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Effects of COVID-19 Pandemic on Accounting Students' Capability to Use Technology

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Abstract. The study aims to examine accounting students' perceptions of: (i) the importance of using technology during the COVID-19 pandemic; (ii) the impact of the COVID-19 pandemic on the extent of their use of technology; (iii) the impact of the COVID-19 pandemic on their capability to use technology; and (iv) their satisfaction with using the Tally software program during the COVID-19 pandemic. A quantitative method was used in which a questionnaire was distributed to students at a higher education institution; specifically, students in the Accounting and Finance Department at Gulf University. The results showed that among the responding students there was a high level of agreement on the importance of using technology during the COVID-19 pandemic. Respondents highly agreed on the significant impact of the COVID-19 pandemic on the extent of students' use of technology. Moreover, findings indicated that there was a high level of agreement on the impact of the COVID-19 pandemic on the students' capability to use technology. Lastly, the results pointed out a high level of satisfaction with using the Tally software program during the COVID-19 pandemic. The study contributes to the body of knowledge by providing empirical evidence on the issue of using technology in education during COVID-19. The results provide evidence that students are now more competent in using most educational technologies. Hence the study helps policymakers and educational institutions appreciate the importance of technological tools in education, and will therefore encourage them to apply technological tools that can improve student performance.

Keywords: COVID-19 pandemic; technology; education; HEI; Gulf University; Bahrain

1. Introduction

Quality education is a key component of a country's strategy for development, and digital technology has emerged as a critical instrument for achieving this objective (Haleem, Javaid, Qadri, & Suman, 2022). Technology has become an integral part of modern life, with an impact on every aspect of life, including education (Alfiras & Bojiah, 2020). Technology is an integral aspect of education

in the twenty-first century (Hardman, 2005; Onyema et al., 2020), and these technologies and their development have had a significant influence on education (Gcabashe & Ndlovu, 2023; Haleem et al., 2022).

The use of technology in the classroom has proven to be effective and to improve student performance by dramatically increasing teaching and learning capacity (Carstens, Mallon, Bataineh, & Al-Bataineh, 2021). Furthermore, technology can empower teachers and students, motivate change, and help students build twenty-first-century abilities. To meet the demands of users, educational institutions must adapt their teaching techniques technology and the internet in a conducive learning environment where classrooms are becoming more technologically advanced (Carstens et al., 2021; Saadé, He, & Kira, 2007). Students' lives have been made simpler as a result of technological advancements in schooling (Haleem et al., 2022).

With today's student demographics, educational institutions are prepared to meet the needs of the new student by producing multimedia learning materials for computerised classrooms (Saadé et al., 2007). According to AlAmmary (2012), educational technology has motivated students to become more active and involved in learning activities, resulting in their becoming more active and interested in learning. Instead of utilising pen and paper for presentations and projects, students increasingly employ a variety of software and digital tools. An iPad is quite light when compared to a stack of notebooks. Reading an e-book is easier than reading a heavy textbook (Haleem et al., 2022).

Educators today use several channels to communicate with their students and receive feedback on coursework and other obligations. Students use mobile devices such as smartphones, iPads, and notebook computers to ask questions and write answers on the move (Onyema, Ogechukwu, Anthonia, & Deborah, 2019). Furthermore, faculty lecturers feel that embracing technology will improve their relationships with students, reduce the stress caused by course material preparation, and ensure that lecture content is available during discussions (AlAmmary, 2012). Technology may help to alleviate the growing problem, e.g., access high-quality, current information, by allowing for changes in pedagogical practices and, as a consequence, perhaps improving students' learning (Hardman, 2005; Muafiah, Desrani, Ritonga, & Hakim, 2022).

Since December 2019, the world has been living in the shadow of the COVID-19 pandemic (Khalifa et al., 2020; Qubail & Al-Absy, 2021). Due to the mandatory closure of institutions during the COVID-19 pandemic and the consequent difficulty of full-time teaching, university lecturers were obliged to seek alternative communication tactics with students via internet platforms and in daily academic activities (Hurajova, Kollarova, & Huraj, 2022). The pandemic has solidified the use of digital technology in educational settings (Haleem et al., 2022).

With all types of educational establishments compelled to close their doors because of the COVID-19 outbreak, higher education institutions (HEIs)

underwent a drastic shift from face-to-face to online learning (Ahmad et al., 2022; Alfiras, Nagi, Bojiah, & Sherwani, 2021; Roy & Al-Absy, 2022), allowing students from all around the world and in different time zones to easily attend online classes (Alfiras, Bojiah, & Yassin, 2020). The perceived efficacy of the currently used online learning platforms is an essential consideration, especially considering the lack of any physical classrooms (Pal & Vanijja, 2020). Even though the decision to close schools seemed to be the right one in the face of the pandemic, the unplanned closure of educational establishments had huge global repercussions (Onyema et al., 2020). Modern digital technologies contribute to the long-term viability of the learning system during public health emergencies and will continue to be a vital element of higher education even after the pandemic is over (Hurajova et al., 2022).

The outbreak of COVID-19 in the United Arab Emirates (UAE) and the Kingdom of Bahrain was discovered in early March 2020, and large-scale containment efforts were initiated by the middle of March (Alabdulkarim, Alsultan, & Bashir, 2020). COVID-19 has generated educational interruptions and public health concerns that have been demonstrated to be extraordinarily difficult for government agencies to regulate and control. Countries were put on lockdown, many people lost their jobs, and all businesses were affected, with some forced to close (Khalifa et al., 2022). Figure 1 shows the daily worldwide COVID-19 cases from the beginning of the pandemic until the end of December 2020; during this period, COVID-19 cases were still high.

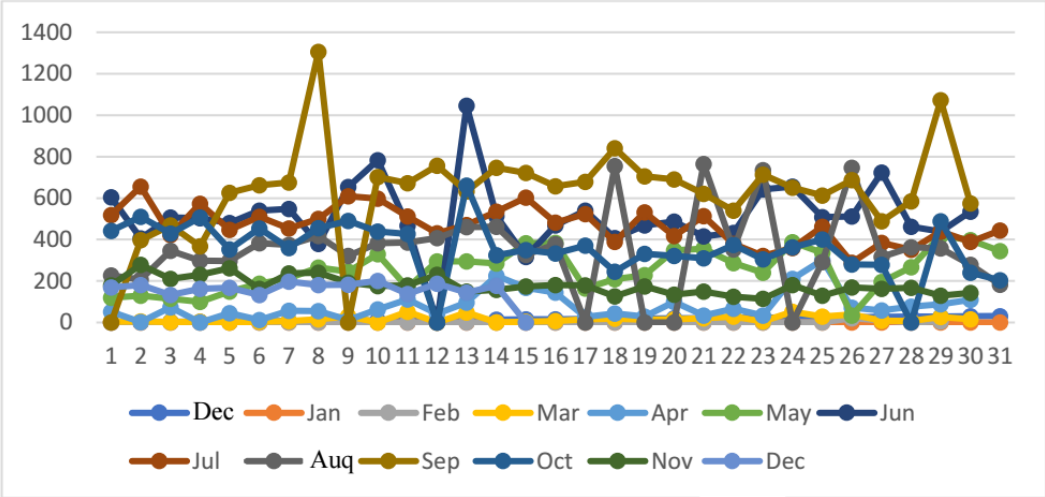

Figure 1. Daily COVID-19 cases (https://g.co/kgs/na1vCb)

In general, e-learning is a web-based learning system that uses technology to teach students (Hurajova et al., 2022). There is a lot of evidence that online learning is just as effective as traditional learning. When compared to traditional formats, several studies have demonstrated that online or hybrid formats have a statistically significant positive impact on student learning results. Among the favourable outcomes are improved learning, increased student participation in class, and improved learning quality, which may lessen the issue of withdrawal or failure (Nguyen, 2015).

During the COVID-19 outbreak, online learning was extensively promoted to replace conventional schooling (Dong, Cao, & Li, 2020; Haleem et al., 2022; Hurajova et al., 2022; Pal & Vanijja, 2020). Since the advent of the pandemic, e-learning platforms have played a key role in online learning, enabling simple access to instructional content and teaching resources on the one hand, and lower costs on the other.

Since the introduction of social networking and mobile learning in 2005, the dynamics of online learning have altered significantly, resulting in a wide variety of pedagogical techniques. Through blended, hybrid, or entirely online delivery methods, online learning has increased educational options for all people in this age of digitisation (Roy & Al-Absy, 2022). Following the shift from face-to-face to online communication, the use of technology expanded (Aguilera-Hermida, 2020); usability studies of commonly used technology for e-learning are vital, particularly because education has changed to "online-only" learning (Pal & Vanijja, 2020). Learning technology has become an important factor in ensuring the effectiveness and usefulness of online learning for students (Pal & Vanijja, 2020).

Hence, the aim of this study is to examine students' perceptions of: (i) the importance of using technology during the COVID-19 pandemic; (ii) the impact of the COVID-19 pandemic on the extent of their use of technology; (iii) the impact of the COVID-19 pandemic on their capability to use technology; and (iv) their satisfaction with using the Tally software program during the COVID-19 pandemic. To the best knowledge of the researcher, this study is the first one that views students' perceptions of the importance of using technology, the impact of the COVID-19 pandemic on the extent of their use of technology, their capability to use technology, and their satisfaction with using the Tally software program. The study will help policymakers in ministries of higher education and leaders of educational institutions to enhance the use of technology in education.

2. Literature Review

2.1 Technology in Education

Before the pandemic, education's globalisation was already compelling the use of digital technology (Haleem et al., 2022; Muafiah et al., 2022). In this digital world, online learning has broadened educational opportunities through blended, hybrid, or entirely online delivery modes (Roy & Al-Absy, 2022). Mobile wireless technologies such as smartphones and tablets are increasingly used to deliver online education. These benefits of these devices include their portability and speed (Cook & Sonnenberg, 2014). The advent of technology in education has increased connectivity, interaction, and productivity.

As a result, technology has the potential to significantly improve teaching and learning capacities, resulting in increased student performance. The increased use of technology in education has meant that teachers' methods have moved from a traditional strategy in which they function as information dispensers to a more flexible strategy in which they work as facilitators, motivators, and

mentors to encourage students to interact and learn (Onyema et al., 2019). Indeed, some studies have indicated that hybrid or online formats outperform traditional face-to-face formats in terms of student learning outcomes (Nguyen, 2015).

According to AlAmmary (2012), educational technology is employed to improve teaching and learning processes, resulting in improved student achievement. As technology and the internet improve, HEIs are adapting their teaching methodologies to match the expectations of their students, in order to provide the most effective learning environment possible (Xu & Ebojoh, 2007). Furthermore, the proliferation of mobile devices might bring in a new era of online education (Cook & Sonnenberg, 2014).

Students have become more motivated and participate more in learning activities because of educational technology. Furthermore, faculty lecturers feel that employing technology increases their engagement with students, lessens the strain on instructors from course preparation, and makes course information available during the learning process (AlAmmary, 2012). Technology enhances the teaching and learning process, as well as content creation, course delivery, assessment, and feedback (Onyema et al., 2020).

Educational institutions are working hard to meet the needs of today's students by developing and adopting virtual learning technologies to enhance computer-assisted education (Saadé et al., 2007). Further, they are striving to ensure that students are capable of putting the knowledge and skills they have learned in the programs into practice (Hu, Venketsamy, & Pellow, 2022). Various virtual educational tools and platforms are available to help with online classes, especially during public health emergencies like the COVID-19 pandemic, such as Zoom (zoom.us), GoToMeeting.com, Skype.com, Google Hangouts, Google Classroom/Open Online Education, ClassDojo, YouTube , Schoology, Blackboard.com, Edmodo, udemy.com, whyville.net, coursera.org, funbrain.com, memory.com, memrise.com, alison.com, lessonpaths.com, edx.org, iTunes U free courses, easyclass.com, academicearth.org, vedamo.com, thinkific.com , Khanacademy.org, TED-Ed Codecademy.com, MOOC.org, and Stanford (Onyema et al., 2020).

Educational institutions that deliver accounting programs have attempted to incorporate several types of accounting software into their courses so that students can practise using and become familiar with this software. Currently, software is used for the recording of financial transactions, to monitor companies' financial situation easily and precisely. A variety of accounting software is available, such as FreshBooks, Zoho Books, QuickBooks, Sage, Wave, Odoo, and Tally.

2.2 The COVID-19 Pandemic and the Use of Technology in Education

The unplanned closure of educational establishments throughout the world validated the need to introduce and utilise cutting-edge technology in learning.

The COVID-19 outbreak raised global demand for online education (Pal & Vanijja, 2020). Education may now be accessed from any location, including one's own home (Onyema et al., 2020). In order to keep students studying at home during the COVID-19 pandemic, virtual education was extensively marketed as a potential alternative to regular face-to-face schooling (Dong et al., 2020).

Hence, instructors must comprehend pedagogical and material knowledge through the integration of information and communication technologies in order to ensure that learning continues during the COVID-19 pandemic (Astutik & Setiawan, 2022). According to Nguyen (2015), about 92 per cent of all distance and online education studies have concluded that distance and online education are at least as successful as traditional education, if not more so.

The COVID-19 outbreak has had a profound impact on all levels of education, including higher education. Some closures started in January 2020, but the majority happened in March, when the virus had spread to practically every country on Earth (Hussein, Daoud, Alrabaiah, & Badawi, 2020). As a result, face-to-face sessions were almost entirely discontinued , and educational institutions throughout the world were pressured to embrace an "online-only" model for teaching and learning (Haleem et al., 2022; Hussein et al., 2020; Pal & Vanijja, 2020). As the world strives to prevent further COVID-19 outbreaks, educational institutions, faculty speakers, and students have become increasingly reliant on digital educational platforms (Aguilera-Hermida, 2020; Onyema et al., 2020; Pal & Vanijja, 2020).

Microsoft Teams is one example of a technological platform. It provides an outstanding solution in this area since it not only allows teachers to use it as a Learning Management System (LMS), but also supports both asynchronous and synchronous learning. For example, much as a physical classroom has a regular schedule, this application allows numerous students to join in live online sessions at set times (Pal & Vanijja, 2020). However, students have expressed concerns regarding online learning, as well as reporting difficulty in completing tasks (Aguilera-Hermida, 2020). Many professors and students who had little (if any) prior experience with online learning were compelled to do it with no or very little guidance (Hussein et al., 2020).

The internet is used in the classrooms of most educational institutions, usually through LMSs. LMSs have grown in popularity in recent years and now have a substantial influence on the education process, particularly in higher education (Cerezo, Sánchez-Santillán, Paule-Ruiz, & Núñez, 2016). LMSs may assist students in learning by providing content online and including features like quizzes, slideshows, and screencasts, as well as assignments and forums. LMSs also make it easy for professors to share and administrate these resources. Because all action in an LMS is logged and monitored, it is possible to gain insight into students' online behaviour, which may subsequently be used to improve learning and teaching. The phrase "learning analytics" refers to the examination of LMS data. It is defined by Siemens, Dawson, and Lynch (2013) as

"the measurement, collection, analysis, and reporting of data about learners and their surrounds in order to understand and optimise learning and the settings in which it occurs."

Dong et al. (2020) found that most parents (92.7%) reported that their children had online learning experiences during the pandemic, with the majority (84.6%) consuming less than half an hour each day. Parents overwhelmingly opposed the objectives and benefits of online courses, preferring traditional learning in early childhood programmes. They opposed and even refused distance classes for three primary reasons: distance courses' deficiencies, young children's lack of self-regulation, and their limited time and necessary experience for aiding their children to complete online courses. Furthermore, the COVID-19 outbreak forced them to suffer, making them hostile to home-based remote learning. According to the data, families found it challenging to integrate online learning throughout the pandemic. Many Chinese parents, for example, lacked the essential education and were unprepared to adopt online education (Dong et al., 2020).

3. Research Methodology

This quantitative research employed a questionnaire derived from prior studies, such as Das and Mishra (2016a, 2016b); Pal and Vanijja (2020). The questionnaire includes five sections; (i) demographic information (e.g. gender, age, year of study); (ii) the importance of using technology during the COVID-19 pandemic (9 questions with 5-point Likert scale); (iii) the impact of the COVID-19 pandemic on the extent of their use of technology (10 questions with 5-point Likert scale); (iv) the impact of the COVID-19 pandemic on their capability to use technology (10 questions with 5-point Likert scale); and (v) their satisfaction with using the Tally software program during the COVID-19 pandemic (8 questions with 5-point Likert scale). The questionnaire was check and reviewed by three experts in the area.

The study's sample population consisted of all 110 students in the Accounting and Finance Department at Gulf University. Because of the small number of students in the department, all the students were chosen to participate. The study was limited to this department since one element of the survey was about accounting software that is used only by these students. Author used the method of convenience sampling which is one type of non-probability sampling. An electronic questionnaire was generated by the authors and distributed to students via email and WhatsApp. The response rate was 25% (authors received 28 completed questionnaires out of the 110 that were sent). The SPSS program was used to analyse the data. In terms of demographic information, 78.6% of respondents are female while 21.4% are male. Age of most of them are from 21 to 25 years while other are from 26 to 30 years and Below 20 years. Regarding the year of study of respondents, 46.4% are in fourth years, 35.7% in the third years, 14.3 in second years and 3.6% in the first year.

4. Results and Discussion

4.1 Importance of Using Technology During the COVID-19 Pandemic

Table 1 shows the students' perceptions on the importance of using technology during the COVID-19 pandemic. On average, there was a high level of agreement among the responding students (4.02 out of 5) on the importance of using technology during the COVID-19 pandemic. The questionnaire contained nine questions to collect the students' views (see Table 1 and Figure 2).

From the answer to question 1, respondents agreed that the widespread use of technology during the pandemic helped them understand the course material better and in more depth; the average level of agreement was 3.79 out of 5 and the majority of students (64.29%) strongly agreed or agreed with the statement.

Responses to question 2 showed a high average level of agreement (4.29 out of 5); students strongly agreed that using technology during the pandemic was extremely useful to them in completing their work for all their courses in a more convenient manner. The majority of students (82.15%) strongly agreed or agreed with the statement.

Regarding question 3, students on average agreed that the use of technology during the pandemic was needed to motivate them to explore many topics unknown to them, with an average level of agreement of 4.04 out of 5 and the majority of students (75%) strongly agreeing or agreeing with that. Concerning question 4, respondents agreed that the use of technology during the pandemic provided the opportunity to collaborate with others easily, both on and off the campus; the average level of agreement was 4 out of 5 and the majority of students (75%) strongly agreed or agreed with the statement.

In answer to question 5, there was a high level of agreement among the students that the widespread use of technology during the pandemic enhanced their digital skills. The majority of the students (78.57%) strongly agreed or agreed with the statement, with an average agreement of 4.11 out of 5. Regarding question 6, students on average agreed that the use of technology during the pandemic played an important role allowing them to perform better in their courses; the average level of agreement was 4 out of 5, with the majority of students (78.57%) strongly agreeing or agreeing.

For question 7, the average agreement was 4.07 out of 5, with a high percentage of responders (78.57%) strongly agreeing or agreeing that the use of technology during the pandemic was a must to improve their employability skills and/or career opportunities. Further, the answers to question 8 showed that the majority of students (71.43%) strongly agreed or agreed, with an average agreement of 3.89 out of 5, that the use of technology during the pandemic allowed for more flexibility in learning in terms of time, resources, and effort.

Lastly, the answers to question 9 indicated that during the COVID-19 pandemic, widespread use of technology was a must to increase access to education and overcome challenges therein; the average level of agreement with the statement

was 4 out of 5, and the majority of students (75%) either strongly agreed or agreed.

Table 1: Importance of Using Technology During the COVID-19 Pandemic

Statements	Strongly Agree		Agree		Undecided		Disagree		Strongly Disagree		Average
	N	%	N	%	N	%	N	%	N	%	
Widespread use of technology during the pandemic is must to help me understand the course material better and in depth	11	39.29	7	25.00	6	21.43	1	3.57	3	10.71	3.79
Use of technology during the pandemic is extremely useful to complete work in all the courses in more convenient manner	19	67.86	4	14.29	2	7.14	0	0	3	7.14	4.29
Use of technology during the pandemic is needed to motivate me in exploring many topics unknown to me	13	46.43	8	28.57	4	14.29	1	3.57	2	7.14	4.04
Use of technology during the pandemic provides opportunity to collaborate with others easily, both in and outside the campus	14	50.00	7	25.00	3	10.71	1	3.57	3	10.71	4.00
Widespread use of technology during the pandemic enhanced my digital skills	14	50.00	8	28.57	3	10.71	1	3.57	2	7.14	4.11
Use of technology during the pandemic plays an important role to perform better in my enrolled courses	13	46.43	9	32.14	2	7.14	1	3.57	3	10.71	4.00
Use of technology during the pandemic is must to improve my employability skills and/career opportunities	13	46.43	9	32.14	3	10.71	1	3.57	2	7.14	4.07
Use of technology during the pandemic allows for more flexibility in learning in terms of time, resources, and effort	12	42.86	8	28.57	4	14.29	1	3.57	3	10.71	3.89
During Corona pandemic, widespread use of technology is must to increase access to education and overcome challenges therein	13	46.43	8	28.57	4	14.29	0	0	3	10.71	4.00
Total average											4.02
Note: Average of 4 to 5 show a strong agreement, 3 to 3.99 show agreement, 2 to 2.99 show 78.57, 1 to 1.99 show disagreement; 0 to 0.99 show a strong disagreement.											

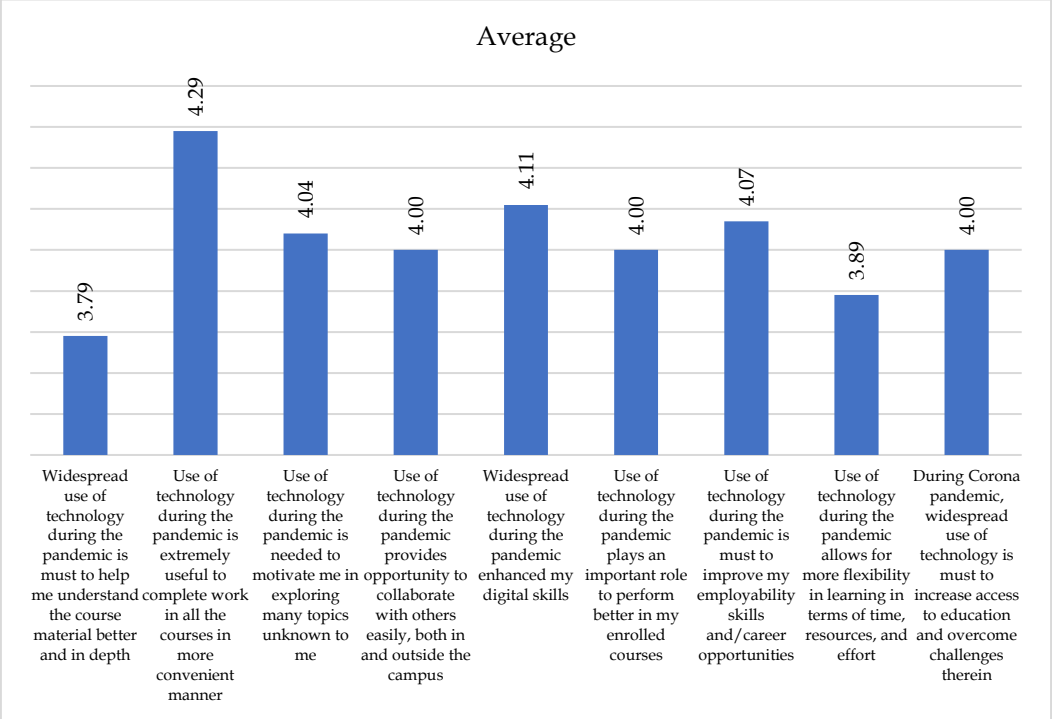

Figure 2: Importance of Using Technology During the COVID-19 Pandemic

4.2 The Impact of the COVID-19 Pandemic on the Extent of Students' Use of Technology

Table 2 shows the students' perceptions on the impact of the COVID-19 pandemic on the extent of their use of technology. On average, there was a high level of agreement (4.09 out of 5) on the significant impact of the COVID-19 pandemic on the extent of their use of technology. The questionnaire contained 10 questions to gather the views of the students (see Table 2 and Figure 3). From the answers to question 1, respondents agreed that there was a significant increase in the extent of their use of mobile devices (e.g. smartphones, tablets) during the pandemic compared to before it; the average level of agreement was 4.18 out of 5 and the majority of students (82.14%) strongly agreed or agreed with the statement. Responses to question 2 showed a high average level of agreement (4.39 out of 5); the students strongly agreed that there was a significant increase in the extent of their use of Microsoft (MS) Word, Excel, and PowerPoint during the pandemic compared to before. The majority of students (82.14%) strongly agreed or agreed with the statement.

Regarding question 3, students on average agreed that there was a significant increase in the extent of their use of online collaboration tools (e.g. Adobe Connect, Google Docs) during the pandemic compared to before it, with an average level of agreement of 4.21 out of 5, and the majority of students (82.14%) strongly agreeing or agreeing with that. Concerning question 4, respondents agreed that the there was a significant increase in their level of use of search engines during the pandemic compared to before it; the average level of agreement was 4.11 out of 5 and the majority of students (82.15%) strongly agreed or agreed with the statement.

Responses to question 5 showed a high level of agreement among the students that there was a significant increase in their use of the Gulf University digital library (e-books/online databases) during the pandemic compared to before it. The majority of the students (64.28%) strongly agreed or agreed with the statement, with an average agreement of 3.68 out of 5. Regarding question 6, students on average agreed that there was a significant increase in the level of their use of LMSs (MOODLE, Canvas, Blackboard) during the pandemic compared to before; the average level of agreement was 4.18 out of 5 and the majority of students (82.14%) strongly agreed or agreed with that.

In response to question 7, the average agreement was 4.18 out of 5, with a high percentage of students (82.14%) strongly agreeing or agreeing that the use of online video/audio material increased significantly during the pandemic compared to before. Further, the answers to question 8 showed that the majority of students (75%) strongly agreed or agreed, with an average agreement of 3.89 out of 5, that the use of gamification/simulations increased in the field of education during the pandemic compared to before.

Answers to question 9 indicated that there was a significant increase in the level of use of digital tools for online lectures during the pandemic compared to before, where the average level of agreement with the statement was 4.07 out of 5 and the majority of students (82.14%) either strongly agreed or agreed with that. Lastly, for question 10, students on average agreed that there was a significant increase in the use of learning tools (YouTube, forum, chat, etc.) and social media (blogs, wikis, WhatsApp, etc.) in academics during the pandemic compared to before; the level of agreement was 4.04 out of 5 and the majority of students (78.57%) strongly agreed or agreed with the statement.

Table 2: The Impact of the COVID-19 Pandemic on the Extent of Students' Use of Technology.

Statements	Strongly Agree		Agree		Undecided		Disagree		Strongly Disagree		Average
	N	%	N	%	N	%	N	%	N	%	
There is a significant increase in the extent of using mobile devices (e.g., Desktop computer, laptop, smartphone, tablet) during the pandemic than before.	16	57.14	7	25.00	1	3.57	2	7.14	2	7.14	4.18
There is a significant increase in the extent of using MS word, Excel and Power point during the pandemic than before.	20	71.43	3	10.71	3	10.71	-	-	2	7.14	4.39
There is a significant increase in the extent of using online collaboration tools (e.g., Adobe Connect, Google Docs) during the pandemic than before.	16	57.14	7	25.00	2	7.14	1	3.57	2	7.14	4.21
There is a significant increase in the level of using search engines during the pandemic than before.	12	42.86	11	39.29	3	10.71	-	-	2	7.14	4.11

There is a significant increase in using GU digital library in terms of eBooks/online database during the pandemic than before.	10	35.71	8	28.57	5	17.86	1	3.57	4	14.29	3.68
There is a significant increase in the level of using LMS (MOODLE, Canvas, Blackboard) during the pandemic than before.	16	57.14	7	25.00	2	7.14	-	-	3	10.71	4.18
Use of online video/audio material has been increased significantly during the pandemic than before.	16	57.14	7	25.00	1	3.57	2	7.14	2	7.14	4.18
Use of gamification/simulations has increased in the field of education during the pandemic than before.	8	28.57	13	46.43	5	17.86	-	-	2	7.14	3.89
There is a significant increase in the level of using digital tools for online lecture during the pandemic than before.	14	50.00	9	32.14	1	3.57	1	3.57	3	10.71	4.07
There is a significant increase in terms of using learning tools (YouTube, forum, chat, etc..) and social media (blogs, wikis, WhatsApp, etc..) in academics during the pandemic than before	13	46.43	9	32.14	3	10.71	-	-	3	10.71	4.04
Total average											4.09
Note: Average of 4 to 5 show a strong agreement, 3 to 3.99 show agreement, 2 to 2.99 show 78.57, 1 to 1.99 show disagreement; 0 to 0.99 show a strong disagreement.											

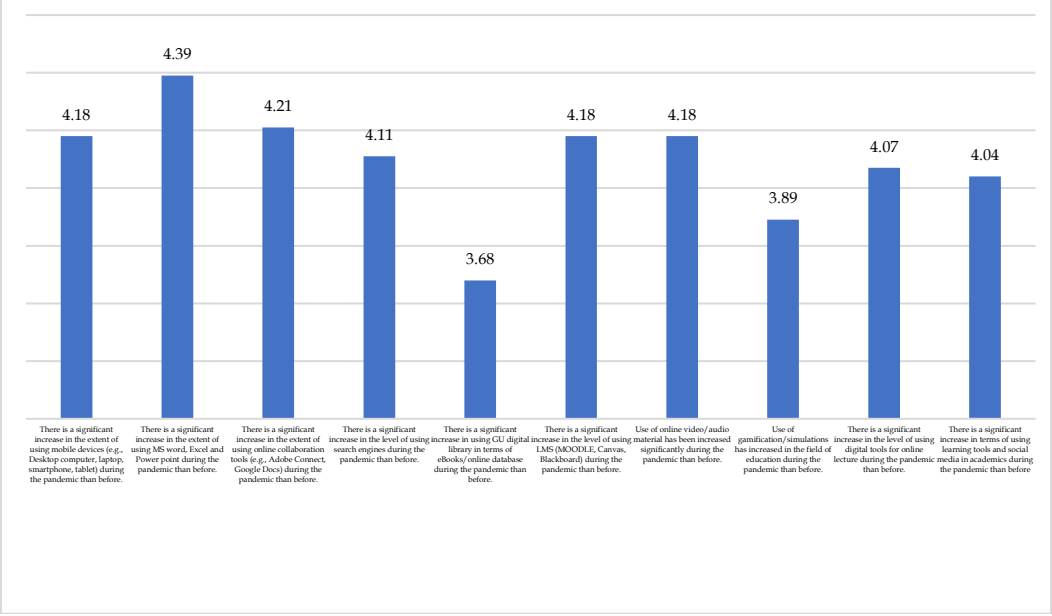

Figure 3: The Impact of the COVID-19 Pandemic on the Extent of Students' Use of Technology.

4.3 The Impact of the COVID-19 Pandemic on the Students' Capability to Use Technology

Table 3 shows the perceptions of the students on the impact of the COVID-19 pandemic on their capability to use technology. On average, there was a high

level of agreement (4.03 out of 5) on the impact of the COVID-19 pandemic on the students' capability to use technology (see Table 3 and Figure 4).

The questionnaire contained 10 questions to collect the views of the students. From the answers to question 1, respondents agreed that during the COVID-19 pandemic, their capability to use mobile devices (e.g. smartphones, tablets) was significantly enhanced; the average level of agreement was 4.18 out of 5 and the majority of students (82.14%) strongly agreed or agreed with the statement. Responses to question 2 showed a high average level of agreement (4.18 out of 5); the students strongly agreed that during the COVID-19 pandemic, their skills in using MS Word, Excel, and PowerPoint were significantly enhanced. The majority of students (82.14%) strongly agreed or agreed with the statement.

Regarding question 3, students on average agreed that during the COVID-19 pandemic, their capability to use online collaboration tools (e.g. Adobe Connect, Google Docs) was significantly enhanced; the average level of agreement was 4.04 out of 5 and the majority of students (78.57%) strongly agreed or agreed. Concerning question 4, respondents agreed that with the COVID-19 pandemic, their ability to use search engines was significantly enhanced; the average level of agreement was 4.04 out of 5 and the majority of students (82.15%) strongly agreed or agreed with the statement.

In answer to question 5, there was a high level of agreement among the students that during the COVID-19 pandemic, they were using e-books/textbooks and online databases more effectively in their learning. The majority of the students (71.43%) strongly agreed or agreed with the statement, with an average agreement of 3.71 out of 5. Regarding question 6, students on average agreed that during the COVID-19 pandemic, their tenacity in utilising the LMS (MOODLE) was enhanced significantly; the average level of agreement was 4.11 out of 5 and the majority of students (82.14%) strongly agreed or agreed.

For question 7, the average agreement was 4.00 out of 5, with a high percentage (82.15%) of students strongly agreeing or agreeing that during the COVID-19 pandemic, they became better able to effectively use online learning tools (audio-visual) in their courses. Further, answers to question 8 showed that the majority of students (78.57%) strongly agreed or agreed, with an average agreement of 4.04 out of 5, that during the COVID-19 pandemic, they became better able to effectively use educational games/simulations in the field of education.

Answers to question 9 indicated that during the COVID-19 pandemic, the students became better able to effectively use digital tools for online lectures; the average level of agreement with the statement was 4.04 out of 5 and the majority of students (78.58%) either strongly agreed or agreed. Lastly, in response to question 10, students on average agreed that during the COVID-19 pandemic, their ability to use active learning tools (e.g. YouTube, forums, chat) and social

media (e.g. blogs, wikis) was significantly enhanced; the average level of agreement was 4.00 out of 5 and the majority of students (75%) strongly agreed or agreed with the statement.

Table 3: The Impact of the COVID-19 Pandemic on the Students' Capability to Use Technology.

Statements	Strongly Agree		Agree		Undecided		Disagree		Strongly Disagree		Average
	N	%	N	%	N	%	N	%	N	%	
During corona pandemic, my capability in using mobile devices (e.g., Desktop computer, laptop, smartphone, tablet) has been significantly enhanced	15	53.57	8	28.57	2	7.14	1	3.57	2	7.14	4.18
During corona pandemic, my skill in using MS word, Excel and Power point has been significantly enhanced	14	50.00	9	32.14	3	10.71	-	-	2	7.14	4.18
During corona pandemic, my capability in using online collaboration tools (e.g., Adobe Connect, Google Docs) has been significantly enhanced	13	46.43	9	32.14	2	7.14	2	7.14	2	7.14	4.04
During Corona pandemic, my ability to use search engines has been significantly enhanced	11	39.29	12	42.86	2	7.14	1	3.57	2	7.14	4.04
During corona pandemic, I was using eBooks/textbooks and online bases more effectively in my learning	9	32.14	11	39.29	3	10.71	1	3.57	4	14.29	3.71
During corona pandemic, my tenacity in utilizing Learning Management System (MOODLE) has been enhanced significantly	14	50.00	9	32.14	2	7.14	-	-	3	10.71	4.11
During corona pandemic, I become able to effectively use more online learning tools (audio-visual) in my courses	11	39.29	12	42.86	1	3.57	2	7.14	2	7.14	4.00
During corona pandemic, I become able to effectively use educational games/simulations more in the field of education	12	42.86	10	35.71	3	10.71	1	3.57	2	7.14	4.04
During corona pandemic, I become able to effectively use digital tools for online lecture	11	39.29	11	39.29	4	14.29	-	-	2	7.14	4.04
During corona pandemic, my ability to use active learning tools (YouTube, forum, chat) and social media (blogs, wikis) has been significantly enhanced	13	46.43	8	28.57	4	14.29	-	-	3	10.71	4.00
Total average											4.03
Note: Average of 4 to 5 show a strong agreement, 3 to 3.99 show agreement, 2 to 2.99 show 78.57, 1 to 1.99 show disagreement; 0 to 0.99 show a strong disagreement.											

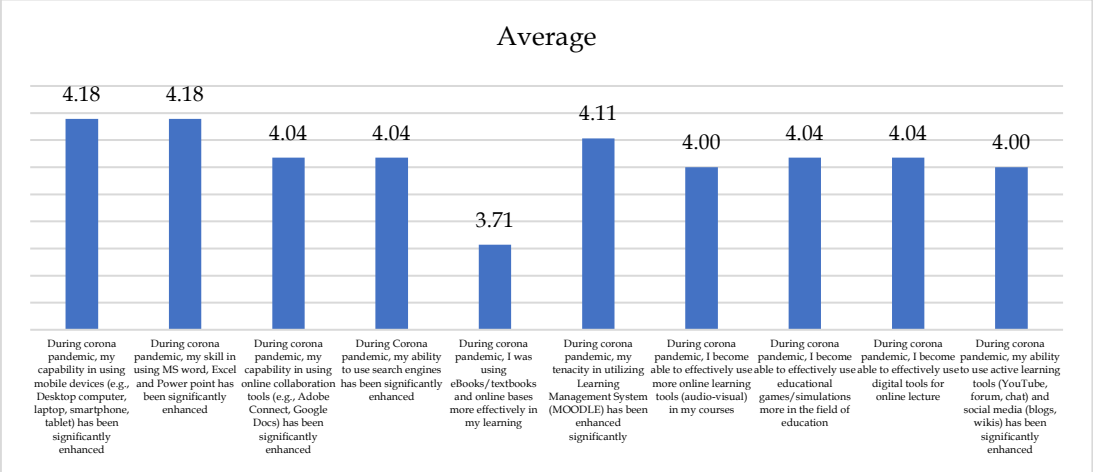

Figure 4: The Impact of the COVID-19 Pandemic on the Students' Capability to Use Technology.

4.4 Satisfaction with Using the Tally Software Program During the COVID-19 Pandemic

In this section, the authors aimed to comprehend the students' level of satisfaction with using software programs during the COVID-19 pandemic. To achieve that, the authors started by asking the students whether or not they used the Tally software program during the COVID-19 pandemic. Tally is a software program used to automatic record the financial transaction and introduce the financial reporting. Those respondents who had used Tally were requested to give their perceptions of the ease of using the program, and their confidence in using it.

4.4.1 Using the Tally Software Program During the COVID-19 Pandemic

The results show that 19 out of the 28 respondents had remote access to the Tally software program during the COVID-19 pandemic (see Table 4 and Figure 5). Hence, they used the Tally software program during the COVID-19 pandemic.

Table 4: Using the Tally Software Program During the COVID-19 Pandemic.

Statement	Yes		No	
	N	%	N	%
Have you used the Tally software program during the Corona pandemic?	19	67.86	9	32.14

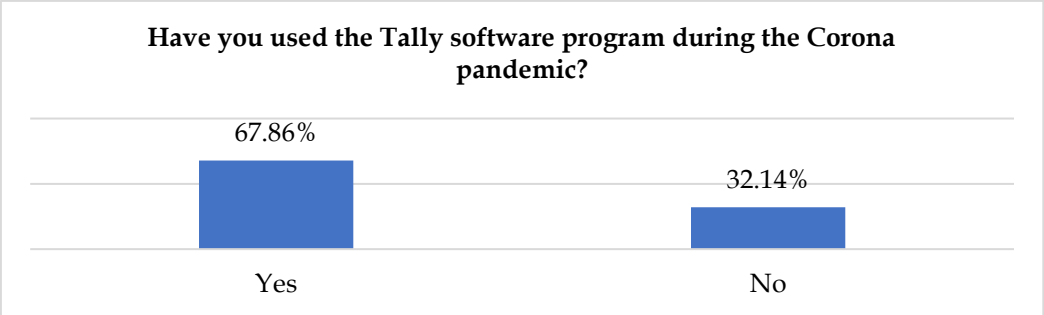

Figure 5: Using the Tally Software Program During the COVID-19 Pandemic.

4.4.2 *Satisfaction with Using the Tally Software Program During the COVID-19 Pandemic*

Table 5 shows the students' level of satisfaction with using the Tally software program during the COVID-19 pandemic. On average, there was a high level of satisfaction (4.34 out of 5) with using the Tally software program during the COVID-19 pandemic. The questionnaire contained eight questions to gather the views of the students (see Table 5 and Figure 6).

From the answers to question 1, respondents agreed that they felt very confident using the Tally software program during the COVID-19 pandemic; the average level of agreement was 4.16 out of 5 and the majority of students (73.69%) strongly agreed or agreed with the statement. Responses to question 2 showed a high average level of agreement (4.42 out of 5). The students strongly agreed that the Tally software program was easy to use during online learning. The majority of students (84.21%) strongly agreed or agreed with the statement.
Regarding question 3, students on average agreed that the Tally software program facilitated their learning in terms of completion of tasks assigned to them during the COVID-19 pandemic; the average level of agreement was 4.53 out of 5 and the majority of students (89.48%) strongly agreed or agreed with that. Concerning question 4, respondents agreed that they found it easy to get the Tally software program to do what they wanted it to do during the COVID-19 pandemic, with an average level of agreement of 4.26 out of 5 and the majority of students (78.95%) strongly agreeing or agreeing with the statement.

For question 5, there was a high level of agreement among the students that they received clear instruction and guidance from the instructor while using the Tally software program during the COVID-19 pandemic. The majority of the students (84.21%) strongly agreed or agreed with the statement, with a high average agreement of 4.47 out of 5. Regarding question 6, students on average agreed that they were comfortable communicating with the instructor and received his support in using the Tally software program during the COVID-19 pandemic; the average level of agreement was 4.32 out of 5 and the majority of students (78.95%) strongly agreed or agreed with that.

For question 7, the average agreement was 4.16 out of 5, with a high percentage of students (73.67%) who strongly agreed or agreed that they found the Tally software program to be flexible for completing relevant tasks in their courses during the COVID-19 pandemic. Lastly, in response to question 8, students on average agreed that it was easy for them to become skilful at using the Tally software program during the COVID-19 pandemic; the average level of agreement was 4.37 out of 5 and the majority of students (78.94%) strongly agreed or agreed with the statement.

Table 5: Satisfaction with Using the Tally Software Program During the COVID-19 Pandemic

Statements	Strongly Agree		Agree		Undecided		Disagree		Strongly Disagree		Average
	N	%	N	%	N	%	N	%	N	%	
I felt very confident using Tally software program during the Corona pandemic	8	42.11	6	31.58	5	26.32	-	-	-	-	4.16
Tally software program was easy to be use during the online learning	11	57.89	5	26.32	3	15.79	-	-	-	-	4.42
Tally program software facilitated my learning in terms of completion of tasks assigned to me during the Corona pandemic	12	63.16	5	26.32	2	10.53	-	-	-	-	4.53
I found it easy to get Tally software program to do what I wanted it to do during the Corona pandemic	9	47.37	6	31.58	4	21.05	-	-	-	-	4.26
I received clear instruction and guidance from the instructor while using this Tally software program during the Corona pandemic	12	63.16	4	21.05	3	15.79	-	-	-	-	4.47
I was comfortable to communicate with the instructor and received his support in using Tally software program during the Corona pandemic	10	52.63	5	26.32	4	21.05	-	-	-	-	4.32
I found Tally software program to be flexible to practice in preparing relevant tasks in my courses during the Corona pandemic	9	47.37	5	26.3	4	21.05	1	5.26	-	-	4.16
It was easy for me to become skillful at using Tally software program during the Corona pandemic	11	57.89	4	21.05	4	21.05	-	-	-	-	4.37
Total average											4.34
Note: Average of 4 to 5 show a strong agreement, 3 to 3.99 show agreement, 2 to 2.99 show 78.57, 1 to 1.99 show disagreement; 0 to 0.99 show a strong disagreement.											

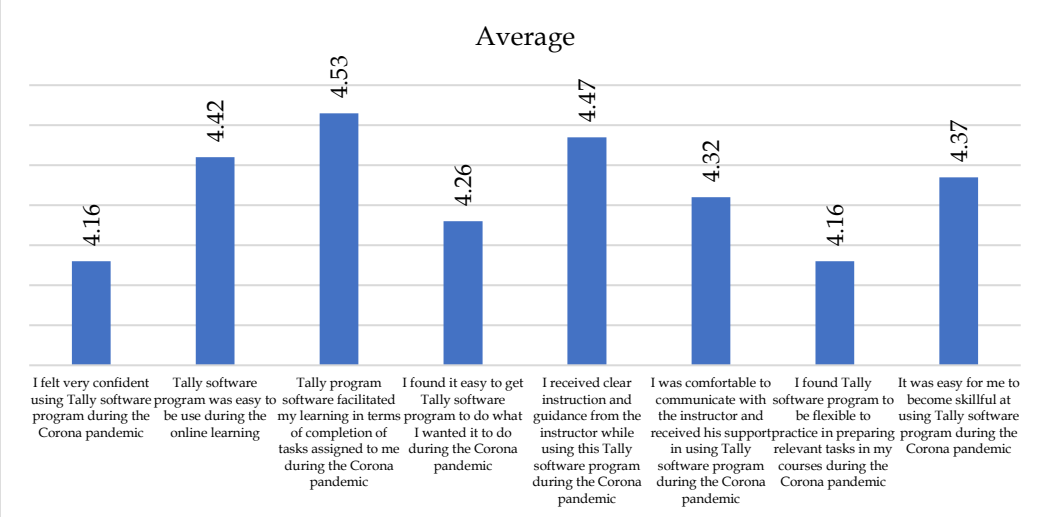

Figure 6: Satisfaction with Using the Tally Software Program During the COVID-19 Pandemic.

5. Conclusion

The COVID-19 pandemic has had a serious impact on education; during it, the value of education technology has expanded. This study aims to examine students' perceptions of: (i) the importance of using technology during the COVID-19 pandemic; (ii) the impact of the COVID-19 pandemic on the extent of their use of technology; (iii) the impact of the COVID-19 pandemic on their capability to use technology; and (iv) their satisfaction with using the Tally software program during the COVID-19 pandemic.

According to the findings, there was a high degree of agreement (4.02 out of 5) among respondents on the need to employ technology during the pandemic. Furthermore, the results demonstrated a high degree of agreement (4.09 out of 5) on the considerable influence of the COVID-19 pandemic on the extent to which technology is used. Furthermore, the findings showed that there was a high degree of agreement (4.03 out of 5) on the influence of the COVID-19 pandemic on the students' capability to use technology. Finally, the findings showed a high level of satisfaction (4.34 out of 5) with the Tally software program during the COVID-19 pandemic.

The study's practical contributions come in many different forms. Firstly, the results may help institutions, policymakers, and regulatory bodies to appreciate the impact of the COVID-19 pandemic on the extent of technology use and students' capability to use technology, including accounting software programs such as Tally. Secondly, they may help institutions, policymakers, and regulatory bodies to re-evaluate the effectiveness of education during the COVID-19 pandemic, which will help them to improve education during the COVID-19 pandemic and in the future.

The authors recommend that policymakers encourage educational institutions to invest more in technological tools and infrastructure, as technology is a very important component in improving the performance of students, whether during the pandemic or after it. The authors recommend that researchers undertake an international study, including a number of countries, to examine the effect of the COVID-19 pandemic on the widespread use of technology to revolutionise education in HEIs.

The current study, like many others, has many limitations. Firstly, this study focused on Gulf University's students in the Accounting and Finance Department. Therefore, the results of the current study should be used with caution in making generalisations about other universities and countries. Secondly, the study had a low number of respondents due to the low numbers of students at Gulf University. The findings may have been different with high numbers of respondents. Therefore, research is needed on the same topic with a larger sample size, in different universities in Bahrain and abroad.

6. References

Aguilera-Hermida, A. P. (2020). College students' use and acceptance of emergency online learning due to COVID-19. *International Journal of Educational Research Open, 1*, 100011. https://doi.org/10.1016/j.ijedro.2020.100011

Ahmad, R., Nagasundram, U., Sharif, M. N. M., Yaacob, Y., Mahmud, M. M., Ishak, N. S., . . . Ibrahim, I. (2022). Information and Communications Technology (ICT) as a Teaching and Learning Tool: A Study of Students' Readiness and Satisfaction. *International Journal of Learning, Teaching and Educational Research, 21*(10), 381-394. https://doi.org/10.26803/ijlter.21.10.21

Alabdulkarim, N., Alsultan, F., & Bashir, S. (2020). Gulf Countries Responding to COVID-19. *Dubai Medical Journal, 3*(2), 58-60. https://doi.org/10.1159/000508662

AlAmmary, J. (2012). Educational technology: A way to enhance student achievement at the University of Bahrain. *Procedia-Social and Behavioral Sciences, 55*, 248-257. https://doi.org/10.1016/j.sbspro.2012.09.501

Alfiras, M., & Bojiah, J. (2020). Printed textbooks versus electronic textbooks: A study on the preference of students of Gulf university in kingdom of Bahrain. *International Journal of Emerging Technologies in Learning (iJET), 15*(18), 40-52. https://doi.org/10.3991/ijet.v15i18.15217

Alfiras, M., Bojiah, J., & Yassin, A. A. (2020). COVID-19 pandemic and the changing paradigms of higher education: A Gulf university perspective. *Asian EFL Journal, 27*(5), 1-9.

Alfiras, M., Nagi, M., Bojiah, J., & Sherwani, M. (2021). Students' perceptions of hybrid classes in the context of Gulf University: An analytical study. *Journal of Hunan University Natural Sciences, 48*(5).

Astutik, Y., & Setiawan, S. (2022). " I Can Teach With My Videos": How Do Teachers Teach English to Young Learners in a Technology-Limited Environment? *International Journal of Learning, Teaching and Educational Research, 21*(7), 158-177. https://doi.org/10.26803/ijlter.21.7.9

Carstens, K. J., Mallon, J., M, Bataineh, M., & Al-Bataineh, A. (2021). Effects of Technology on Student Learning. *The Turkish Online Journal of Educational Technology, 20*(1), 105-113.

Cerezo, R., Sánchez-Santillán, M., Paule-Ruiz, M. P., & Núñez, J. C. (2016). Students' LMS interaction patterns and their relationship with achievement: A case study in higher education. *Computers & Education, 96*, 42-54. https://doi.org/10.1016/j.compedu.2016.02.006

Cook, C. W., & Sonnenberg, C. (2014). Technology and online education: Models for change. *Contemporary Issues in Education Research (CIER), 7*(3), 171-188. https://doi.org/10.19030/cier.v7i3.8638

Das, A., & Mishra, S. (2016a). Questionnaire on Faculty Use of Technology for Teaching and Learning *Technology-Enabled Learning Implementation Handbook* (pp. 69-79). Burnaby, British Columbia: Commonwealth of Learning (COL).

Das, A., & Mishra, S. (2016b). Questionnaire on Learner Use of Technology *Technology-Enabled Learning Implementation Handbook* (pp. 59-68). Burnaby, British Columbia: Commonwealth of Learning (COL).

Dong, C., Cao, S., & Li, H. (2020). Young children's online learning during COVID-19 pandemic: Chinese parents' beliefs and attitudes. *Children and Youth Services Review, 118*, 105440. https://doi.org/10.1016/j.childyouth.2020.105440

Gcabashe, N. B., & Ndlovu, N. S. (2023). Exploring Business Studies Teachers' Technology Self-Efficacy on their Technology Integration to Create Learner-Centred Teaching Environment. *International Journal of Learning, Teaching and Educational Research, 21*(12). https://doi.org/10.26803/ijlter.21.12.13

Haleem, A., Javaid, M., Qadri, M. A., & Suman, R. (2022). Understanding the Role of Digital Technologies in Education: A review. *Sustainable Operations and Computers, Available online 23 May 2022*. https://doi.org/10.1016/j.susoc.2022.05.004

Hardman, J. (2005). An exploratory case study of computer use in a primary school mathematics classroom: New technology, new pedagogy?: Research: Information and communication technologies. *Perspectives in education, 23*(1), 99-111.

Hu, Z., Venketsamy, R., & Pellow, J. (2022). University Students' Experiences of the Teaching and Learning of an Acupuncture Programme: A South African Case Study. *International Journal of Learning, Teaching and Educational Research, 21*(12), 107-126. https://doi.org/10.26803/ijlter.21.12.6

Hurajova, A., Kollarova, D., & Huraj, L. (2022). Trends in education during the pandemic: modern online technologies as a tool for the sustainability of university education in the field of media and communication studies. *Heliyon, 8*(5), e09367. https://doi.org/10.1016/j.heliyon.2022.e09367

Hussein, E., Daoud, S., Alrabaiah, H., & Badawi, R. (2020). Exploring undergraduate students' attitudes towards emergency online learning during COVID-19: A case from the UAE. *Children and Youth Services Review, 119*, 105699. https://doi.org/10.1016/j.childyouth.2020.105699

Khalifa, H., Al-Absy, M. S. M., Badran, S., Alkadash, T. M., Almaamari, Q. A., & Nagi, M. (2020). COVID-19 pandemic and diffusion of fake news through social media in the Arab world. *Arab Media & Society, 30*, 43-58.

Khalifa, H. K. H., Al-Absy, M. S. M., Ibrahim, S. B., Moawad, A. A. M. M., AL-Taher, A. I., & Al Tawalbeh, A. (2022). COVID-19 and Diffusion of Rumors among Arab Social Media Users: Reasons and Solutions. *Journal of Hunan University Natural Sciences, 49*(6). https://doi.org/10.55463/issn.1674-2974.49.6.20

Muafiah, E., Desrani, A., Ritonga, A. W., & Hakim, A. R. (2022). Trends of Educational Technology (EdTech): Students' Perceptions of Technology to Improve the Quality of Islamic Higher Education in Indonesia. *International Journal of Learning, Teaching and Educational Research, 21*(6), 226-246. https://doi.org/10.26803/ijlter.21.6.14

Nguyen, T. (2015). The effectiveness of online learning: Beyond no significant difference and future horizons. *MERLOT Journal of Online Learning and Teaching, 11*(2), 309-319. https://doi.org/10.5121/IJE.2019.1421

Onyema, E. M., Eucheria, N. C., Obafemi, F. A., Sen, S., Atonye, F. G., Sharma, A., & Alsayed, A. O. (2020). Impact of Coronavirus pandemic on education. *Journal of Education and Practice, 11*(13), 108-121. https://doi.org/10.7176/jep/11-13-12

Onyema, E. M., Ogechukwu, U., Anthonia, E. C. D., & Deborah, E. (2019). Potentials of mobile technologies in enhancing the effectiveness of inquiry-based learning approach. *International Journal of Education (IJE), 2*(01), 1-22. https://doi.org/10.5121/IJE.2019.1421

Pal, D., & Vanijja, V. (2020). Perceived usability evaluation of Microsoft Teams as an online learning platform during COVID-19 using system usability scale and technology acceptance model in India. *Children and Youth Services Review, 119*, 105535. https://doi.org/ 10.1016/j.childyouth.2020.105535

Qubail, A. E., & Al-Absy, M. S. M. (2021). *The Impact of the Corona Pandemic on Government Sectors and Facilities: Evidence From Bahrain.* Paper presented at the 1st Gulf University International Conference in Accounting and Finance (ICAF), Kingdom of Bahrain.

Roy, R., & Al-Absy, M. S. M. (2022). Impact of Critical Factors on the Effectiveness of Online Learning. *Sustainability, 14*(21), 14073. https://doi.org/10.3390/su142114073

Saadé, R. G., He, X., & Kira, D. (2007). Exploring dimensions to online learning. *Computers in Human Behavior, 23*(4), 1721-1739. https://doi.org/10.1016/j.chb.2005.10.002

Siemens, G., Dawson, S., & Lynch, G. (2013). Improving the quality and productivity of the higher education sector. *Policy and Strategy for Systems-Level Deployment of Learning Analytics. Canberra, Australia: Society for Learning Analytics Research for the Australian Office for Learning and Teaching, 31*.

Xu, H., & Ebojoh, O. (2007). Effectiveness of online learning program: a case study of A higher education institution. *Issues in Information Systems, 8*(1), 160. http://www.iacis.org/iis/iis_articles.php?volume=8&issue=1