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Teachers' technological competencies and challenges of using google classroom during emergency remote teaching

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Abstract

The study focuses on the competencies and challenges of using the Google Classroom platform in Emergency Remote Teaching (ERT) during the Covid 19 pandemic. The study followed a descriptive research design where two hundred and ten teachers responded to a questionnaire containing three categories: teachers' competencies, challenges faced by teachers, and teachers' attitudes. The findings showed that the teachers' competency in using the Google Classroom platform was at a high degree, with results middling when regarding the challenges faced by teachers using Google Classroom. There were no statistically relevant differences at the level of significance ($\alpha \leq 0.05$) in the competencies of teachers' use of the Google Classroom due to the variables of gender and work experience. Teachers' attitudes about using Google classroom were high. However, the results indicate a need for conducting effective training for teachers to overcome certain challenges. In addition, there is a requirement to provide the infrastructure for communication networks and consistent Internet access, while also providing alternative assessment methods.

Keywords: Google Classroom, Competencies, COVID-19, Emergency Remote Teaching

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1. Introduction

Since the World Health Organisation announced a public health emergency due to the emergence of Coronavirus disease (COVID-19) in December 2019 (Kreidl et al., 2020), a state of emergency has been declared on a large international scale to confront the rapid spread of the virus. This called for preventive measures to be taken by all sectors to avoid its spread. It tested the education sector's readiness, flexibility, and adaptability in responding to this global emergency (Osman, 2020).

To prevent the spread of the virus among school students, the Ministry of Education (MOE) in Oman decided to cancel face-to-face classes in government and private schools (except for international schools applying for international qualification programs in grades 10–12) and required teachers to move their classes online (Osman, 2020). Thus, schools have shifted to Emergency Remote Teaching (ERT) to ensure that instruction continues.

ERT during COVID 19 demanded that the MOE must quickly shift from face-to-face to online instruction, which required changing the teaching methods and resources to adapt them for distance education (Iglesias-Pradas et al., 2021). According to AlKharousi and Al Aamri (2020), distance education is one of the types of e-learning in which content is presented differently from what the teacher provides inside the classroom, and this is done by employing modern online technologies.

Unlike Online learning, which is a well-designed, organised process, ERT entails a rapid and usually unplanned shift to online instruction. The ultimate goal of ERT is to give rapid and reliable access to education and instructional aids during an emergency or crisis (Hodges et al., 2020).

The threat of the COVID-19 pandemic has presented some unique challenges for the educational sector. All parties involved in ERT from students, and teachers, to staff, and parents, are asked to do extraordinary things regarding course delivery and learning (Hodges et al., 2020; Iglesias-Pradas et al., 2021). The pandemic exposed a significant gap in teacher preparation and ERT training, including technology teaching (Trust et al., 2020).

Technology use among teachers has increased as a result of the ERT reaction to COVID-19. However, for a digital transformation of education, educators' technological skills and competencies need to be improved. The MOE in Oman has assisted teachers with training programs and workshops to use different educational platforms and technological tools to ensure that they master the essential mechanical skills and competencies to ensure the continuity of learning for students at a distance during ERT. However, the short training program period and the lack of or weak prior technological experience of some teachers in dealing with modern technology tools and platforms in instruction led to the emergence of some challenges in using such educational platforms. Also, the researchers noticed these changes while interacting with their colleagues. It was significantly noticeable that some teachers lacked the technological competencies to execute lessons effectively during ERT sessions.

1.1. Conceptual and Theoretical Framework

Technology is derived from the word scientific knowledge (Kosimov et al., 2021). Technology skilled person has a set of knowledge, including production tools and procedures to improve the quality of the processed material (Foulger et al., 2017; Kosimov et al., 2021). According to Kosimov et al. (2021) competency is having a clear understanding of the job, its purpose, the methods and means to attain the goals, and the necessary skills and abilities to complete these goals. Competence develops from an education approach that is competency-based. Educators who can implement successful instructional strategies and activities are considered competent in this approach (Anzari et al., 2021; Kosimov et al., 2021; Perifanou et al., 2021; Wang & Lu, 2021).

Strong technological competencies in eLearning are necessary. The advantages of possessing technological competencies extend far beyond the learning and teaching in the normal situations. Technological innovations are rapidly altering learning and teaching methodologies, necessitating teachers to take the lead with technology to support their teaching. These innovations involve not only the availability of numerous digital gadgets, but also a greater emphasis on teaching instructors to use technology effectively to succeed professionally (Wang & Lu, 2021).

2. Related Research

2.1. Google Classroom Platform

Teachers have utilised many educational platforms during ERT, such as Google Classroom, Microsoft Teams, and Blackboard. Google Classroom is a new tool introduced through Google Apps for Education in 2014. The MOE has adopted it into two schools (grades 5-10) and post-basic education schools (grades 11-12) with teachers utilising it to improve their workflow and learning delivery during ERT. Fitriningtiyas et al. (2019) described Google Classroom as a free web-based platform and popular class management application. It provides powerful features that make it ideal to be used with students since it offers an online ERT environment for preparing a lesson, distributing content materials, and designing an evaluation (Amin & Sundari, 2020). In addition, Google Classroom helps teachers save time, keep classrooms organized, and improve communication between students and teachers via its simple interface (Fitriningtiyas et al., 2019; Iftakhar, 2016).

Many studies have investigated Google Classroom's effectiveness and revealed that it increased student participation and learning and improved classroom dynamics (Heggart & Yoo, 2018). Also, it was found that the Google Classroom platform was effective for uploading assignments, classroom management, and interaction between students and teachers (Azhar & Iqbal, 2018), and it worked as a facilitator for developing students' learning activities (Al-Maroof & Al-Emran, 2018).

Besides its features and effectiveness, Google Classroom has been a suitable alternative for teachers to ensure that what used to be delivered face-to-face before COVID 19 can now be delivered synchronously or asynchronously during ERT. Therefore, an investigation of teachers' perspectives on using the Google Classroom platform during ERT may reveal new opportunities and challenges for teaching and learning that need to be considered by teachers.

2.2. Teacher Technology Competencies

COVID-19 confronted teachers, students, and parents in Oman with unprecedented challenges. The closing of schools due to the COVID-19 pandemic seemed to shock the educational system, with many teachers scrambling to figure out how to shift their pedagogy to ERT (Hodges et al., 2020). Facing a sudden shift from face-to-face to ERT mode, teachers engaged students in synchronous and asynchronous learning environments with noticeable variations in technological access, parental support, and academic expectations (Whittle et al., 2020). However, to ensure continuity of learning during the ERT era, teachers must be confident users of technology (Hodges et al., 2020). Foulger et al. (2017) identified thirteen teacher technology competencies which are summarized here:

1. Create content-specific technology-assisted instruction to improve teaching and learning.
2. Utilise pedagogical techniques that educate teacher candidates to use technology successfully.
3. Assist teacher candidates in developing their knowledge, abilities, and attitudes relevant to teaching using technology in their topic area.

4. Make use of internet resources to improve teaching and learning.
5. Use technology to differentiate instruction to cater to a variety of learning styles.
6. Assess using suitable technological tools.
7. Teach online and/or blended/hybrid learning contexts using effective techniques.
8. Use technology to communicate with people from different countries and cultures worldwide.
9. Discuss how to use technology in education in a legal, ethical, and socially acceptable manner.
10. Continue your professional growth and networking efforts.
11. Increase the use of technology in the classroom.
12. Assume leadership roles and advocate for the use of technology.
13. Resolve technical difficulties with fundamental troubleshooting abilities.

Whether implementing synchronous or asynchronous ERT, teacher technology competencies entail essential technical skills teachers need to acquire so that the teaching and learning process during ERT achieves what face-to-face teaching and learning used to achieve. It is argued that having ongoing training and professional development programs can support teachers who have a low level of technological competencies to deal with the unplanned shift to ERT. Such programs can reinforce teachers who have a medium or high level of technological competencies to deliver classes using effective strategies and utilise various educational applications in instruction to meet learning objectives and students' learning styles (Anzari et al., 2021).

2.3. Challenges during Emergency Remote Teaching

Due to the COVID-19 pandemic, institutions all over the globe are implementing ERT since online education is difficult to adopt because a comprehensive online curriculum needs to provide excellent education through different delivery methods (Toquero, 2021). ERT refers to the use of totally remote teaching solutions for teaching that would ordinarily be given face-to-face, blended, or hybrid, and that will revert to that mode once the crisis or emergency has passed (Hodges et al., 2020). It differs from pre-designed online learning in that ERT offers a rapidly developed learning environment as temporary instructional support using the available resources or infrastructure (Hodges et al., 2020; Alasmari, 2021). ERT is a temporary response to an emergency or crisis, yet it is a required mode of instruction. In contrast, online instruction is a choice that gives long-term and permanent answers within the context of lifelong learning (Bozkurt & Sharma, 2020).

However, long live sessions, overloaded assignments, time management, the ineffectiveness of some courses, lack of practice, lack of variety in teaching methods, lack of interaction, unreliable online exam results, various learning styles, feedback, and assessment are some of the pedagogical challenges that teachers and students face during ERT (Atmojo & Nugroho, 2020; Özüdo, 2021; Perifanou et al., 2021). Whereas some teachers were already comfortable with using digital technologies in or out of the classroom for teaching, the rapid transition to ERT displayed an unprecedented challenge for many teachers. Technological challenges during ERT include access to technology, time constraints, working space, privacy issues, lack of learning materials, absent or limited internet connection, lack of

technological equipment, and students' and instructors' low digital literacy (Al Badi et al., 2020; Atmojo & Nugroho, 2020; Özüdo, 2021; Sunasee, 2020).

In addition, ERT caused some emotional and social challenges, including lack of face-to-face interaction, emotional support, and poor attendance (Özüdo, 2021). During ERT, several teachers found that building the teacher-student emotional relationship process difficult. Online learning does not allow personal contact or engagement (Atmojo & Nugroho, 2020). In addition, there are other challenges, including the availability of libraries, having to buy many books and gadgets, and an inappropriate home environment (Huang & Hong, 2016; Özüdo, 2021). Thus, the researchers can categorize four main challenges related to teaching during ERT. These challenges are pedagogical challenges, technological challenges, institutional challenges, and emotional and social challenges.

3. Purpose of the Study

Given the COVID-19 pandemic and MOE policy to carry out ERT with students and teachers working separately from each other, this research aimed to investigate the technological competencies of teachers while using "Google Classroom" as a learning platform during COVID 19 pandemic. It also aimed to shed light on the main challenges they face during the implementation of ERT via Google Classroom platform, and to explore their attitudes towards using educational platforms after ERT. The following research questions guided this study:

1. What is the level of teachers' technological competencies in using the Google Classroom platform during ERT?
2. Are there any statistically significant differences at the level of ($\alpha \leq 0.05$) in the teachers' technological competencies in using the Google Classroom platform during ERT based on their gender and work experience?
3. What challenges did teachers face while using the Google Classroom platform in ERT during COVID19?
4. What are the teachers' attitudes towards using educational platforms after ERT?

4. Method and Materials

4.1. Research design

The study followed an analytical descriptive research design to achieve its objectives because it accurately and systematically describes a population, situation, or phenomenon. Descriptive research is obtaining data on occurrences, then organizing, tabulating, depicting, and describing the information gathered.

4.2. Data collection

The researchers adopted a questionnaire for data collection. Based on the literature review, the researchers designed a questionnaire that measures teachers' competencies using the Google Classroom platform in light of the study's questions and objectives. It consisted of three categories: teachers' technological competencies in using the Google Classroom platform, which contained 22 statements, the challenges of using the Google Classroom platform, which contained 14 statements, and teachers' attitudes toward using the platforms after the end of the COVID-19 pandemic which included five statements. Besides the virtual meetings held by the researchers to build the questionnaire, researchers presented the tool to a group of referees from Sultan Qaboos University (three academics) and the Ministry of Education (five teachers) to ensure the clarity of the statements

and their relevance to the categories so that the validity of the tool's content could be verified. The comments and feedback of the referees were used to amend the wording of some of the statements.

To ensure the reliability of the study instrument, it was applied to (20) teachers from outside the sample of this study. The researchers analysed the data gathered and calculated the correlation coefficient for the questionnaire categories to ensure that each item had a high correlation. Besides, a Cronbach's alpha (α) was calculated for the questionnaire's overall categories to ensure its internal reliability. The result was (0.892), indicating a high internal reliability level. Table 1 shows the internal consistency coefficient according to Cronbach's alpha equation for each category and the overall instrument. These values were considered appropriate for this study.

Table 1. *The Internal Consistency Coefficient: Cronbach's Alpha*

Category	Cronbach's Alpha
1. Teachers' technological competencies in using the google classroom platform.	0.976
2. Challenges of using the Google classroom platform.	0.911
3. Teachers' attitudes toward using educational platforms after COVID 19 pandemic.	0.849
Total	0.89

4.3. Sample

The study population included all teachers from two school sectors (grades 5-10) and post-basic schools (grades 11 and 12) from the public school system in Oman. A random sample of 210 teachers voluntarily participated in this study. The researchers included a brief overview of the research aims and questions in the questionnaire's opening section, while also ensuring participant anonymity and data confidentiality. Before completing the online questionnaire, participants agreed voluntary participation by ticking a box that stated, "I have read and understand the preceding information and agree willingly to participate in this study. I am aware that I have the option to withdraw at any moment". Table 2 represents the sample distributed according to gender and years of experience.

Table 2. *Frequencies and Percentages According to the Variables of the Study*

	Categories	Frequency	Percentage
Gender	Male	95	45
	Female	115	55
Years of experience	10 years or less	64	30.5
	11-16 years	95	45.2
	17 or more	51	24.3
Total		210	100

4.4. Data analysis

Statistical Package for the Social Sciences (SPSS 21) software was used to analyse the collected data statistically. Descriptive statistics of means and standard deviations were used for statistical analysis to determine the teachers' technology competencies, challenges, and attitudes. Additionally, an analysis of variance (ANOVA) test was used to verify if any significant differences between the teachers' technological competencies in using the Google Classroom platform related to the gender and years of experience variables. The five-point Likert scale was adopted, giving each statement one score out of its five degrees (very high, high, medium, low, very low), which is represented numerically (5, 4, 3, 2, 1)

respectively. The data was re-categorized under the scale of 1 – 5/5 (1.00 – 1.8 = very low, 1.8 – 2.6 = low, 2.61 – 3.4 = medium, 3.41 – 4.2 = high, 4.21 – 5.0 = very high). This in turn, helps to manage outliers on a particular statement and appears accommodative since it observes a meaningful range. The following scale has been adopted to analyse and interpret the data results:

Very low	1-1.8
low	1.8-2.6
Medium	2.61-3.4
High	3.41-4.2
Very high	4.21-5

5. Results and discussion

5.1. Results of Research Question 1

The first research question was what is the level of teachers' technological competencies in using the Google classroom platform during ERT? To answer this question, means and standard deviations of teachers' technological competencies using the google classroom platform were extracted. Table (3) shows the results.

Table 3. *Means And Standard Deviations of Teachers' Technological Competencies in Using Google Classroom Platform.*

No.	Statement	Mean	Std. deviation	Level
1	I can add or invite students and teachers to my virtual classroom.	4.38	1.01	Very High
2	I can access the Google Classroom platform easily.	4.35	1.05	Very High
3	I can add a post for my students on the stream tab.	4.33	1.01	Very High
4	I can re-use a post I previously posted in the class on the assignment tab.	4.24	1.07	Very High
5	I can create an assignment with a deadline on the homework tab.	4.23	1.08	Very High
6	I can add instructional materials on the classwork tab.	4.21	1.05	Very High
6	I can direct questions to my students using the question feature on the homework tab.	4.21	0.97	Very High
8	I can create a quiz on the platform.	4.12	1.15	High
9	I can sequentially organize the educational materials within the platform.	4.08	1.10	High
10	I can divide the scores into categories on the platform.	3.94	1.23	High
11	I can interact with my students on the platform and provide feedback by responding to their posts and comments.	3.93	1.17	High
12	I can choose the appropriate communication strategy that suits the lesson within the platform (synchronous or asynchronous).	3.89	1.17	High

13	I can easily assess students' assignments and homework on the platform.	3.86	1.17	High
14	I can deal with a large number of students in one session on the platform	3.78	1.07	High
15	I can create interactive e-learning content.	3.77	1.21	High
16	I can interact with the platform from the phone and tablet device smoothly and in a way that serves the educational process.	3.73	1.22	High
17	I can create interactive activities and employ different educational applications such as Jamboard, WordWall, Kahoot, etc.	3.65	1.22	High
18	I can identify the platform's capabilities and how to make the most of it in the teaching and learning process.	3.59	1.19	High
19	I can deal with minor technical issues that I encounter while using the educational platform.	3.51	1.19	High
20	I can help my students when they have technical problems or refer them to a professional/technician to solve the problem	3.41	1.26	High
21	I can import scores from the platform into an external excel file.	3.39	1.38	Medium
22	I can divide students into groups on the platform to achieve educational goals.	3.01	1.35	Medium
	Total	3.89	0.92	High

Table 3 shows that the means ranged between 3.01 and 4.38. The overall mean score (M=3.89) represents teachers' high technological competencies in using the Google Classroom platform during ERT. Statement 1, "I can add or invite students and teachers to my virtual classroom" received the highest mean (M= 4.38), representing a very high technological competency. The researchers attributed this to the fact that it was the basic and first step that teachers should follow while creating a classroom on the platform. It was also attributed to the ease of addition and multiple methods of inviting others to join the classroom.

Statement 2 "I can access Google Classroom platform easily" received the second-highest mean (M= 4.35), representing a very high level of technological competencies. The researchers attributed this to the ease of access to the platform as it is one of Google's applications, which the majority used to use. The time this study took place was another reason because the study was applied at the beginning of the second semester of the implementation of the ERT.

However, statement 22, "I can divide students into groups on the platform to achieve educational goals" received the lowest mean (M= 3.01), representing a medium level of teachers' technological competencies in using Google Classroom during the ERT. The researchers attributed this to the lack of a direct and easy feature supporting and facilitating platform teamwork. However, some teachers resort to making subsidiary meetings for group work or assigning some activities to a group of students in the platform to enhance group work during learning.

Overall, the technological competency of the sampled teachers was high. Anzari et al. (2021) believed that having ongoing training and professional development programs can help teachers with low levels of technological competency deal with the unanticipated shift to ERT. Such programs can help teachers

with a medium or high degree of technological competency offer lessons using successful methods and use various educational apps in instruction to address learning objectives and students' learning styles.

In addition, the results obtained in this study support the technology competencies in other works (Foulger et al. 2017). The high technological competency level of the sampled teachers reflected some of these technological competencies such as dealing with technical issues and using internet resources and applications (Jamboard, WordWall, Kahoot). By incorporating more technology into the classroom, teachers can enhance teaching and learning.

5.2. Results of Research Question 2

The second research question was, are there any statistically significant differences at the level of ($\alpha \leq 0.05$) in teachers' technological competencies in using the Google Classroom platform during ERT due to their gender and work experience? To answer this question, means and standard deviations of teachers' technological competencies in using the Google classroom platform according to their gender and years of experience were extracted. Table 4 below shows the results.

Table 4. *Means and Standard Deviations of Teachers' Technological Competencies in Using Google Classroom According to their Gender and Years of Experience.*

		N	Mean	Std. deviation
Gender	Male	95	3.87	0.99
	Female	115	3.99	0.84
Years of experience	10 years or less	64	3.99	0.94
	11-16 years	95	3.83	0.86
	17 or more	51	3.87	0.99

Table 4 shows apparent variation in the means and standard deviations of the teachers' use of the Google Classroom platform due to gender and years of experience. A one-way analysis of variance was measured to show the significance of the statistical differences between the means of the gender and years of experience variables. Table 5 presents the results.

Table 5. *One-Way Analysis of Variance of the Impact of Gender and Years of Experience on the Technological Competencies of Teachers in Using Google Classroom.*

Variable		Sum of squares	df	Mean square	F	Sig.
Gender	Between groups	2.326	1	2.326	2.797	0.096
	Within groups	172.989	208	0.832		
Years of experience	Between groups	1.049	2	0.525	0.623	0.537
	Within groups	174.266	207	0.842		

Although years of teaching experience varied, it did not contribute to the technological competencies of the sample. Similarly, gender has not affected the technological competencies of teachers. This might be since ERT is a new teaching experience and all teachers were novice users of the platform. Also, it is evident from Table 5 that there are no statistically significant differences due to the variables of gender

and years of experience in the competencies of teachers' use of the Google Classroom platform. These findings also suggest that both male and female teachers use technologies for social purposes. However, the ERT enforced them to use these technologies for technical or training purposes.

5.3. Results of Research Question 3

The third research question was what challenges do teachers face while using the Google Classroom platform in ERT during COVID19? To answer this question, means and standard deviations of teachers' challenges in using the Google Classroom platform during ERT were extracted. Table 6 below shows the results.

Table 6. *Means and Standard Deviations of Teachers' Challenges in Using Google Classroom Platform.*

No.	Statement	Mean	Std. deviation	Level
1	The tests made via the platform do not reflect the real performance of the student.	4.32	1.03	Very High
2	I face difficulty making a reliable assessment for my students on the platform.	3.80	1.20	High
3	My students miss classes due to the lack of internet connection in their residential areas.	3.75	1.21	High
4	My students are not doing their homework on their own.	3.63	1.13	High
4	My students miss classes due to their families' financial conditions and inability to provide Internet or laptop/tablet devices.	3.63	1.21	High
5	The training I received to use the platform was not sufficient.	3.21	1.39	Medium
6	My students have limited technical skills to deal with the platform.	3.15	1.01	Medium
7	My students feel frustrated when they cannot express themselves on the platform.	3.10	1.08	Medium
8	I cannot assess my students through the platform using various assessment tools/ methods.	3.05	1.24	Medium
9	I can't keep students' attention and motivation during synchronous classes.	2.93	1.20	Medium
10	The level of interaction between my students on the platform and me is weak.	2.84	1.29	Medium
11	I am not familiar with teaching methods appropriate for Emergency Remote Teaching.	2.83	1.29	Medium
12	I am having trouble verifying my students' identities in synchronous classes.	2.78	1.37	Medium
13	I cannot achieve the lesson objectives within a specified time frame.	2.77	1.31	Medium
	Total	3.27	0.78	Medium

It is clear from Table 6 that the means ranged between (2.77-4.32). The overall mean score was (M=3.27), representing a medium level of teachers' challenges in using the Google Classroom platform during ERT. Statements 1, "The tests made via the platform do not reflect the real performance of the student" received the highest mean (M= 4.32), representing a very high level. The researchers attributed this to the fact that the tests on the platform do not contain smart control systems that prevent

cheating, so students can exit the test window and open any other materials that help them solve test questions and communicate with their colleagues during the test easily. Also, there is no guarantee to ensure that students attend classes and benefit from the content, reducing their use of the lesson notes.

Statement 2, "I face difficulty in making a reliable assessment for my students on the platform" received the second-highest mean (M= 3.80), representing a high level of challenge that teachers face during ERT. The researchers attributed this to the previous reason that the teacher is not sure that the students do their homework on their own, and the devices used by some students may not support some types of applications used in the assessment.

However, statement 13, "I cannot achieve the lesson objectives within a specified time frame" received the lowest mean (M= 2.77), representing a medium level of teachers' challenges in using Google Classroom during the ERT. The researchers attributed this to the synchronous class time being an hour. The teacher must take students' attendance at the beginning of the lesson, which causes a waste of time, in addition to the time that goes away due to the recurrence of technical problems and the slow response of students when asked questions and then instructing them to participate in the class. On the other hand, the time allocated to some synchronous classes is less than the asynchronous classes, which leads to the high load of presented content in the synchronous classes and the insufficiency of the class to finish the lesson learning objectives.

These findings suggest that pedagogical challenges (Atmojo & Nugroho, 2020; Özüdo, 2021; Perifanou et al., 2021) technological challenges (Al Badi et al., 2020; Atmojo & Nugroho, 2020; Özüdo, 2021; Sunasee, 2020), emotional and social challenges, (Özüdo, 2021) and institutional challenges are common among international contexts. ERT forced education systems worldwide to face these challenges and made policy makers, teachers, students and parents contribute to minimize these challenges.

5.4. Results of Research Question 4

The fourth research question was what are the teachers' attitudes towards using educational platforms after ERT? To answer this question, means and standard deviations of teachers' attitudes towards using the educational platform after ERT were extracted. Table 7 below shows the results.

Table 7. *Means and Standard Deviations of Teachers' Attitudes towards Using the Educational Platforms after ERT.*

No.	Statement	Mean	Std. deviation	Level
1	I will continue to develop my technological skills to enhance the educational process.	4.25	0.90	Very High
2	I have high confidence in using various technologies in the educational process.	4.07	1.01	High
3	I will continue using the technological skills I acquired during the Emergency Remote Teaching period with my students after returning to school.	4.03	1.03	High
4	My teaching style will be different from what it was after Emergency Remote Teaching	3.79	1.14	High
5	I will continue to use the educational platforms after Emergency Remote Teaching.	3.46	1.32	High
	Total	3.92	0.84	High

It is evident from Table 7 that teachers' attitudes regarding the use of platforms after the ERT reached a large degree, with a mean of (M=3.92). Statement 1, "I will continue to develop my technological skills to enhance the educational process" received the highest mean (M= 4.25), representing a very high level of teachers' attitude towards using educational platforms after ERT. The researchers attributed this to the fact that teachers believe in using platforms in the teaching and learning process and reach a high level of confidence in using them, so it is easy for them to keep using them.

The results suggest that ERT assisted teachers in developing their attitudes about teaching with technology in their subject area. High attitude towards technology means that teachers will act as facilitators in the classroom, and that students will shift from passive recipients of knowledge and skills to active participants in the teaching and learning process.

6. Conclusion and recommendations

The present research contributes to the literature on the educational technology context from teachers' perspectives. Although COVID 19 pandemic has created a real emergency in the educational system for teachers who used to teach face-to-face classes, it served as "an effective 'change agent' for promoting rapid adoption of e-learning in such classically change-resisting institutions" (Osman, 2020, p. 470). Teachers' technological competencies level represented a critical pillar of ERT. Despite the unplanned and sudden shift to ERT, Omani teachers could cope with the change and had a high technological competency level. However, many challenges emerged while shifting from face-to-face teaching to an ERT environment. Teachers dealt with many pedagogical, technical, institutional, emotional, and social challenges that urged them to deal with during ERT. These challenges inspired teachers to be reflective, open, creative, and adaptive to dynamic changes (Atmojo & Nugroho, 2020). On the bright side of ERT challenges, teachers were willing to continue using educational platforms for teaching and learning after ERT is over.

This paper has some implications for future practice. COVID-19 has rapidly affected teacher technological skills and altered their relationships with digital tools for teaching and learning. Despite the challenges, they have gained a variety of new experiences connected to using digital tools for ERT, on which future projects might be built.

To this end, the researchers recommend conducting effective training for teachers to overcome the challenges they faced while using the platform, and to provide tablets and personal computers for students with limited income. They also recommend providing the infrastructure for communication networks, and the Internet in various residential areas and inside schools to avoid relying on tests by having alternative assessment methods. Finally, they recommend adding features that support team learning on the educational platform.

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