

E-Learning After the Pandemic from the Perspective of Digital Skills Teachers

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Abstract

The coronavirus disease (COVID-19) crisis and the coincidental shift in public education to distance education was a starting point from which all educational institutions, especially those in developing countries, must benefit in terms of e-learning development. The need to effectively explore the use of e-learning after returning to school (face-to-face) has been increasing. Thus, we investigated the use of e-learning after the COVID-19 pandemic by examining the case of Saudi Arabia. The findings of this case study can be applicable and beneficial to other countries. By applying a qualitative research design, 15 Saudi digital skills teachers were invited to voluntarily participate in this study, and an open-question survey was conducted electronically using the snowball technique and a focus group. The teachers' reflections on this experience have implications for their professional development and are an opening for using educational technologies and utilizing students' digital skills in education. The study shows that the teachers continued using e-learning in their daily teaching after the pandemic. The three most important theme determinants in this study were the teachers' use of e-learning for blended learning, communication, and professional development, in this order. Moreover, the teachers believed that they and their students had acquired and developed many skills as a result of using online learning. Finally, the study implications and suggestions are highlighted in this article.

Keywords: teaching with technology, blended learning, e-learning, post-pandemic, educational technology

1. Introduction

At the end of 2019, the world faced the spread of the coronavirus disease (COVID-19). One of the measures implemented to prevent the spread of the disease was to lock down and close schools. UNISCO (2020) reported that "at the peak of the closure period in April 2020, (91%) of the global student population was affected in (194) countries" (p. 77). This event was the largest disruption to the education system in history, affecting approximately 6.1 billion students worldwide (UN, 2020). Saudi Arabia (SA) was among the countries that decided to lock down and close schools to keep students safe.

Hence, during the pandemic, many schools switched to online learning so that students could continue their learning and education. The education system faced many challenges, particularly in relation to the school environment (teachers, staff, and infrastructures) and home environment (students, parents, and technology). During the COVID-19 pandemic, the Ministry of Education (MoE) of SA provided the 'Madrasati' platform for online learning, including alternative sources of learning, such as the iEN gateway and channels (MoE, 2021a). The Madrasati learning management system was released in the first semester of the academic year 2020–2021. The pandemic provided excellent examples of the ability of education systems to employ e-learning in line with the goal of the MoE (2021b).

Numerous studies have been conducted on the integration of e-learning systems, the quality of students' e-learning and engagements, and the effective use of e-learning (Al-Azawei et al., 2017; Alhumaid et al., 2020; Ameen et al., 2019; Cheng & Chau, 2016; Uppal et al., 2018). Many studies have investigated the intentions and satisfaction of using e-learning. The technology acceptance model is one of the most used commonly used models (Al-Azawei et al., 2017; Eraslan Yalcin & Kutlu, 2019; Granić & Marangunić, 2019). Previous studies have drawn attention to factors that contribute to the successful adoption of e-learning, such as infrastructure, acceptance of change, digital skills, and design programmes that meet students' learning needs (Rodrigues et al., 2019). The success factors of e-learning are students' and instructors' skills, ease of use, and support and training

(Alhabeeb & Rowley, 2018). A previous study argued that technical support affects the use of e-learning (Ameen et al., 2019). Studies have also shown that collaboration, information quality, and user-perceived satisfaction are determining factors in the use of e-learning (Cidral et al., 2018). Moreover, the strategies suggested for successful e-learning included e-learning training for teachers and students, creating online communities, and blending learning (Turnbull et al., 2021).

E-Learning was rarely used before the pandemic (Ionescu et al., 2020). After the pandemic, distant learning was mandated, so all educational institutions applied it. Consequently, many studies have identified the challenges of converting to e-learning, most of which pertain to teachers and students being unprepared for e-learning and issues in internet and device use or information communication technology (ICT) infrastructures (Hamdan et al., 2020; Mseleku, 2020). The greatest challenge is resistance to adopting e-learning or new technologies in education (Rodrigues et al., 2019). Koh and Daniel (2022) concluded that teachers should develop their teaching skills in e-learning. However, the institutions that adopted e-learning and established the infrastructure needed for e-learning succeeded in delivering e-learning during the pandemic (Mseleku, 2020).

Online learning experiences will lead to the development of many skills such as technological and interpersonal skills and to opportunities for innovation (Mseleku, 2020). Owing to the pandemic, students developed a positive attitude towards the use of e-learning and the application of education technology in their learning (Radha et al., 2020), which they perceived as successful solutions for the future (Ionescu et al., 2020). Similarly, teachers developed positive attitudes towards e-learning (Hoq, 2020), and e-learning improved student outcomes and provided new learning opportunities (Rodrigues et al., 2019).

While numerous studies on education during the COVID-19 pandemic have been published, no studies have addressed the use of e-learning after the pandemic. The use of online learning during the pandemic helped break down the psychological barrier of using online learning, which was inevitable. Mseleku (2020) argued that opportunities emerged from the pandemic and that its consequences must be studied. In addition, it is predicted that the e-learning experience during the pandemic will have a positive effect on the adoption of e-learning in the future (Alammary et al., 2022). Many organisations such as UNISCO have encouraged the continued use of e-learning in education even after the COVID-19 pandemic. They have advocated that e-learning should be an option in education in the future (Ananga, 2020). Therefore, evaluating the use of e-learning after the pandemic is important. The aim of this study was to examine the use of e-learning after the COVID-19 pandemic, taking 'Madrasati' as a case from SA, from the perspective of digital skills teachers, who play an essential role in e-learning (Baber, 2021).

1.1 Context of the Study

E-Learning started in SA as a plan for the future and then turned into an urgent need owing to the COVID-19 pandemic. The MoE encouraged the application of e-learning and mobile learning in schools. They invested a great deal of money in education, particularly e-learning, and helped teachers acquire the necessary skills. Prior to the pandemic, several attempts had been made to utilise e-learning in education. As a result, the MoE has developed many technology projects. In 2015, the MoE launched the national education gateway 'iEN' and developed the virtual school 'Vschoo' (MoE, 2021b). In 2017, the MoE launched the Gateway to the Future. In March 2020, the Unified Education System, the upgraded version of the virtual school, was launched, providing more than 45,000 educational resources (MoE, 2021b). Therefore, e-learning is used in education as a supportive and scaffolding tool for student learning (Aladsani et al., 2022).

Mann et al. (2020) reported that before the COVID-19 crisis, teachers in SA were ready to teach using technology, as they were well prepared and open to changes. Their main concerns were students' lack of digital devices and internet access. As indicated by the results of the Teaching and Learning International Survey (TALIS) conducted by the Organisation for Economic Co-operation and Development (OECD, 2018, as cited in Mann et al., 2020) before the pandemic, 49% of teachers in SA asked their students to use technology in their studies, and 75% of teachers used technology to support their students' learning. Moreover, the report indicated that teachers in SA were well prepared to use ICT in their teaching, as more than 70% of teachers had teaching experience with technology courses or subjects in their pre-served study and were willing to apply new technology in their teaching practice. The report also highlighted concerns about internet access and device availability.

The education process did not stop during the lockdown after the conversion to e-learning through the Unified Education Portal virtual school and 'Madrasati' platform (MoE, 2021b). This platform allows teachers/students to interact with digital education materials such as digital curricula and enrichment materials, in addition to virtual training and resources for educators (MoE, 2021b). The MoE reported that more than 25,000 public

schools, with more than 5 million students, used the Madrasati platform in the first semester after the COVID-19 outbreak (MoE, 2021b).

Regarding the lack of devices/ internet and to keep education functioning, schools' members, parents, and local communities collaborated to help. All sectors of society collaborated through donations to provide students with their own internet-based devices and internet access, and these initiatives came from charity organisations, private individuals, and teachers (Al-jarf, 2021). Moreover, mobile companies offered special internet packages for students and teachers, and some social media companies supported distant learning (Aladsani et al., 2022). Moreover, the MoE offered many tablets and SIM cards for those who needed them, in special cases, allowing some students to attend school (MoE, 2021b).

The acceptance of online learning and Madrasati was improved after the pandemic experience (O'Keefe et al., 2020a). Students and parents recommended that schools expand e-learning in the future, and more than 80% of school administrations and teachers agreed (MoE, 2021b). In addition, the teachers showed a positive attitude towards the Madrasati platform. A previous study found that teachers were satisfied with the platform (Alkinan et al., 2021). Some key findings were that the quality of teaching increased, and that the platform was well designed, had high information content, and was useful (Alkinan et al., 2021). In a study by the General Administration of Digital Transformation in cooperation with the General Administration of E-Learning and Distance Education, one critical result was teachers' satisfaction with the Madrasati platform (91%), school head teacher (87%), supervisors (82%), students (82%), and parents (81%) (MoE, 2021b). Aldossry (2021) indicated that teachers were willing to use the platform after the pandemic because it reduced their workload and was suitable for theoretical materials.

All the studies agreed that the Madrasati platform has a positive effect on education. Some of its advantages had an appositive effect on improving teachers' digital skills (Al-Hazmi et al., 2022). Moreover, students' digital skills were developed after using the platform, with some economic and social benefits (Alalwani, 2022). Al-Thumali (2021) found that teachers were satisfied with using Madrasati in physical lessons and perceived its efficiency. The study revealed that some advantages of the platform from the teachers' perspective included utilising class time better, more efficiently, and higher satisfaction. Moreover, teachers can attend many e-courses on the platform. From another perspective, students were less active in online classes than in face-to-face classes. Moreover, Aladsani et al. (2022) found that teachers and students improved their digital skills and acquired new ones. Their study revealed that the students acquired self-learning skills. Furthermore, the students became more independent in learning while using the platform (Alqahtani, 2022). In addition, Madrasati is an effective teaching platform (Omar & Al-Nafaie, 2022). Notably, it helps teachers communicate easily with parents and school members (Alqahtani, 2022).

From another perspective, some practitioners indicated withdrawal from using the Madrasati platform (Khanfar, 2020). One study found that the obstacles were students' poor digital skills and teachers' poor online class management (Alalwani, 2022). In addition, other obstacles to using Madrasati were teachers' lack of digital skills and skills in teaching with technology, particularly e-assessment and student e-learning activities (Alessa, 2022). Shishah (2021) found that Madrasati needs improvements from the teachers' point of view, particularly its navigation. Furthermore, Ospina et al. (2021) suggested that it would be great if Madrasati had features that allowed teachers to communicate with each other.

In addition, students' skills developed because they gained a positive attitude towards e-learning after their Madrasati experience (Al-Sarhani & Al-Anzi, 2022). This notion contradicts Althubaiti's (2022) study that found a lack of competition among students on the Madrasati platform. O'Keefe et al. (2020a) indicated that the main areas that SA must improve are technology (devices, internet access/reliability, and the ability of the infrastructure to support high-volume online education), online teaching and learning (communication, engagement, interaction, and feedback), assessment, and student support. However, the educational institute in SA successfully continued education without interruption for more than 6 million students during the COVID-19 pandemic by moving to online learning (Saudi Gazette, 2021, as cited in Ospina et al., 2021).

E-Learning is a strategic choice for the future. The Agency for Planning and Development of the MOE recommends that e-learning should be one of the methods to be adopted in accordance with the country's public education policy (MoE, 2021b). The MoE indicated that the Madrasati platform would be used in the future to provide electronic communication between educational staff, students, parents, and the community.

Many researchers advocate continuing the use of the Madrasati platform in the future after the pandemic (Alkinan et al., 2021) as blended learning (Alessa, 2022; AlWahhabi et al., 2022). However, the factors that encourage teachers to continue using the platform must be studied (Assiri et al., 2022). Assiri et al. (2022)

identified the factors that led teachers to continue using the platform after the pandemic and designed a conceptual framework for the intention to continue using Madrasati based on the basis of teachers' perceptions. Masmali and Alghamdi (2021) also identified factors that influence its acceptance and use intention.

As mentioned earlier, it is important to evaluate and investigate e-learning after the COVID-19 pandemic. Many organisations are encouraged to continue applying it in school. After an extensive literature search, no studies that explored the use of e-learning or blended learning after the pandemic were found. Studies on the use of the platform after the pandemic are limited (Assiri et al., 2022). However, it is important to investigate and apply studies that add thoughtful contemplation about e-learning, focusing on its use after the pandemic.

1.2 Research Problems and Outcomes

After approximately 2 years of teaching and learning online, teachers' experiences with online learning should be reviewed, and their use of e-learning in their teaching after going back to school must be investigated. Thus, the aim of this study was to examine teachers' use of e-learning after the COVID-19 pandemic and provide insight into the effective strategies they used in online teaching and how to maintain the benefits gained from this experience, if any.

The study determined the perspectives of high school digital skills teachers in Riyadh, SA. This study was conducted to answer the following questions:

- 1) How did teachers apply online learning after returning to school (face-to-face)?
- 2) What skills did the teachers acquire?
- 3) What skills did students develop after online learning?
- 4) What lessons were learned after online learning?

2. Method

As the aim of the present study was to explore e-learning in depth after using online learning throughout the pandemic, a qualitative approach was applied in a survey using the open-ended questionnaire method and focus group. Wellington (2000) indicated that "a survey is essentially a fact-finding mission" (p. 101). By using a survey method, the participants' anxieties were reduced. This method is appropriate for answering the question of how and, nevertheless, can be used to collect qualitative data (Wellington, 2000). Where in a focus group the power of the participants clears more (Cohen, Manion, & Morrison, 2007). "Focus groups can be a valuable tool, efficient for collecting data and sometimes giving insights" (Wellington, 2000, p. 127).

2.1 Participant

Before this study was conducted, approval was obtained from the research ethics committee of King Saud University (No: KSU-HE-23-257). This study was conducted in Riyadh, SA, using a snowball sampling technique to select the participants from among digital skills teachers. Fifteen digital skills teachers agreed to participate in this study by providing informed consent. Six of them agree to participate in the focus group.

2.2 Data Collection and Analysis

Data were collected from 15 study participants. An electronic survey was developed using Google Forms and sent electronically to the participants. After collecting data from the participants' questionnaire responses, the data collected was exported to a software application. The participants' answers were categorised according to the survey questions. Where the focus group session was conducted on the university campus. The participants discussed their use of online learning after the pandemic in one session. The environment was set up to help every participant have an equal chance to participate in the discussion. They were given the topic of the session to reflect on it. I supervised the session to keep the discussion going and focused on the main topic and gave them a space and freedom to express/ expand and questions each other. After obtaining their permission the session was recorded. The transcript of the session was sent to the participants to review, then it was exported with the result of the survey data.

2.3 Trustworthiness/Authenticity

Trustworthiness and authenticity in qualitative research are equivalent to the validity and reliability found in quantitative research (Lincoln & Guba, 1985, cited in Wellington, 2000).

Using triangulation-more than one method used- in qualitative researches increases the accuracy and validity of the research (Cohen et al., 2007; Wellington, 2000), so in this research I used survey and focus groups for accuracy and validity. Moreover, the research procedures – data collections and analysis – were described in detail which increased the transferability of the study.

2.4 Analysis

The data collected was then analysed, which is commonly performed in qualitative studies (Chamberlain et al., 2004, as cited in Vaismoradi et al., 2013). To achieve the study objectives, a thematic analysis was performed to identify the patterns that emerged from the text. First, the data was exported to the software and organised according to the questions. Then, the qualitative data was read without analysing it to get a sense of what it revealed. After that, coding and extracting meaningful insights were initiated, followed by organising the data and identifying themes from the data.

Inductive coding was applied while analysing the data, which were used as the basis for the codes created. While reading through the data, the codes emerged directly from the data and were labelled. The data was analysed until a saturation point was reached at which point no new themes emerged. After that, the code was organised and structured around the research questions. The data was collected in the Arabic language and analysed in the original language to prevent misunderstanding the meaning through the translation. Then, quotes used to report the findings were translated. The present researcher performed coding and analysis. I categorised codes as one theme, such as communication, if they were related to each other or as a separate theme, such as homework, which will be explained in detail in the next sections.

3. Results

This study examined digital teachers' use of e-learning on the Madrasati platform after around 2 years of using online learning during the pandemic and going back to face-to-face learning. The study findings show four dimensions of the participants' experiences after the pandemic, based on the following research questions:

- 1) How did teachers apply online learning after returning to school (face-to-face)?
- 2) What skills did the teachers acquire?
- 3) What skills did students develop after online learning?
- 4) What lessons were learned after online learning?

The dimensions and related themes are illustrated in Table 1. In the following paragraphs, an additional explanation is presented for each dimension in detail.

Table 1. Dimensions and related themes

Dimensions	Themes
How did teachers apply online learning after returning to school (face-to-face)	Blended learning:
	1. Virtual lessons. Absent or weak students, references, and additional lessons
	2. Homework
	3. Activities such as teamwork, participation and collaboration, discussions, and sharing
	4. Tests
	5. Enriching materials
	6. Electronic books
	7. Enhancing and motivating students
	Communication:
	8. Communication with parents
	9. Follow-up and communication with students
Skills the teachers acquired	10. Communication with experts and exchange of experiences
	11. Distance courses
	Development of the following skills:
	1. Technological skills
	2. Teaching skills
Skills the students developed	3. Teaching using technological skills
	4. Developing on a personal level
	5. Knowledge of the students' skills
	1. High level of digital skills
	2. Using technology in their education
Lessons learned from online learning	3. Self-learning
	4. Fast adaptation and rapid learning
	5. Commitment to the rules of digital behaviour
	1. Expand teachers' knowledge of technology and education
	2. Use applications that support the educational process
	3. Open to new pedagogical strategies and technologies
4. Open to active learning and applying more activities in their lessons	
5. Guide students in developing technical skills in education	
6. An enriching experience	

The most important dimension is *How teachers applied online learning after going back to school (face-to-face)*. The data showed that the participants tended to use the platform as blended learning. They presented virtual lessons for students who could not attend school for any reason or as a reference, and they uploaded additional lessons that could not be taken at school. One respondent noted that they '(give students) *virtual lessons on the "Madrasati" platform for some lessons that take a long time*'. Another teacher said that they '*gave them (at "Madrasati") some of the theoretical lessons*'.

In addition, according to digital skills teachers, they used the platform to assign and submit homework and guide their students to complete several activities online, including teamwork, participation and collaboration, discussions, and sharing. One participant revealed '*using the platform for homework and sending some activities on the platform and the student can see it later at home*'. According to other teachers, they use the platform to '*upload their project and discussions about it*'.

In addition, the teachers used the Madrasati platform for online tests and uploading enriching materials. They also utilised electronic books within the platform. Some participants mentioned that they used the platform to enhance and motivate their students.

Moreover, the participants tended to believe that the platform is an excellent tool to communicate, where they follow up with their students, communicate with them, and communicate with their parents. In addition, teachers communicated with experts and exchanged experiences during and after the pandemic. They also tended to believe that it is a good service for distance courses, so they attended online classes to improve and develop their skills. One teacher summarised her use of the platform after the pandemic for the following purposes: '*homework, activities, tests, enrichment, motivate students, communicate with parents, follow-up with students and communicate with them, and (give) extra classes*'.

In the *teachers' acquired skills* dimension, the participants believed that their skills were improved and developed after using online learning during the pandemic. One important skill set they developed was technology skills. They also indicated that their teaching skills improved and that they developed skills in teaching using technology. One teacher said, '*I learned new tools and strategies related to technologies*.' Along the same lines, another said, '*I become more skilful to use interactive applications*.' One participant shared that she '(looks) *for new technology that enriches the class and increases the students' involvement*'.

Finally, the teachers observed that through their experience with online teaching, they developed skills on a personal level, such as patience and organisation. In addition, this experience allowed them to know their students and discover their skills. One teacher summarised the skills she developed as follows:

It developed my teaching and technical skills and expanded my horizons to balance achieving learning goals and adapting my teaching practices to the digital development taking place... based on scientific practices that help integrate technology into education.

Furthermore, the findings show that the digital skills teachers discovered that their students acquired high digital skills and used these skills in their education, such as in searching the internet about their activities. In addition, the teachers believed that their students had high self-learning skills. According to some teachers, their students' ability to learn by themselves improved. Another teacher observed that '*students' creativity in designing and presenting their works using design programs*' was enhanced'. One teacher also observed that students learned how to use '*technology programmes and digital devices with high proficiency*'. One teacher also commented on her students' skills after using online learning as follows: '*The students' attitudes towards learning improved, as well as their academic achievement increased, their interaction and passion increased during the class, and their positive use of technology increased... I did not expect these high technology skills from the students*'.

In addition, the participants agreed that their students had fast online adaptation and rapid learning. One participant indicated that '*the students' adaptation was fast to distance education through the "Madrasati" platform, and they explored its tools and features easily*'.

Moreover, the students surprised their teachers with their commitment to the rules of digital behaviour (digital citizens). One teacher mentioned that '*their commitment to the rules of digital behaviour applied in the virtual classes, as well as indicating the source of any information that was quoted*'.

The most important finding is the teachers' perception after online experience, they described their experiences as enriching Figure 1 summaries of their experiences findings. They learned important lessons and realised that they should expand their knowledge of technology and education. In fact, one participant claimed, '*always seeking awareness of the developments in technology that could be applied in education*'.

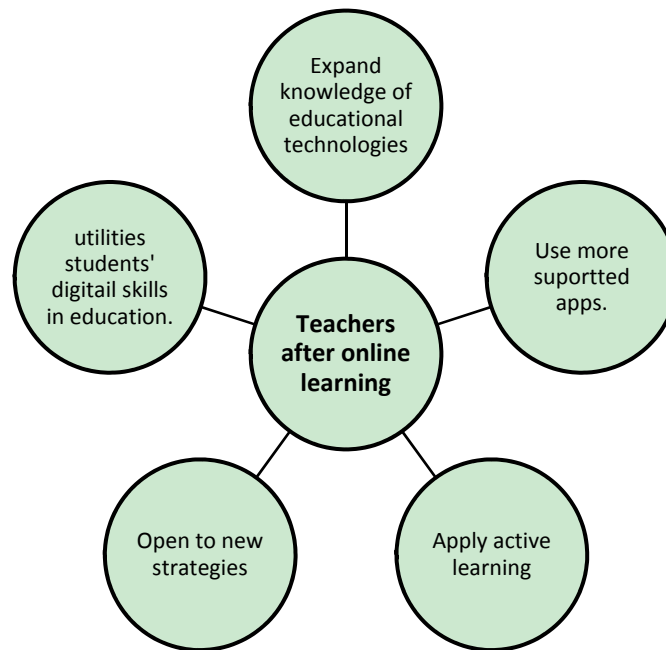


Figure 1. Teachers experience after online learning

The teachers believed that they should use applications that support the educational process and open their minds to new pedagogical strategies and educational technologies. They should also be open to active learning and utilise new activities in their lessons. One participant indicated using *'educational technology in teaching, especially interactive activities'*.

The teachers agreed that as their students acquired more digital skills, they developed a positive attitude towards the platform and its suitability for all students, as it considered individual differences. Therefore, they believed that they should utilise students' technical skills in education. One teacher said, *'I realise the superiority of this generation over their teacher in the use of technology... It is my responsibility to direct these capabilities and skills.'* They agreed that it was an enriching experience for students, parents, and all school members.

4. Discussion

The present study found that teachers continue to use e-learning as blended learning and as a communication tool, as recommended by many organisations and scholars, with consideration of students', parents', and teachers' perceptions and school members' agreements (MoE, 2021b). Several factors could lead to the use of e-learning, one of which is a result of teachers' preparation programme (Mann et al., 2020). Another factor could be the support they received while using the platform during the pandemic. During the pandemic, the MoE (2021b) provided online workshops, live training, and open IT support 24/7 to assist teachers/students in using the platform for online learning. Moreover, it is possible that teachers have a positive attitude towards the platform, as studies have found that teachers believe that 'Madrasati' is useful and important for learning (Alqahtani, 2022; Masmali & Alghamdi, 2021; Omar & Al-Nafaie, 2022). Furthermore, the teachers perceived 'Madrasati' as an effective tool for facilitating education (Alubthane, 2021) and were satisfied with using it (Al-Thumali, 2021).

Consistent with previous studies (Aladsani et al., 2022; Al-Hazmi et al., 2022; O'Keefe et al., 2020a), this study found that the teachers gained much experience and skills after online learning. The teachers' abilities to utilise technology and to teach and integrate teaching with technology skills were developed and improved. Even their personal skills, along with those of their students, were developed through using of the platform (Alqahtani, 2022). The development of these skills could be due to the courses they attended or the community they joined to help each other during the pandemic. In addition, the participants were digital skills teachers who had mastered several digital skills that helped them gain new technologies and teaching skills. This result is consistent with Alqahtani's (2022) finding that teachers' digital skills improved while using the platform.

Furthermore, the teachers discovered that their students had the skills needed to learn with technology. The teacher observed that their students had been exhibiting the characteristics of the digital generation since ages 15–19 years and were digital natives who had the skills needed to keep up with Generation Z. They have

effective communication skills, learn independently, have a sense of ethics and responsibility, demonstrate teamwork and flexibility, have digital skills, and multi-task (Csobanka, 2016; William, 2019).

However, before the pandemic, schools did not utilise students' digital skills in education, as argued in a previous study (Alalwani, 2022). After the pandemic, the teachers discovered their students' digital skills and believed that they should utilise their students' digital skills in education. In addition, they believed that they should focus on student-centred learning. This result is consistent with the recommendations of Aladsani et al. (2022) that education with blended learning should consider students' digital skills in teaching and update the education system to meet the blended learning requirement. It should also consider the importance of knowing how this generation thinks, studies, and utilises their skills in school (Csobanka, 2016). This case is an essential issue that should be raised and considered in teachers' training.

However, the teachers believed that their experience during the pandemic opened opportunities that they should benefit from and utilise in their teaching practice. They found a need to develop their skills, particularly teaching with technology. This result is consistent with previous findings, particularly on the lack of skills in teaching with technologies, especially e-assessments (Alalwani, 2022; Alessa, 2022). This implies the need for training teachers in how to teach and assess e-learning (Aladsani et al., 2022; Aldossry, 2021). This notion is consistent with many researchers' recommendations concerning the need to support teachers with strategies and technology for e-learning (Alessa, 2022; Al-Thaqafi, 2022).

Finally, I argue that there were many factors that imply the continuity of using e-learning in education. I summarize these factors in Figure 2.

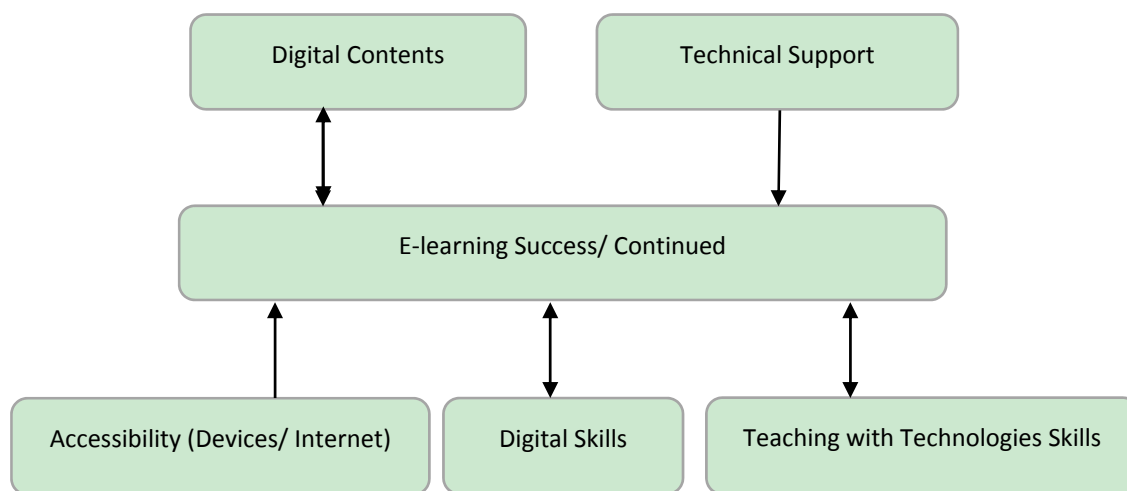


Figure 2. Factors for success in E-learning

The most important of which are technical support and accessibility. As digital contents, digital skills (teachers/students), and teaching with technologies skills can be developed gradually while e-learning.

5. Conclusion

In this study, digital skills teachers' use of e-learning after going back to school was investigated and discussed. Online learning during the pandemic was successful, with considerable achievements in educational aspects, particularly those pertaining to teachers and students. This experience encapsulated and reduced many years of training in online learning. All education members engaged in this experience and learned several skills. The present study supports the claim of Ospina et al. (2021) that the pandemic prompted the education system towards improvements.

Consequently, the e-learning experience described herein reflects education after the pandemic, as this study examined the implication and clarified the situation of education after the e-learning experience. E-Learning in the case of SA was improved, and teachers used blended learning and utilised digital platforms for education after the pandemic. Moreover, the teachers and their students developed and improved many skills. Main of which the teachers became aware of the need for new strategies and educational technologies to meet their students' needs. This paper argues that to continue using e-learning in education, e-learning must offer more than

just a digital platform.

It is important to attribute the success of the continuous use of e-learning in this case to many factors. One factor is the preparedness of education institutions for e-learning, with the support of the MoE, which has encouraged and advocated the application of technology in education and proposed many projects to enhance e-learning. In addition, in-service training programmes were established, the teachers showed good preparation, and the students were digital natives. However, e-learning could not be completely applied in the classroom until the pandemic. During the pandemic, e-courses and training programmes on e-learning were offered to all education members, and communities and organisations collaborated to address the lack of devices and internet connection. After the pandemic, both the teachers and students developed a positive attitude towards e-learning. These factors help teachers continue using e-learning.

Some pedagogical implications can be advocated for teachers to participate in e-communities of practice and e-courses to explore new educational technologies and strategies for teaching with technology. The most important recommendation of this study is that teachers should support and assist students in using their digital skills in education and create more e-activities using technologies. In addition, education scholars should explore new strategies for blended learning and e-learning. Decision-making in education should ensure that these benefits remain available for both teachers and students and are further enhanced.

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Data availability statement

The data that support the findings of this study are available on request from the corresponding author. The data are not publicly available due to privacy or ethical restrictions.

Data sharing statement

No additional data are available.

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