
THE IMPACT OF EDUCATIONAL TECHNOLOGY AND FREQUENCY OF USAGE: THE CASE OF SAUDI ARABIAN UNIVERSITIES

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Abstract: This paper aims to research the various forms of technology integrated into Saudi Arabia's educational system and to determine how they have been used to enhance learners' achievements in schools. The study was conducted on 325 students studying political science in five different universities in Saudi Arabia's capital Riyadh. Samples of students were taken from King Saud University, Prince Sultan University, Shaqra University, Al Yamamah University, and Majmaah University. An online survey on the application of technology in education was sent to all the respondents of the study. To determine the frequency of technology usage and its impact on students' achievements, the correlation rank coefficient, and descriptive statistics were used. In all five learning institutions, the study revealed a significant relationship between students' use of technology and their achievements in class. According to the study, 58% of the students used laptops in their learning activities, 35% used mobile devices, 5% used tablets, and 0.5% used desktop computers. This paper details the results of the study to show how technology is used among political science students in the country, and the benefits associated with it. The use of technology in learning processes produces substantial benefits, compared to not utilizing assistive technologies. Nonetheless, further research is required to determine the scale of success associated with educational technology.

Keywords: Saudi Arabia, educational technology, political science, learning, achievement

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INTRODUCTION

Saudi Arabia is a large Arab/MENA country whose economy is primarily driven by oil reserves. A significant part of the income generated from the oil reserves is channeled towards the country's educational sector (Mohammed, 2013). The use of technology in schools across the country is a relatively new initiative that has struggled to gain acceptance among educational stakeholders in the country (Abouelnaga et al., 2019). The internet is the paramount technological tool used for

educational purposes. Research suggests that schoolteachers should engage learners in the more thorough application of technological ideas and dependencies that suit their learning capabilities and targeted achievements (Abouelnaga et al., 2019) Accordingly, educational technology can have a profoundly beneficial impact on students. Educational technology has undergone significant changes and improvements over the last few decades. There is a need to be more innovative to determine the most appropriate technology usage for learning options in educational institutions, and between students. Studies reveal that the future of technological applications is not entirely dependent on the tools but rather the restructuring of power relationships and school protocols (Alqahtani, 2019). Educational technology such as digital media has the potential to produce immeasurable success in learning institutions (Ozdamli, 2017). The internet enables teachers and students to create content and communicate with their peers across the world. Students can access information related to their studies from teachers and related experts from all over the world through various means such as news articles, websites, eBooks and peer-reviewed journals. Ozdamli (2017) further suggests that the current educational environment requires students to be updated on the latest technological advancements that can be used in the learning process to achieve success. Technology has allowed students to access large swathes of information, potentially enhancing their learning, and increasing their potential achievements. The application of technology in class has given students a tremendous advantage over their student counterparts who had no such privilege a in the not-too-distant past. The introduction of technology has improved students' learning experiences and helped the students to develop a positive approach towards education. Notwithstanding this, the real impact of technology such as digital media is yet to be realized in the education setting. It is, therefore, reasonable to assume that the growth of technology will only make the learning process easier and more comfortable in the coming years. All indications point to an inevitable inclusion of technology in the learning process, especially in a post-COVID-19 world (Lockee, 2021).

Technology has brought flexibility to the learning process. It has substantially changed the dynamics concerning education. Instructors, lecturers, teachers and trainers need to devise ways of connecting with learners through the application of relevant educational technologies. According to Al-Hariri & Al -Hattami (2016), technology helps learners to explore their interests and dependencies. Technology facilitates the exploration of new approaches to instruction and as such, it has a huge role to play in the transformation of education. It must be noted that it is not possible to accurately identify future technological advancements that may be critical to education owing to the fact that it is likely that key technologies are yet to be

invented., but the current technological trends reveal that the future of learning depends heavily on technology, as with almost every other facet of life. Continued innovation in technology is projected to further increase the potential of future students in the Kingdom of Saudi Arabia (KSA).

LITERATURE REVIEW

The Educational technology has the potential to improve the value of education according to various research studies. Nonetheless, the use of technology in classrooms has not been widely implemented in most universities in Saudi Arabia. Most Arab countries, including the KSA, still use traditional methods of instruction in institutions of higher learning (Al-Faleh, 2012). For this reason, Al-Faleh asserts that there is an extensive gap of information between these countries and developed countries (2012). Other research indicates the need to adapt to educational technology to keep pace with the flow of information especially in sensitive and fast-moving disciplines such as political science (Alqarni, 2015). Studies reveal that the internet and smartphone applications have developed in recent times to become more effective and efficient within the educational context (Abouelnaga et al., 2019). Information on digital platforms can now be accessed, updated, distributed, and standardized with ease and a high degree of convenience (Abouelnaga et al., 2019). According to Abouelnaga et al. (2019), class instruction has become more personalized as than in the past (2019). Moreover, there is the apprehension that increased usage of educational technology will improve learners' understanding ability and enhancement of skills such as creative thinking, problem-solving, analytical reasoning, and information analysis (Alqarni, 2015). The limited flow of information within and to most parts of the KSA can be attributed to a reluctance to embrace educational technology. Various studies conducted in the country have shown that learners are more used to conventional methods of learning as opposed to educational technology (Alqarni, 2015). A comprehensive adoption of technology would greatly improve the state of learning in the kingdom. Adopting technology in education could meaningfully empower students to develop a better understanding of innovative principles, themes, and applications, unlike the conventional approach, which cares very little about learners' pursuit of understanding, and prioritizes rote-learning and learning to simply meet examination requirements (Alqarni, 2015). The use of technology encourages student's active participation, which helps students to pursue learning objectives much more aggressively (Alqarni, 2015). Round the clock access to web services through laptops and mobile devices provides new learning opportunities for students, especially in the modern world of higher learning, there hyper-connectivity is present (MacKinnon, 2018). Wireless technologies normally use Wireless Access Points connected to networks in

buildings or public areas to provide access to various web services and communication options for various wireless technology users (Al-Hariri & Al-Hattami, 2016). According to separate research conducted to determine the application of educational technology in Saudi Arabian educational institutions, it was established that the country has not taken full advantage of telecommunication technologies to introduce technological educational programs such as distance learning in its schools (Alqahtani, 2019). Educational institutions in the KSA have consistently resisted the need to apply educational technology in classrooms in recent years (Alqahtani, 2019). The study revealed that the application of technology in education programs such as distance learning has helped to retain more students in colleges and universities and subsequently reduced the number of school drops across various institutions of higher learning (Alqahtani, 2019).

Universities need to be at the forefront in applying technology in classroom settings (Al-Faleh, 2012). They need to incorporate computing and information technology in their schools to enhance collaborative learning and instruction. School administrators should realize that technology provides a new environment for instruction and learning, and that in the COVID/ post-COVID world, students and teachers will be relying heavily on technological advancements such as the web will be crucial in determining satisfaction in and outside learning premises, as well as to meet key performance indicators (Zhao & Watterson, 2021).

An instructor's effectiveness depends on the student's ability to grasp and digest the concepts and ideas being relayed to them (Alqarni, 2015). Technology is already available to many students outside the classroom premise and therefore, its application in schools serves to ensure that students will have a better understanding of the content being taught in class (Alqarni, 2015). Most of the students are already familiar with technology since they have been using it in various applications such as telecommunications and social media (such as WhatsApp, Facebook, and Instagram). It has been suggested that students learn better when they are empowered to exploit and achieve their potential via discovery approaches (Abouelnaga et al., 2019). The use of educational technology allows students to achieve more compared to what they achieve without it. Additionally, they achieve a much higher percentage of learning through the application of technology in the learning process. Generally, technology catalyzes the teaching and learning process to produce better understanding and development of critical skills among students and therefore enhances the achievement of learning objectives. Education needs to be fit for the digital age. Many educational institutions have adopted the use of educational technology to replace conservative methods of instruction based on these analyses.

Most universities in various countries across the globe have realized the importance of incorporating technology in the instruction process. Some of them have recognized and availed various methods of supplementing the traditional methods of instruction with advanced educational technology. Many colleges and universities have utilized an array of technological tools and incorporated them into various web-based courses, apps and other innovative means, as opposed to solely relying on the traditional methods of class-based instruction and reading that can only take place within the confines of the library. Having said that, it must be noted that according to research, students who are brought up in technologically sound environments are often misconstrued as having an excellent ability to use technology in an educational setting (Abouelnaga et al., 2019). The study reveals that the students still need guidance and direction on how to incorporate technology into the educational realm, and not simply to use it as a social tool. With appropriate training, students can develop technologically and societally sound ideas and acquire the knowledge and skills to integrate technology into their learning processes (Abouelnaga et al., 2019).

The main reason why technology is so effective in education is its popularity. More than 80% of students on campus use social networking sites such as Facebook and Twitter (Al-Hariri & Al-Hattami, 2016). This means that students are already familiar with the technology to a degree, and therefore have the potential to adapt to its use in the education sector (Prescott et al., 2015). Further research suggests that the use of networking platforms and electronic telecommunications can be extremely important tools in the instruction process to enhance students' improvement and satisfaction of teachers in the learning process (Al-Hariri & Al-Hattami, 2016).

There are many mediums available for the application of educational technology in institutions of higher learning. For instance, the use of Moodle and Blackboard throughout the academic world, along with other, similar, proprietary platforms, has enabled students to collaborate online through active participation (Al-Faleh, 2012). Additional research suggests that this method allows students to learn in a manner that allows them to improve their understanding and develop their critical thinking skills (Alqarni, 2015). Furthermore, it allows instructors to avail a variety of instruction methods to relay lesson notes and even audio recordings of lectures so that they can be used on an asynchronous basis. Also, this method of instruction allows students to learn in a manner that makes the learning process potentially more interesting and enjoyable.

According to research conducted on the use of educational technology in the Kingdom of Saudi Arabia, most instructors are fully aware of the importance of using technology in education (Alqahtani, 2019). However, their response concerning the

application of some technological advancement in the learning process leaves much to be desired. To address this problem, relevant educational bodies should provide training programs for instructors in the application of technology in education (Alqahtani, 2019). There should also be policies set to standardize the use of technology, share best practice and to show that government supports the use of educational technologies. Additionally, there are no adequate courses to train instructors on the effective and efficient use of technology in instruction (Alqahtani, 2019). Due to this, many teachers have endured problems in an attempt to apply technology in the learning process. Anecdotal claims of technological issues arising owing to 'going online' during the COVID-19 pandemic highlight the potential pitfalls of using technology, especially so abruptly. Some of the difficulties encountered by teachers regarding the use of technology are reasons why some respondents provided a negative opinion on the impact of technology in education. This problem should be addressed to give instructors the capacity to use educational technologies more comfortably. Nevertheless, students' awareness of technology has increased considerably. Thus, there is a need to provide educational technology and teaching aids for both teachers and students to allow them to benefit from it.

Technological advancements in education make it possible to integrate programs such as open and distance learning in institutions of higher learning. According to research, the provision of mobile learning in universities enhances the retention of students by reducing the number of school dropouts (Abouelnaga et al., 2019). Educational technology can be used anywhere, at any time, and as such, the learning process is not limited by time and place [on an asynchronous basis] (Abouelnaga et al., 2019). They can study individually or collaboratively via online study provisions and evaluate themselves as well. Generally, programs such as open and distance learning improve students' communication abilities and enrich their learning experiences. The ICT technology, for instance, has changed all forms of culture in the world today and looks to contribute immensely to education in the future (Alqarni, 2015). ICT has a telling impact on the most essential aspects of our lives, hence directly affects our culture, and as such, it has driven the transformation of culture in the last few decades from a modern stand to a postmodern one (Abouelnaga et al., 2019). Researchers have shown that effective use of technology increases learners' achievements, increases their efficiency, builds interest and satisfaction, and builds a positive attitude towards education. Interestingly, the Arab Open University has existed in the KSA since 2002, and that it receives substantial funding from the government owing to the 'Vision 2030' agenda, as per the rector of the University, Dr Alshahrani (undated).

The use of educational technology improves the scope of learning in class. The use of digital media for instance shifts instruction beyond textbooks and establishes

connections within the students' environment (Abouelnaga et al., 2019). Students have the capacity to learn to apply what they read in textbooks within educational technology. Integrating the right technology in education helps to engage the students and give them an understanding of difficult to grasp concepts. This enhances knowledge retention and allows them to achieve more from their studies. The learning process is much more improved when the right technology is used for instruction. Students learn better and faster when they are actively engaged in the learning process (Al-Faleh, 2012). By way of an example, the use of digital media with classroom technology is a great way of building engagement in class and cementing a good rapport between participants (Al-Hariri & Al Hattami, 2016). Learners acquire better learning experiences with regular use of educational technology such as digital media. This is something that they consume both socially and for academic purposes. A combination of online recordings and conventional methods of instruction could provide learners with explanations that could otherwise be complex or somewhat difficult to grasp if relayed only by text or PowerPoint slides (Al-Hariri & Al Hattami, 2016). The use of educational technology together with available communication tools inspires and motivates students to work collaboratively to build success in their achievements (Alqarni, 2015). It also builds interest in learners by allowing them to explore their potential through the implementation of hands-on learning, as opposed to the traditional methods of rote-learning and instruction. According to research findings, students can learn to their maximum potential if they are allowed to integrate educational technology into their learning processes (Alqarni, 2015).

The use of technology in educational institutions has grown immensely in the past few years. Most learning institutions have had to identify various technological methods of instruction and learning that are cheap and convenient such as webinars and computer laboratories (Alqahtani, 2019). The corresponding technology in education has grown tremendously (Alqahtani, 2019).

Technology is easily accessible as it can be found in almost every home in most parts of the world. It comes in a variety of shapes and sizes with different levels of complexity; some sources of technology are easy to use while others have significant levels of difficulty and therefore require knowledge and skills to be applied effectively in the learning process. An analogy could potentially be drawn by comparing Facebook or WhatsApp with SPSS. According to a separate study, mobile phones, computers, digital cameras, the internet, and other electronic devices are relatively cheap and accessible, and as such, they can be integrated into multiple fields of study and research in many areas including the education sector (Abouelnaga et al., 2019). Most industrialized societies have realized the importance of technology to society and as a result, they have embarked on a mission to make

technology accessible to everyone including individuals who have no means of acquiring it. Governments and well-wishers have distributed various forms of technology and established foundations and organizations with the sole purpose of enhanced the use of technological devices. Other organizations have been set up to encourage early familiarity with technological equipment amongst children from poor backgrounds (Al-Faleh, 2012). This way, children can grow up knowing the importance of technology and how it can be applied effectively in a classroom context to enhance the achievement of academic results.

The use of technology makes it easy for students to acquire knowledge and information related to a particular learning objective. They can easily access content that has been taught in class for independent revision or collaborative discussions (Alqahtani, 2019). Students can access everything ranging from college applications, picking textbooks and other online revision materials, conducting research, completing and submitting assignments, and accessing their results as well. This has been somewhat challenging due to the need to swiftly digitize due to COVID-19. Furthermore, students can engage their instructors via email and other online communication platforms to keep track of their performance (Dhawan, 2020).

Technology has been shown to enhance human intelligence and to make tasks easier to complete. According to research, technology activates the brain to interpret and process information much more effectively, hence improving a person's level of intelligence (Abouelnaga et al., 2019). This study involves students pursuing a degree in political science across various universities in the capital, Riyadh. Across the five universities, classroom instruction uses presentations in form of PowerPoint slides. The presentations are then uploaded on an online platform where they can be accessed by all students. The use of course websites and information sharing via email has made it easier to access learning material. This study aimed to ascertain the impact of educational technology on students' achievements in political science across five universities in the KSA. The research aims to establish whether there is a relationship between learners' use of technology in education and to determine which technological device students mostly use across all the universities.

METHOD

An online survey was transmitted by email to all 325 projected participants consisting of political science students across the five Saudi universities. From the sample, 304 students responded to the study to produce a response rate of 94%. The survey had five questions regarding the impact of technology in the learning process, and the type of technology used by various learners. The questionnaires were structured on a 'Likert scale' of 1-5, with the extremes being "strongly disagree"

and “strongly agree”. Each student’s scores were tabulated and correlated with their respective general performance. Students’ achievement in political sciences included the final examination (40%), mid-year examination (20%), quizzes (15%), tutorials (15%), and self-study (10%).

The structure of the online survey was formulated with help from various political science professionals. There is a reliability coefficient of 0.8. The analysis of statistical data was conducted using Minitab 18, which is not unusual. It was used to compute the rank correlation coefficient of the data as well as the descriptive statistics for the data. This information was used to determine the correlation between the use of educational technology and achievement of learning objectives, and to ascertain the frequency of usage of technology in education among university students studying political science..

RESULT AND DISCUSSION

The study was conducted across five universities in Riyadh, the capital of the KSA. The sample for the population consisted of 304 political science students. Table 1 below represents the distribution of respondents across the five universities. The study aimed to establish if there was a relationship between learners’ usage of technology and their achievement of learning objectives and to determine the frequency of usage of different types of educational technology. Respondents identified the most popular technological device, which also points to its association with the achievement of learning outcomes. According to the results, there is a significant relationship between students’ usage of educational technology and their achievement of learning objectives among political science students across the five universities. The correlation coefficient was found to be 0.52, with a confidence level of 95%, as indicated in Table 2. As indicated in Table 3, the most frequently used technological devices are laptops and mobile devices. The analysis reveals that 58% of the students’ used laptops in their learning activities, 35% used mobile devices, 5% used tablets, and 2% used desktop computers.

Table 1: The Distribution of Respondents in the Five Universities

University	Frequency	Percent	Valid Percent	Cumulative Percent
King Saud	81	27	27	27
Prince Sultan	70	23	23	50
Shaqra	46	15	15	65
Al Yamamah	60	20	20	85
Majmaah	47	15	15	100
Total	304	100	100	

Table 2: Comparing the Use of Technology with Students' Achievements

		Average Grade	Total
Survey			
Average Grade	Rank correlation	1	0.58
	N	304	304

Table 3: The frequency of device usage

Device	Frequency	Percent	Valid Percent	Cumulative Percent
Laptops	176	58	58	58
Mobile Phones	106	35	35	93
Tablets	15	5	5	98
Desktops	7	2	2	100
Total	304	100	100	

DISCUSSION

The use of educational technology has been shown to improve the productivity of teachers and students in a classroom and therefore help to achieve learning objectives. The results reveal that the use of technology enables instructors/lecturers/teachers to maximize students' potential by giving them the ability to develop their own analytical and critical thinking skills. The study aimed to determine the relationship between students' use of technology and achievement of learning objectives among political science students in five universities across KSA. The statistics were conclusive, showing that there is a significant correlation between the application of educational technology and the achievement of learning objectives. The results obtained from this study are in agreement with previous studies on the same. A separate study revealed that the use of technology affected student's performance of students enrolled in political science courses (Abouelnaga et al., 2019). This is an interesting finding, especially for universities across the MENA region, and in general. It is projected to produce more benefits for students studying various courses in the KSA. It will enable instructors to pursue a more project-based learning approach, and to apply educational technology in making observations, conducting research, and making graphical inferences to boost their understanding of the discipline being studied. The use of technology within classrooms enables learners to participate actively to make the teaching and learning process a much more enjoyable experience, and effective compared to a lack thereof. Generally, research has revealed that there is a relatively higher degree of student

learning and achievement of learning objects associated with educational technology compared to the absence of it (Al-Faleh, 2012). Students are becoming more than mere learners and are also 'customers' of the educational service sector.

Technology is essential in helping students to achieve learning objectives. It facilitates students' learning through the enhancement of learning techniques such as independent learning, self-directed learning, and collaborative learning (Alqahtani, 2015). Technology can bring together people whose learning may be hindered by time and location constraints, and technology can have a profoundly beneficial impact on learning and meeting key performance indicators such as examinations (Ghavifekr & Rosdy, 2015). Some people may never become involved in the learning process without the use of innovative educational technology such as distance learning and online proctored examinations. People from different parts of the world can easily share knowledge and discuss freely educational ideas in the comfort of their homes. Educational technology also allows instructors and students to be involved more in instant assessment, and evaluation without which it would take a significantly larger amount of time to achieve the same (Al-Hariri & Al-Hattami, 2016). Nonetheless, the application of educational technology is still limited to only a few instructors in institutions of higher learning, not just in the KSA but also in many countries across the globe. The challenge is therefore manifest. There is a need to enhance the use of educational technology to improve political science students' understanding and enable them to achieve learning objectives. Research also reveals that the absence of educational technology in instruction makes teachers strain in relaying concepts and applying them out of the classroom (Alqahtani, 2019). Conversely, instructors who rely heavily on the use of technology have been shown to achieve significantly higher satisfaction in learning through building understanding in their learners and assisting them to achieve their educational goals and objectives (Alqarni, 2015). In a separate study conducted within the Kingdom of Saudi Arabia, the findings revealed that there was a shortage of qualified personnel required to drive the agenda of educational technology in schools across the region (Alqahtani, 2019). Qualified personnel include individuals who possess instructional skills and knowledge to effectively apply technology in classrooms to develop learners' critical thinking skills and enable them to achieve learning objectives (Abouelnaga et al., 2019).

Most participants of this study revealed that they rely on technology to a high degree during their studies. They had a generally positive predisposition towards the use of educational technology. The students revealed the positive impacts associated with educational technology about their studies and projected that full implementation of technology in classrooms across the region could make the learning process much more effective than it is now. Most students on campus use laptops to do their assignments and complete their projects. According to a study, the use of computing in education has

helped to enhance learners' and instructors' literacy in technology, improved students' responsibility and independence, and increased student productivity as well (Al-Hariri & Al-Hattami, 2016).

Despite so many students acknowledging the importance of technology in education, a few of them still held conservative or less than favorable views on the subject. Since the study was conducted anonymously, it is difficult to follow-up with such respondents to determine why they had reservations regarding the use of educational technology. It may be that these students preferred traditional methods of learning such as the use of hardcopy textbooks or attending lectures, or their natural learning 'style'. These students may prefer to listen to instructions rather than read them. Furthermore, the cost of electronic devices may have had an impact on the learners' preferences. Some students may find the cost of educational technology too much to afford and as such may not be aware of the benefits associated with technology in the learning process. Since the affordability of educational technology was not part of the online survey, it is difficult to prove that this was the case. Some segments of society may be prevented from fully accessing and availing educational technology due to cost or other considerations (Keltner & Ross, 1996).

The bulk of respondents for this study were regular undergraduate students and as such, there was little fear of receiving wrong answers, but this cannot be discounted. Also, the questionnaires were not graded, and this made the respondents answer the questions therein as truthfully as possible without any fear of contradiction or adverse effect. The survey was carried out only once and within a short period. For this reason, there was no threat of changes in students' learning outcomes. The students were treated equally regardless of the answers provided on the online survey. For this reason, there was no threat of internal validity of data obtained from the respondents. Nonetheless, some factors affected the study's internal validity. For example, there was no consideration of gender in picking the participants of the research. Therefore, the results may not be accurate as the number of male participants was not equal to the number of female participants in the study. Moreover, the participants' household income was not included in the study. As stated above, this may have had a bearing on some of the students' responses to the questions demanding to know the frequency of usage of educational technology, and its subsequent impact on the learning process. Nevertheless, these are somewhat minimal factors and as such, are pose only a nugatory threat to the credibility of data obtained from the respondents.

Investments in education are among the top priorities of the Saudi government, especially owing to 'Vision 2030'. Approximately 30% of the annual budget in the country goes towards education (Al-Faleh, 2012). Nonetheless, this substantial allocation does not justify the quality of education in the KSA. According to various studies, the use of educational technology has not been implemented comprehensively

or uniformly through the country. There is a general lack of technological tools such as computers and other forms of technological equipment required to facilitate the learning process in some areas (Al-Faleh, 2012). Most developing countries are largely incapable of implementing the use of educational technology in the learning process. Notwithstanding this, they should still strive to achieve better social, economic, and education prospects of their students and wider citizenry (Abouelnaga et al., 2019). To fully implement educational technology in Saudi Arabia, there is a need to have a change of government policies too. The primary focus of policies should serve to encourage students to utilize technology and implement it in their studies, as well as to become 'global citizens' in a digital age. The government ought to be active in the designing, assembling, and creating innovative strategies to keep pace with the changing requirements of education in relation to technology. Instructors and trainers also have an important role in actualizing the policies set by the government and the desires of the wider public.

The use of technology in education has gained considerable recognition in most parts of the world. Laptops and mobile devices have enabled students to access course work and other learning material from anywhere inside or outside the campuses for students in various universities across the KSA (Abouelnaga et al., 2019). Nevertheless, it is important to determine the type of content that can be accessed by students through electronic devices to identify the information that can be relayed better via the traditional instruction process. Instructors are required to be more flexible to determine the applicability of various educational technologies in classrooms, and complement with relevant traditional, face-to-face instruction methodology to enhance the achievement of learning outcomes, especially in a post-COVID world.

CONCLUSION

The findings of this study reveal that many students are relying on technology to pursue their respective learning objectives. This study and similar studies can form the basis of the establishment and implementation of appropriate technology across institutions of higher learning. The results presented in this case reveal the magnitude of benefits acquired from the use of technology in education and indicate the potential benefits that can be derived in the future. The literature review reveals that there are tremendous benefits for both instructors and students achieved from the use of technology in a learning environment. For instance, technology increases students' interest in learning, it increases the ease of access and usage and the familiarity that most individuals have with technology before applying it in a classroom setting. Despite these findings showing overwhelming evidence to support the impact of educational technology, some studies have maintained that the impact is minimal and therefore not significant. This is no longer likely to be true

during the COVID-19 pandemic and in the post-COVID world. Nonetheless, the studies are far fewer and as such, the fact remains that technology has changed the face of education and with greater and more wide-reaching technological advancements; the learning process is expected to change for the better.

In future, students should continue to apply educational technologies in their studies to enhance their understanding and develop critical thinking skills. Being a global citizen in a digital world is important for individuals, their community, country and the world at large. It is also crucial to consider students who have no access to educational technology, despite efforts by respective institutions to incorporate it into their studies. There is a need to conduct further studies on the application of technology and to determine its contribution to students' long-term preservation of knowledge and skills such as cognitive and psychomotor skills in different disciplines of higher learning.

Based on the findings of this study, the author has formed several recommendations. These are delineated as follows. It is imperative that all school, further and higher education instructors should enroll for potential in-service training in relation to the usage of educational technology within the classroom, or undertake courses such as MOOCs that equip educators with the ability to use technology comfortably and confidently both in the classroom and their offices. Such training should involve the usage of digital media platforms to enhance learners' experiences and build their efficiency. Teachers and students should learn to use essential technological advancements in relevant contexts. Instructors should be confident in learning the necessary skills, as this would enable them to relay these skills effectively to their students. This would develop creative learning and improve students' potential to achieve better learning experiences. It can also allow instructors to educate themselves and keep abreast of the latest developments, and perhaps even become better researchers. Education stakeholders should strive to encourage innovative learning processes. The application of innovative instruction and learning approaches such as the use of ICT in education enables students to participate actively in class, therefore encourages them to discover more, and builds experiential learning as well as problem-solving skills. It also has wider, beneficial, implications on society and their ability to live, study and work in the digital age. Notwithstanding the above, more research is required on the use of technology in education.

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