognitive modes such as deep attention for one medium focus and hyper attention brought on by switching attention that requires multitasking. "The hyper attentive styles characterize millennial students, and those born after the millennials poses a challenge to the current educational system" (Hayles, 2008). Moreover, theories of multimodality (Mayer, 2009) encourage faculty to consider how different modes of representation and communication contribute to meaning-making in different ways. "Multimodality insists that multiple resources are used in communication, and different media technology offers different semiotic resources that educational designers can use," [and an] "important component of pedological design is to decide which communication channels are to be used" (Kalogeras, 2013a, p. 6).

Moreover, an important factor found in the literature is the idea of shorter learning content to engage millennial and post-millennial learners. According to Kalogeras et al. (2022), "microlearning can cover any subject matter but with shorter content. The benefit to learners is the experience, which resembles their media usage, such as engaging on social networks frequently for short periods" (p. 3). Moreover, online learning and not only employs text-heavy content that is not ideal for student engagement. The advantages of shorter lessons that keep the classroom moving are further examined:

> Microlearning deals with small learning units and short-term focused activities that can be used in online, blended, and seated learning environments. Microlearning can cover any subject matter but with shorter content. The benefit to learners is the experience, which resembles their media usage, such as engaging on social networks frequently for short periods. Moreover, online learning and not only employs text-heavy content that is not ideal for student engagement. Microlearning allows the learners to enjoy learning whenever they have extra time. And, since microlearning content is small, it is easily accessible. According to microlearning research, studying something repeatedly, especially when close to forgetting the information, helps retention. Microlearning units are small, self-contained, and easy to return to, more suitable for online learning, and good for engagement. (Kalogeras et al., 2022, p. 3)

However, microlearning goes beyond providing learning material in bite-size content (Samala et al., 2023). The digital-savvy generation is accustomed to entertainment for engagement, and with shorter attention spans, students can engage easily in digestible portions of edutainment (Kalogeras, 2013a).

The educational environment is critical, and the sudden shift to online learning due to COVID-19 was disruptive, forcing a sea change in academic behaviors and practices. Therefore, there is a need to understand the importance of mobile learning and its effects on teaching and learning. Web applications and mobile devices, and the internet in general, are major tools for effective teaching. The learning process becomes more diverse and interesting with a plethora of diversified content, such as tutorial videos and shorter chunks of information. What is more, teaching styles that engage and transcend the educational experience by instructors who are acutely aware of their strengths and weaknesses are necessary (Kalogeras, 2017) when employing technologies in the classroom. While researchers maintain and focus on how educational technology tools affect learning and the learning environment, the fact remains that there needs to be more studies on how instructors see those changes and shift their methods.

METHOD

The study employed qualitative techniques, and the data collection method involved a questionnaire and survey that was analyzed using thematic analysis. Thematic analysis is a popular technique for analyzing qualitative data that involves looking for patterns in the meaning of the data to find themes (Naeem et al., 2023). Similarly, qualitative study designs are beneficial for types of research questions that look to provide unique insights into specific contexts or situations, such as the classroom experience. The questions and focus group inquiries were developed by the researchers. The questionnaire was validated to establish face validity. Experts read through the questionnaire to see if it was effective to capture the topic under investigation. Additionally, an expert in questionnaire construction checked the survey for common errors such as leading questions or double-barreled. The classification of the questionnaire was open-ended.

Different data collection methods have their strengths and weaknesses and combining them can mitigate any shortcomings and improve the quality of the data that is collected (Kuhn, 2023). The approach (questionnaire and focus group) was administered to higher education instructors of one of the leading Federal Universities in the United Arab Emirates. Faculty were invited to participate in this study via email and were selected based on experience and courses taught during the academic year of 2021/2022. The sample selected for this study comprises 42 faculty members (questionnaire)

and nine focus groups who have worked full-time in a higher education institution's bachelor program. The participants were selected based on purposive sampling since those educators are part of several courses with embedded technology apps in their curriculum. The educators who participated in the questionnaire and focus group were from the Business School.

The focus group questions were derived from various literature on integration apps in education, which shows that education has shifted from a standard transmission and transaction of learning content to a more transformative and holistic learning approach with the ability to access engaging content digitally anytime. The four main questions discussed were: (1) How would you describe your overall experience with learning apps in the classroom? (2) Does social movement usage around digital applications and devices support new practices that can assist educators in their course design? (3) How can course design and digital integration impact student engagement? (4) What strategies were used to support student learning through apps? Additionally, the open-ended questions are provided in the Conclusion.

Thematic analysis was used to understand the instructors' attitudes, perceptions, and behaviors around mobile devices. This study analyzes the perceptions of those who engage daily in mobile learning and intends to better understand the current education technology situation and its new trends. The research expects to verify the following:

1. Do mobile devices and learning apps increase students' and educators' learning, motivation, and engagement?
2. Which apps for educational technology purposes display good results in the classroom?
3. What is the perspective of educators on educational apps?

The three main questions of the study served to gather instructors' perceptions on new technologies available to enforce student participation and engagement, to understand the main issues causing disruptive classes, and to find which apps were applied and reported as a good fit for students learning.

RESULTS AND FINDINGS

In response to the three questions identified, it was suggested that learning apps have their place in the classroom. Students today engage in social networks frequently and for short periods of time; therefore, this behavior crosses over when using web apps on mobile devices. Likewise, the best web apps for educational technology purposes are the ones that can support the learning experience, but it is a combination of both the application and the content appropriateness. It appears that Kahoot and Nearpod are top performers and are similar in their engagement levels with students. The concern from educators who consider engagement strategies is to know precisely how and when to use the applications during the learning journey, as anything administered wrongly and for a lengthy time can create boredom. So basically, one can have a great learning platform, for example, but the types of questions that are asked by administering the online quizzes are just as important.

Classroom engagement is shown to be of utmost importance, but there are factors to consider when there is a lack of engagement. Based on the questionnaire/focus group analysis, the instructors sampled reported four reasons behind disruptive classes:

1. 96% mentioned electronic devices (phones, tablets, iPads, etc.).
2. 90% mentioned lack of attention/interest (playing, chatting, spaced-out, etc.).
3. 85% mentioned materials/content (whiteboard, books, paper files), learning is static.
4. 79% mentioned lack of control/equipment.

As mentioned by the majority of participants, electronic devices are one of the main points that create a deficit of attention in the classroom and online learning. One of the participants mentioned, "It's impossible to compete with technology unless we turn technology in our favor." Also, 96% of

the participants during the interview mentioned that mobile phones are the biggest problem, referring to the fact that they have to pause classes to ask students to turn off their mobiles and put them away.

Another factor that was mentioned was the lack of attention and interest in the class. According to one of the participants, "… students have several courses a day, and they seem tired or completely spaced-out," "… if your class loses hype, students immediately resort to chatting and playing around." One of the more interesting answers was that 85% of instructors mentioned that their courses are static, "… students find PowerPoint slides boring, and they lack interest", and "when everything seems to be paper-based, students know they can read it at home."

Several participants also mentioned that whiteboards and PowerPoints are sometimes too draining for students, classes lack activities and challenging content, and interaction does not happen. Instead, instructors reported that interaction does not simply happen because the curriculum is heavy and they have too many tasks to finish, "… we have to finish the content we are supposed to cover." Lastly, several participants reported they lacked specific equipment or malfunctioned (internet, blackboard, apps, etc.) of the equipment that was available in their classes.

A follow-up question was asked of the faculty: "What can be done to transform your class?" Figure 1 reports the keywords instructors mentioned the most according to their respective size of importance. Interestingly, change was the number one word mentioned (the fact that change in designing curriculum is required). Adapting to new realities and use of technology was thoroughly highlighted by several participants, where adaptation was referred to in terms of participation and interaction on how they deliver classes, "… we need to make learning a fun activity, interactive," "we need to speak students' language."

Commonly, everyone agreed that the competition for student attention is increasing, and the use of technology was reported as extremely useful for transforming classes and increasing participation. Moreover, some participants point out that education is far too traditional, and many instructors are comfortable teaching the same way they taught many years ago. Instructors may require training and practice to get out of their shells and do something risky or different. The content analysis of the focus group transcripts also highlighted the necessity of embedding more technology apps and videos in the courses offered in the curriculum. A few instructors also stated that using students' mobile devices transforms and makes their classes more dynamic and further away from the traditional teaching philosophy.

Figure 1. Word cloud

Instructors were asked to fill out a survey where they rate, and pinpoint which applications have currently been used in their class alongside their benefits. Based on the answers gathered, a list of the top ten apps instructors reported increasing student engagement and participation was generated (Figure 2).

Kahoot, an app that focuses on challenge-based learning, where the gamification of material takes place using a multiple-choice game environment that is timed for students to answer correctly and gain points, seemed to be the app that instructors perceived as more efficient in creating dynamic classes and increasing students' participation with 92%. Kahoot is an app that tests concepts by multiple choice inquiry, and students gain points by the speed of answering correctly: "Kahoot is awesome; not only do they learn concepts, but there is a bit of healthy competition in my class; testing concepts and situations with Kahoot makes learning easy."
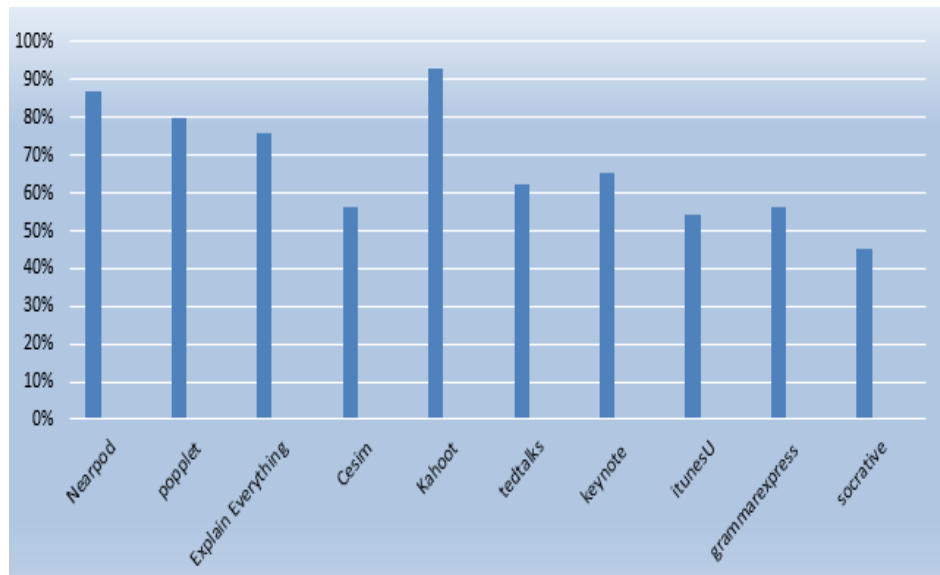

Figure 2. Mobile apps top 10 usage by instructors

The second app that reported higher usage levels was Nearpod, with 87%. Nearpod software allows instructors to transform their presentations into a dynamic student experience. Nearpod includes polls, PowerPoints, and real-time interaction with students. According to most participants, Nearpod has completely revolutionized how their classes are set and delivered. A few comments extracted on the benefits of using Nearpod in the classroom where mobility, fun, student-to-student diffusion of content, higher levels of participation, and ability to record and participate in real-time: "Nearpod transformed my class with real-time quizzes, drawing, engagement and most importantly I can record, share and transform my PowerPoints into dynamic classes."

The top three closed, with Popplet showcasing a 79% usage rate and providing good indicators of interaction. Popplet allows instructors and students to brainstorm and create Popplets (with different sizes, colors, images, and words) by linking them to the next activity, allowing students to create tasks step by step or organize their work process of thinking. Some instructors say, "it is very useful for innovation, brainstorming, and mind mapping" or "very useful for descriptive activities, creation of organizational charts, steps, and structures."

There were other apps that instructors described as beneficial that already showcase a usage rate higher than 50%. Presentation-based applications, Explain Everything (75%), Ted Talks (62%), Keynote (65%), and iTunesU (55%), which showcase information, videos, or additional material for courses, also demonstrated exemplary levels of acceptance. Furthermore, a few participants also highlighted the concepts of simulation-based learning, where CESIM application (55%) illustrated good applicability of concepts, test scenarios, and decision-making processes. Moreover, the list did not include any application related to online classes such as Teams, Zoom, or Blackboard Learn. All classes were conducted via online platforms since there was a government mandate for 100% of classes to be conducted using one of these methods.

In Table 1, the themes, challenges, and benefits are discussed by the instructors, with key benefits that follow. Before delving into Table 1, we explain the themes for clarity. Resistance to technology is defined as a category of people who are not comfortable learning or using new technologies. Application fit refers to technology that aligns and facilitates engagement and learning. Learning preferences refer to the choice and preference of learning, which is more concrete than learning styles that have not been proven.

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Table 1. Focus group discussion

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Themes/topics discussed	Challenges	Benefits
Resistance to technology	**Faculty are not technologically savvy to adapt in courses:** "Some faculty are not comfortable using new devices or apps; comfortability with old methods of teaching." "Some people still prefer lecturing from slides, lack of preparation." "Instructors don't always have resources or tools to do a better job; lack of training." "We require more professional development, training, and certifications."	**Courses using technology display good results in grades, faculty evaluations, and participation:** "I had better evaluations, grades, and participation in my classes than ever since I started to use apps." "Students are more willing to learn and to attend class." "Students usually ask me at the beginning of the class if we are going to use Cesim today." "Students are always present to play the game, probably their favorite part of my class."
Applications fit	**Courses have embedded technology apps that are not a proper fit:** "We added apps, that don't contribute to the development of the course." "Pilot tests are required before administering the app." "We need to see if the class responds to that particular app first."	**Kahoot serves as a tester of concepts, using gamification:** "Students want to take part, and win the game, it adds a friendly competition amongst students." "Courses were applications have sound and proven applicability test well with students." "More interest, engagement, and better grades are some of the reported benefits when course/apps are aligned."
Learning preferences	**Traditional lecturing is seen as to static:** "Teaching with slides makes students sleepy and with little willingness to engage." "Students usually think that they can read the slides at home." "Different activities and applications provide more student engagement."	**Mobile learning asks students to participate constantly:** "Nearpod allows me to test concepts, do quizzes in real time, and students are required to be active." "Activities are dynamic and spark interest." "We do different activities, from gaming, MCQs, share opinions, mind mapping, bulletin board, all in the same app."

Table 1 shows the topics and themes of the focus group and the three main themes that were high-lighted (Resistance, App fitness, and Learning preferences). Furthermore, the discussion generated the following benefits listed by instructors:

- Class average grades increase in courses where technology apps are being used.
- Students' participation and interaction were higher when compared to courses without em-bedding technological tools.
- Student course evaluations are higher.
- Student-faculty evaluations have increased.
- Students' attendance has increased.
- Students' interest in the courses is higher.

However, participants also alluded to several concerns (challenges) with technology app implementa-tion and added a list of recommendations:

- Educational institutions can only expect apps to be incorporated into the curriculum with proper training.
- Certifications in teaching with technology are required.
- Apps should have specific applicability for the course they are being used for.
- Adding applications just to use technology is not a good premise.
- Pilot tests need to be conducted ahead of implementation.
- Instructors need to feel comfortable delivering and using that particular technology.

DISCUSSION

Several studies draw attention to the importance of technology integration in the learning environ-ment and indicate that they do not facilitate only students to be efficient with technology tools, but the instructors are learning in the process (Islam et al., 2019; Salam et al., 2019). It seems that educa-tors prefer to spend more time teaching if they are proficient with technology (Vongkulluksn et al., 2018). Similarly, it is common to see students using their gadgets in the classroom, accessing infor-mation, and using it in more diverse ways. It appears that technology usage in teaching practices al-lows learners to learn effortlessly, and this depends upon teachers' pedagogical and technological competencies (Oliva-Córdova et al., 2021). Moreover, studies in information communication tech-nologies in the classroom are becoming a critical success factor (Martins et al., 2019), and successful integration can assist in motivating learners (Hanafi et al., 2017), which is a predictor of academic performance (Xu et al., 2021).

More specific to the study, and as pointed out by the instructors, m-learning helped increase student engagement by stimulating their interest and building community. Additionally, attendance and per-formance improved. The benefits of mobile learning were evident to all participants; while some were more enthusiastic than others, there was a consensus that technology can contribute to better class performance and that using students' devices makes it more interesting for students than regular classes. Concluding with one faculty's remark, "… technology is great if it is used properly, not all courses nor all instructors will accept this … learning comes in different ways and shapes, and it de-pends on instructors to test and see what works better for you and your students." Applications are seen as vehicles that facilitate student learning, and Kahoot, Nearpod, and Popplet are seen as the best apps to increase interaction and participation and contribute to higher class engagement.

There are challenges and benefits related to the resistance of technology, application fit, and learning preferences, which can be addressed with the proper understanding of their use and training for edu-cators. Student outcomes are positive and warrant strong considerations for technology acceptance by faculty and institutions. Technology is seen as a positive contribution to education, and the sur-veyed agree regarding the benefits; however, some are skeptical that web applications and mobile de-vices can be used for all classes or programs. Instructors believe that education is changing and that new practices are required, and the one thing that remains clear is that "learning is a social act, and

through conversation and social interaction among participants, learning can be achieved (Kalogeras, 2021, p. 2), and technology can mediate these interactions. Technology-driven environments are here to stay, and educators who can find creative solutions may have the potential to engage learners through their educational journeys.

LIMITATIONS

This study cannot be without its limitations since the generalization is limited and only represents the perspectives of business instructors in one of the UAE federal university institutions. Therefore, the data collected may not represent other institutions, degrees, or bachelor programs. However, the perspective of these participants adds to the body of literature on mobile learning in education, particularly in the Gulf region.

Moreover, the study did not include all web applications as there are many more to consider when incorporating technology into the classroom. Learning applications provide a learning environment where students can construct their learning and collaborate. Students may generate ideas, edit and distribute content, and more. Future studies should include the social nature of web applications, which have a strong place in the educational setting. Researchers and educators alike maintain that educational technology tools affect learning, but more research is needed to help instructors shift their methods to enhance pedagogy.

CONCLUSION

Students are technology savvy and require different learning methods, and instructors can help them meet their needs. At the end of the day, as one educator explains, "… if students use technology all day long, it only makes sense that it can be incorporated into their classroom experience." Learning institutions should invest in training and pilot tests that verify these apps' suitability. Instructors need to feel comfortable and in control when delivering classes with apps in their curriculum. Course designers and institutions should aim at uncovering needs for technological use first. The selection and fit of applications need to be based on course/market requirements and not simply on adding technology. COVID-19 demonstrated that institutions need to be prepared, and the reliance on technology is here to stay.

The following research questions were addressed in this study:

1. What learning apps do you use in the classroom?
2. Provide examples of the use of learning apps in the classroom.
3. What learning apps provide more student engagement?
4. What strategies do you use to create more engagement?
5. How do learning apps increase students' motivation and interests?
6. In what ways do learning apps increase student's performance?
7. What are the benefits of technology in the classroom?
8. What are the challenges of technology in the classroom?
9. How important is being technologically savvy when using learning apps in the classroom?
10. How can educational institutions support technology in the classroom?

The responses to these questions provided a thorough view of learning apps in the classroom to support modern students who have shorter attention spans. It appears that microlearning combined with digital applications and approaches is a sure way to win with student engagement. However, it is a combination of enthusiastic educators, technology, application, lesson design, learning content, and activities that can create pedagogical enhancement to meet the needs of the new generation of learners who learn differently.

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AUTHORS

Dr. Coelhoso is a Lecturer in Marketing, International Business, and Strategy at Munster Technological University. He has previously served as the Business Chair at Abu Dhabi Women's College, Higher Colleges of Technology. Before assuming his current role, he imparted his expertise as a lecturer in Business Administration at the University of Applied Social Sciences, Lithuania. Dr. Coelhoso holds a fellowship from the Higher Education Academy and is a Certified Digital Marketing Professional (CDMP). He has published articles spanning diverse domains such as marketing, educational technology, and employability.

Dr. Kalogeras is an Associate Professor of Marketing and the MBA Programme Director at the Edinburgh Business School at Heriot-Watt University, Dubai. She is a Senior Fellow of the Higher Education Academy with over 20 years of international teaching and academic leadership roles. Dr. Kalogeras holds a dual professional certification in digital marketing (DMI & AMA). Her research interests include the scholarship of teaching and learning, as well as responsible and social marketing. Dr. Kalogeras focuses on innovative approaches to research and actively publishes and presents at international conferences.