The Covid-19 epidemic: teachers' responses to school closure in developing countries

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ABSTRACT

There is little research which explores middle school teachers' response to school closures in developing countries in times of crisis. This article presents a case study of Afghanistan, Libya and Palestine as developing countries which have suffered from violence for many years prior to the Covid-19 crisis. It focuses on how teachers in middle school responded to school closure to fight the spread of Covid-19. Twenty-two teachers from these countries participated in the study. Semi-structured interviews and three diverse focus group sessions were used to collect data and evidence. The study found that teachers developed their skills to use emerging technologies and design suitable digital content. Moreover, they built strong relationships with the local community to assume their responsibility in emergency remote learning (ERL) by establishing community centres for students from poor families. Assessing and engaging students were crucial issues in ERL which need more research in different contexts.

Introduction

The Covid-19 pandemic has negatively influenced the educational systems worldwide, causing the closure of both higher education institutions and schools in most countries in the world. According to a recent report from UNESCO (2020), over 1.9 billion students from more than 190 countries were forced to leave schools due to the pandemic. The closure of higher education institutions and schools does not only affect teachers, students and their families, but also has a comprehensive impact on society and the economy (Lindzon, 2020).

The transformation in teaching from face-to-face classes at schools and universities to emergency remote learning (ERL) during the pandemic has raised crucial economic and social issues. For example, the weaknesses of the Internet (Jordan, 2020), student debt (Mitchell & Jamerson, 2020), digital inequity and privacy (Khlaif & Salha, 2020), food insecurity (Turner & Kamenetz, 2020) and homelessness (Ngumbi, 2020) as well as housing (Barrett, 2020), access to childcare (Luscombe, 2020), health care (Feuer, 2020) and disability services (Cote, 2020).

Government restrictions were imposed in most countries around the world to minimise the number of infected people. Thus, people had to meet only in small groups and maintain social distancing, minimise face-to-face meeting and create online learning environments. Online learning is a familiar approach which has been used in crises like natural disasters or political conflicts (e.g., Ayebi-Arthur, 2017; Swartz et al., 2018). The case of Covid-19 has similar conditions to other crises,

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the only difference being that Covid-19 is a global disaster and its impact is still dominating all aspects of life, especially education.

As a result of the new government restrictions, different initiatives have been launched by governments and higher education institutions in developing countries to help teaching activities to continue. However, there were disagreements and ambiguity about how to teach, what to teach, the workload for teachers and students, and the teaching and learning environment for both teachers and students (Khlaif & Salha, 2020; Zhang et al., 2020). Both national and international efforts on a large scale were made to use Information and Communication Technologies position (ICT) to support the emergency; remote teaching and learning during the Covid-19 pandemic are emerging and evolving rapidly (Affouneh et al., 2020; Archambault & Borup, 2020). The right to education is confirmed by many international organisations such as the United Nations and UNESCO.

The World Health Organization (WHO) advises all countries to follow health and safety protocols to prevent the spread of Covid-19. As a result, traditional classroom learning and teaching were reviewed and replaced with virtual classrooms. This change aimed to follow the government restrictions to maintain social distance between students and teachers, and students among themselves. Moore et al. (2011) described online learning as using Internet networks with accessibility, connectivity, flexibility and the ability to generate various types of learning interactions.

The shift to online learning has been adapted in many countries as a response to the crisis, which has resulted in the shutdown of schools and universities for a period of time (Czerniewicz et al., 2019; Shraim & Khlaif, 2010; Traxler et al., 2019). The unplanned and sudden transition to online learning has imposed the use of new technologies that students are unfamiliar with, which has put a lot of pressure on teachers, students and parents (Khlaif & Salha, 2020).

The sudden change of teaching has driven teachers to use different tools and platforms that they were not prepared to use nor trained on. So, they did not know how to use technology and interact with students in an efficient way. Therefore, most teachers depended on themselves to learn how to use free platforms or social media channels. This has created the urgent need to decrease the digital gap and to overcome these challenges in online learning (Affouneh et al., 2020; Kazemi & Muzhary, 2020; McMahon et al., 2020).

Governments in countries worldwide, including developing countries, announced emergency lockdowns to fight the spread of Covid-19. As stated previously, schools and higher education institutions were temporarily closed; however, teachers have continued to communicate with students to provide revision of previous knowledge or to finish the current semester curriculum (Ministry of Education (Palestine), 2020). Nevertheless, education has not only been affected by the Covid-19 crisis; different factors such as instability and violence in many developing countries have also had a negative impact on education. For example, the educational system in Libya, Afghanistan and Palestine has been negatively impacted many times in the last 10 years due to the political situation (Czerniewicz et al., 2019; Shraim & Khlaif, 2010; Traxler et al., 2019).

Consequently, researchers believe that it is now more urgent than ever to consider flexible learning approaches such as online learning to meet the challenges faced by educational systems in developing countries. For example, the Palestinian education system has adapted this approach during the Covid-19 crisis. However, there has been concerns about the readiness of the Ministry of Education to provide the essential requirements for using technology in a manner that achieves inclusive and equitable quality education for all students and for all teaching topics at this urgent time. In addition, the Ministry has little experience in preparing teachers, parents and students to use online learning environments and to fully transform to online learning (Ministry of Education (Palestine), 2020).

In Afghanistan, the priority of the Ministry of Education while the schools were closed to stop the spread of Covid-19, was to provide both teachers and students with a safe and secure online learning environment that achieves equity and enables teenage girls to participate in online learning (Ministry of Education (Afghanistan), 2020). One of the challenges of technology integration in the Afghani context is the local culture as well as the infrastructure, which brings a huge challenge during the Covid-19 crisis (McMahon et al., 2020; Waseel & Yusof, 2019).

Libya, like Palestine and Afghanistan, is struggling from lack of stability and security because of the ongoing war in different cities. This has reflected negatively on the learning system due to school closures and destruction. During the Covid-19 crisis, the Libyan Ministry of Education requested teachers to attend online training sessions to prepare them for the transition to online learning; however, most teachers could not attend the training sessions because they lacked the proper infrastructure that was destroyed during the war (Diab & Elgahsh, 2020; Elgimati et al., 2021). School closures in response to the Covid-19 pandemic have shed a light on numerous issues affecting access to education, as well as broader socio-economic issues (UNESCO, 2020).

Different studies on online learning challenges were conducted in normal conditions before Covid-19 highlighting how online education was used to support the teaching and learning process (e.g., Assareh & Bidokht, 2011; Hadijah & Shalawati, 2017; Juliane et al., 2017; Quadri et al., 2017). However, most studies on online learning challenges were conducted in higher education institutions (e.g., Osman, 2018; Rabiee et al., 2013). This reflects the significance of studying teachers' responses during the Covid-19 pandemic and their challenges.

Based on the background and motivations described above, the study presented in this article mainly focuses on investigating how teachers have responded to school closures in teaching and communicating with students during the Covid-19 crisis in Libya, Afghanistan and Palestine as a case study of developing countries. Furthermore, the study tries to discover the initiatives created by teachers to enhance emergency remote teaching and to shed light on the challenges facing them regarding online learning while schools are closed. Three research questions are highlighted in the current study:

- How did Covid-19 influence the educational system in developing countries?
- What type of emerging technologies have teachers used in responding to the Covid-19 outbreak?
- How did the Covid-19 state of emergency lead to a change in the education system and cause a sustained increase in the mainstream adoption of online learning?

Literature review

School closures

In emergency situations such as severe weather conditions, natural disasters, damage to buildings and high level of illness, schools have to temporarily close, which could threaten children's right to education (UNESCO, 2020). School closures could negatively influence the continuity of education for all people including youth and disadvantaged children who tend to be the most affected.

International organisations such as UNESCO affirmed that school closure could also affect instruction time, which could impact learners' achievement as well as their educational performance (UNESCO, 2020). Economic development could decrease due to school closures as well as the productivity of families that could be influenced negatively. Shraim and Khlaif (2010) noted that school closures caused many families to spend a lot of money to provide their children with resources and enrichment activities as well as private lessons to fill the learning gaps; however, this has caused inequality of education for poorer families in particular.

Teaching in a crisis

During the Covid-19 crisis, many countries closed schools to limit the spread of the virus, whereas other countries such as Honduras and Romania left their education face to face (Owusu-Fordjour et al., 2020). Any crisis context needs new ways of thinking and new ways of teaching (Dube, 2020), and through crises, teachers should support their students to develop their competencies, skills and communication. During crises teachers also try to prepare students cognitively, emotionally and

practically to respond wisely, morally and skilfully (Comer, 2012). Thus, throughout the Covid-19 crisis, teachers have been implementing this by distance learning using various tools. Distance learning is an approach framed by many individual trials and practices created by teachers without any structural changes in the educational system (Bingham et al., 2018). Moreover, teachers have faced major challenges implementing online learning, for instance, digital inequality among students, poor and unsuitable content and instructional materials, the absence of support and training, and the issue of teaching quality (Rees & Seaton, 2011). Despite the unexpected, complex instructional circumstances due to the Covid-19 crisis, personal and small group initiatives have started to fill the educational gap to meet the essential needs of learners (Azevedo et al., 2020; Zhao, 2020). Teachers have found digital tools to deliver instructional materials to their students and organise communication within their classes (Kerres, 2020). Daniel (2020) clarified the role of teachers in student participation, as they made online appointments for students with needs or questions and created an asynchronous digital classroom to give students more space to learn. Johnson et al. (2020) suggested that teachers should use multiple strategies for teaching and learning, student engagement and evaluation that are focused on learning in a virtual environment during a crisis.

Teaching quality and teachers' readiness

The sudden change in the circumstances, and the transformation from face-to-face traditional learning to online learning, have highlighted the unreadiness of schools and teachers to adapt to change, which has forced them to look for alternative methods (Beng et al., 2020). Starkey (2019) has emphasised the importance of teachers' digital competence and its significance in the digital age. Teachers' digital and professional competences are key to success in online learning. Especially in crises (Pragholapati, 2020), learners' mental health should be considered and taken into consideration in online learning as students need attention and support because they might feel threatened and scared. Another challenge to teaching quality was seen by Khlaif and Salha (2020) as digital inequality could cause frustration among teachers and learners. It is very hard to provide the same digital opportunities to all teachers and students. Mohmmed (2020) noted that using a curriculum designed for face-to-face learning in emergency remote teaching is a major challenge for teachers. Many teachers used PowerPoint presentations, E-books and online materials instead of school textbooks to share knowledge with their students. Montgomerie et al. (2016) summarised the challenging factors to online teaching as personal, interpersonal and process factors.

Researchers believe that teachers' readiness and teaching quality are not separated or isolated from the institutional context. In crises, the lack of clarity of the institutional structure and policies is clear. Schools and teachers were left alone to continue their regular missions during the Covid-19 pandemic. Teachers responded with difficult experiences, unplanned lessons, asking and sharing ideas, Googling and searching for suitable materials, and supporting themselves and students.

Methodology

Researchers found that an exploratory research design was the most appropriate approach to reveal the significant and the best practices in response to school closures due to the Covid-19 outbreak. The exploratory research approach is a valuable approach to investigate a problem which is not clearly determined, through asking questions to create baseline information that can be used to establish future research (Jupp, 2006). The researchers used a qualitative approach for data collection, and different qualitative strategies were used including semi-structured interviews with teachers who have shown technological initiative to use ICT. Interviews enabled the researchers to hear about real-live experiences from practitioners which could enrich the data required for the research (Yin, 2003). In addition, three focus group sessions were conducted with teachers, with each focus group composed of seven to eight participants of diverse backgrounds. Furthermore, the researchers attended six different online teaching sessions.

Table 1. Participants' demographic information.

	Teachers	Afghanistan	Libya	Palestine
Semi-structured interviews	Male	3	4	3
	Female	4	3	5
Focus group				
I		3	2	3
II		2	3	3
III		2	2	2

The criteria to choose the participants in the study were: the participant has shown initiative to use technology for teaching online; they were teaching in middle school settings; they are willing to have his/her online classes observed; they are willing to participate in the interview and the focus group sessions; they have shown technological initiative to use ICT tools in e-learning to support their students; and they live in one of the developing countries Libya, Palestine or Afghanistan.

Participants

The participants of this study were 22 teachers (males and females) from different countries teaching different subjects. The teachers themselves decided whether to participate in the study or not as well as whether to participate in the focus group sessions. All participants from the three developing countries are teaching in middle school settings (5th–9th grade). The participants' teaching experience varied from 5 to 15 years in middle school settings. Table 1 provides demographic information about the participants in the semi-structured interviews and focus group sessions.

Context of the study

The context of the study was teachers teaching different topics in middle school settings in three developing countries which were Libya, Palestine and Afghanistan. The researchers chose these three countries for two reasons: first, these countries are instable, second, the educational system is negatively influenced by conflict and war. The first researcher is working as a distance education consultant and interactive digital content designer with non-profit organisations in both Libya and Afghanistan. He noticed some technological initiatives in these countries to overcome the challenges of violence and the Covid-19 crisis and its impact on education. These initiatives motivated him to form the team and start the research project in developing countries.

Data collection

Semi-structured interviews

The researchers conducted semi-structured online interviews for 25–40 minutes with 22 teachers from different countries with different backgrounds. The platforms Skype and Zoom were used to conduct the interviews. All the participants were asked to sign a consent form to record these interviews. Individual interviews provided an understanding of the lived experiences of the 22 participants on how they responded to school closures in their countries and their practices with using different online tools for educational purposes.

Focus group sessions

All the participants in the interview sessions took part in the focus group sessions. Therefore, three focus group sessions were organised over Zoom, and all these three sessions were recorded. The participants chose the suitable time for them to attend the sessions. Therefore, the participants were divided into three subgroups where each session has male and female participants from the three countries. All the

Table 2. Frequency of the tools and concepts reported by the participants in the interviews and focus group sessions.

Tools and concepts	Frequency	(%)
Emergency plan	85	8.74%
Digital equity	84	8.64%
Edmodo	82	8.44%
Zoom	80	8.23%
Microsoft Teams	80	8.23%
BigBlueButton	79	8.13%
Contact local community	79	8.13%
Learning new technology	75	7.72%
Professional development	75	7.72%
Google Classroom	70	7.20%
Digital privacy	68	7.00%
Supporting learners	65	6.69%
Moodle	50	5.14%

Note. The percentages represent the frequency of the tools and concepts reported by the participants in both the interviews and focus group sessions. Participants reported different tools and concepts many times.

sessions were organised after analysing the semi-structured interviews, and the prompts used in the sessions were generated from the teachers' speech in the interviews. All the interviews and the focus group sessions were audio-recorded after obtaining the participants' permission. Table 1 provides information about the participants in the focus group sessions from each country.

Data analysis

The researchers used thematic analysis in the data analysis process. Braun and Clarke (2006) defined thematic analysis as a qualitative analytic method for categorising, analysing and reporting patterns (themes) within data. The recorded files for both the semi-structured interviews and focus group sessions were transcribed. The transcription files were submitted to the participants to add or edit any additional information, but they did not change anything. Firstly, the researchers analysed the semi-structured interview data individually by reading the scripts line by line and analysing the data based on the ideas related to the research questions. Then, each researcher constructed the themes and subthemes which emerged from the data. The researchers met to discuss the themes and subthemes to achieve agreement on the final themes. The level of agreement among researchers in coding stood at 87%. The final themes and subthemes which emerged from interview data were used to analyse the data from the focus group sessions. Table 3 presents the themes and subthemes with examples from teachers' speech.

The researchers found out the most repeated words by the participants from the three countries. Table 2 represents the tools and concepts that were used frequently by the participants in the interviews and focus group sessions.

Findings

Impact of Covid-19 on the educational system

The following section reports on the data collected from interviews and focus group sessions on the impact of school closures on education and how teachers in developing countries responded to school closures.

In the three focus group sessions, all the participants noted that the educational system has been negatively impacted by Covid-19 due to the temporary school closures. 'It [coronavirus] deprived children from school, from social communication with their peers' (Teacher A4).

Table 3. Summary of the themes and subthemes with examples from teachers' speech.

Theme	Subtheme	Example
Impact of Covid-19 on education	School closure	Students did not attend schools
	Social life	Cannot go out and play with their peers
	Less support	Support from their teachers
Teachers' response to Covid-19 crisis	Using emerging technology	Edmodo, Interactive White Animation, YouTube
	Professional development	Attending online sessions and training
	Creating new content	Design and develop interactive content by using H5P, Google Classroom
Changes in education system during Covid-19 crisis	Emerging new technology	Easy and integrated simple tools together
	Enhancing relation with local communities	Create community learning centres
Digital inequity		Educational level, teaching topics

Some teachers reported that students in rural areas in Afghanistan and Libya have lost support and scaffolding from their teachers. On contrary, a female Palestinian teacher mentioned that students in rural areas got support from the local communities as some local communities in northern Palestine opened local community centres for students to attend online learning. Moreover, some communities were providing face-to-face teaching for high school students taking into consideration the health protocol issued by the Ministry of Health in Palestine. A female teacher (Teacher P3) from Palestine said that: 'In my village, the village council opened its doors to provide face-to-face teaching to high school students (Tawjihe)'[1]. A male teacher reported that the local community with a non-profit organisation opened a computer centre in the village for students who do not have Internet or devices at their homes to attend online learning (Teacher P6).

Some of the Afghani and Palestinian families asked for support for their children because they were unqualified to use technology. A female teacher from Afghanistan mentioned: 'Some families contacted me asking help to support their children because they do not know how to support them' (Teacher A2).

Participants ascertained that Covid-19 has not only influenced children's learning, but has also had a negative impact on different aspects of the children's lives such as social life, the right to play and the right to get support and scaffolding from their teachers. Five teachers agreed that teaching is a human aspect, and technology cannot compensate for this aspect. In addition, the five teachers agreed that Covid-19 influences students' social lives.

Five teachers agreed on considering teaching and learning as social and human aspects, as stated below.

Teachers from the three countries reported that children from lower-income families were more affected by school closures and especially during the weekends and summer holidays, which could influence their academic progress in schools. A male teacher from Libya asserted that 'most children from second class go to attend classes in the weekends and summer, but this has stopped because of corona' (Teacher L9).

Other reported that families from higher socio-economic backgrounds tend to spend more on their children's online learning during Covid-19 and are more likely to assist children's learning during school closures as they have better access to online learning.

Most of the participants (17 out 22 participants) agreed that students in middle and high schools were less affected by school closures in the three developing countries since they were able to cope with the challenges of school closure, as they have the school books and textbooks which enabled them to continue their studies with little support from their families and more academic and emotional support.

> According to me as a parent and a teacher, the most affected students of school closures were students in lower grades from first grade to fifth, I am struggling to teach them … I cannot depend on them to learn alone … They need someone to help them. My older children in seventh and eighth grades, they learn alone with little support from me or their father. (Teacher A5)

On the other hand, students in lower grades were struggling because they could not access online learning and felt disconnected socially. A female teacher from Libya mentioned, 'students in the first four grades cannot depend on themselves to learn online, they need a human to guide and talk with them, teaching and learning in online learning should have a social aspect' (Teacher L6).

School closures during Covid-19 affected all students from different grades and different cultures in various aspects socially, emotionally, economically and academically irrespective of the context of the students.

Teachers' responses to school closure

All participants in this study agreed that they faced some critical issues; for example, the ambiguity of the instruction to transform to online learning, how to teach, how to evaluate students, disagreement on what to teach, the workload of teachers and students, implementation of equity and access to the lessons in an online environment, and the teaching environment. The participants also reported different challenges that emerged due to the transformation to online learning such as: the online teaching infrastructure, lack of technical support, the inexperience of teachers (including unequal learning outcomes caused by teachers' varied experience), lack of instructional skills in distance education, the information gap and the complexity of the social environment at home.

However, some teachers were not surprised by the school closure, and they gradually moved to online learning as they were already using it as an additional resource to support their students' education after school hours. Prior to the Covid-19 pandemic, teachers used online learning in their teaching practice to achieve all their educational goals, to minimise the problems caused by large class sizes and to provide students with the opportunity to ask questions. One of the English teachers in a high school for boys in Palestine mentioned that she used to conduct her classes virtually for most of her students in order to make the classes more interactive and interesting for them. She said, 'my students are familiar with online learning because in the beginning of the academic year I provided them with a schedule of the online classes and posted it on the school on social media page' (Teacher P2).

Response to the state of emergency

Participants reported different strategies that they have used to respond to school closures in the three developing countries. These strategies included contacting the school administration to establish an initial emergency plan for one week for the high school students. On the second day, students created different groups on Hangouts and different Facebook groups and created other channels for other classes. Other students have a weekly schedule for five classes, which had to be reduced to two classes after parents complained that they had more than one child which will put a lot of pressure on them, as reported by three Palestinian teachers from different areas. They mentioned, 'teachers with the school administration put out an emergency plan to continue teaching students online and sending messages to parents to clarify their role in the coming days. Our aim was to continue communicating with students' (Teacher P4, Teacher P5, Teacher P8).

Most of the teachers from the three countries reported that schools are not prepared; it needs at least five years to be prepared through providing training for teachers and students, engaging parents and asking the local community to provide poor families with devices. Two male teachers from Afghanistan reported the following:

> our country is recovering from violence for decades, everything is destroyed, infrastructure, the culture of people, poverty, and the government is building the educational system … I think we are not prepared for online learning, all my life I have been living under crisis and in a violent environment … The Afghani life is complicated, the country is divided between parties … How can teachers teach online? (Teacher A7 and Teacher A5)

In the focus group sessions, the Libyan teachers raised their concerns about violence and the political division between the east and west of Libya since they have two governments. A male teacher said: 'we have two governments, each one controls a part of the country, my biggest concern is how to get my salary, I am not prepared emotionally and technically to transform to online teaching' (Teacher L7).

Teachers from Afghanistan reported that they focused on communication with students and parents to clarify the next steps since this was the first time for them to use online learning platforms. Some families who are living in rural areas were reluctant to adapt to online learning due to norms and habits, and the fact that girls using the Internet and online platforms was seen as unacceptable. A female teacher from the south of the country reported, 'families do not welcome the idea of online learning'. She believes that it is due to 'the local culture and religion' (Teacher A6).

Other teachers reported that they established groups on social media to collaborate with colleagues to mitigate the impact of school closures on their teaching outcomes. For example, science teachers from Libya reported that they created a WhatsApp group to share digital teaching materials: 'I have established two groups on social media, one on Facebook and the second one on WhatsApp to communicate with my students to support them emotionally and in their learning' (Teacher L6).

Also, some teachers from the three countries reported that they attended online training sessions to polish their skills on how to teach online and develop teaching materials.

The majority of teachers reported that they use online open resources to teach students especially in science, mathematics and technology.

Most of the teachers from the three countries used different platforms to teach and communicate with their students such as Zoom, Google Classroom and Microsoft Teams. Some teachers from these countries expressed their thoughts on the limitation of time to learn new technology and use it. 'I cannot imagine that I can create video infographic and present it to my students … It is an amazing experience but it needs long time and big efforts' (Teacher L4).

On the other hand, some participants were using online platforms prior to the Covid-19 crisis to enable communication after the closure of schools. A teacher from Palestine said, 'at the beginning of the academic year we requested students' family information contacts and started communicating with them through WhatsApp groups for each class' (Teacher P7). He concluded that 'this procedure helps me in emergency situations'.

Changes in the educational system due to the Covid-19 outbreak

Several changes in the education system have accompanied the Covid-19 crisis including school closures, transferring education to online learning, adapting new technological tools in teaching, deepening the digital gap in education, enhancing the relation between schools and the local community, and changes in the policy of the Ministry of Education towards online learning.

Emerging new tools

When teachers were asked about their response to school closure, many of them reported that they spent the weekend preparing and formulating the best tools that they will use to communicate with their students and how to provide them with learning materials and activities. Teachers reported that they have used Facebook groups to communicate with their students, others have also started their own YouTube channels and used Google Classrooms and Zoom to conduct their classes, so the criteria to choose the tools were stressed by participants.

Easy to use and free were the main criteria to choose the right platform reported by the participants. A teacher from Afghanistan reported, 'honestly, before this [coronavirus] I did not think about using Zoom in teaching … I did not believe in it, but now and after my experience it is an amazing tool to transfer knowledge to students' (Teacher A4).

Using different tools and types of digital content from different teachers was a new emerging strategy by some teachers in the three countries and was observed in the focus group discussion. One female teacher from Afghanistan stated in the focus group discussion that 'the story called Around the World in 80 days was an example of 'Diversity and Inclusion of Equity' (Teacher A4). Her discussion focuses on how to 'achieve the teaching goals in a diverse environment where students came from different backgrounds and socio-culture environments'. She said that 'I was trying to achieve equity in teaching this story. I used different tools to present the details for my students such as the lesson content by video Scribe to facilitate transferring the knowledge to students' (Teacher A4). She has good experience of using advanced technological tools to create interactive content and animated infographics by using Video Scribe. A follow-up question was about how she developed her skills. She emphasised that she has learnt without any assistance from others and that 'I used YouTube to develop my skills' (Teacher A4).

Enhancing the relationship among teachers and families

In the focus group discussions, many teachers, especially female teachers in Palestine, reported that they have built strong relations with their students' families during the Covid-19 crisis. A female teacher also said, 'I visited different students' houses to support students and to be close to them especially students with disability' (Teacher P1). On the other hand, teachers from Libya had a different approach; they reported that they could not visit families because of the violence in Libya as well as the spread of Covid-19. However, constant feedback and support of students was essential in providing teaching in ERL as reported by the teachers in the three countries.

Digital equity

All participants agreed that teachers and schools are completely unprepared to transform to the online paradigm, and it will take a long time to adapt to distance education during the coronavirus crisis. Unequal Internet access is just the tip of the iceberg of a massive equity crisis facing Palestinian schools. In Palestine, some teachers were enthusiastic to take part and try to find creative solutions, but the infrastructure of the country was very weak and needed a lot of work, especially in poor areas.

> You know, education is a human process and I would like to serve my community through reaching to kids in rural areas to teach them over Internet as much as I could, but unfortunately, the weakness of Internet connection and the lack of devices couldn't support me to achieve my goal. (Teacher P6)

In Afghanistan there was a cultural issue affecting any solutions especially for girls and female teachers like privacy and security issues, but participants from Palestine did not report any cultural impact on ERL. The Palestinian concerns were the security issues. A female teacher said, 'Parents do not allow their kids especially teenage girls to use Internet alone due to cultural, religion, and security issues' (Teacher A6). A female teacher from Palestine in the focus group agreed with this point, especially the security part. In Libya, the social situation of the students and teachers was negatively impacted by the political situation.

The findings of this study are of great importance to various stakeholders for several reasons. Foremost, there is a paucity of related research regarding how educational institutions are trying to cope with the Covid-19 pandemic and the closure of many schools globally. This study will contribute to local literature on the subject, which in return could be used by relevant authorities in supporting their education initiatives. Teachers in public schools may realise the importance of undertaking studies in information technology and online modes as a mean of up-skilling their teaching abilities.

The findings of this study might also be important for decision-makers in ministries of education in different countries by providing them with important insights into ICT integration in teaching. This will enable ministries to strengthen their teaching programmes based on ICT to better prepare teachers to deal with the diverse exigencies of the Covid-19 pandemic.

Furthermore, the study makes a considerable contribution through its findings by revealing the difference between various groups and their attitudes towards the integration of ICT in teaching and learning. Notably, the findings will be of great value to staff as they are in constant touch with students and will be able to better understand their behaviour and address online management issues amicably. Learning environments have diverse platforms such as Google Meet, where users engage and interact to learn new skills. While learners can learn in an array of settings, the term refers to the more preferred and accurate alternative to the traditional classroom (Stadler-Altmann, 2015).

Discussion, conclusions and future work

The analysis of the evidence gathered in the current study shed some light on how teachers in Afghanistan, Libya and Palestine respond to school closures during the Covid-19 crisis as a case study of developing countries. The interpretation of the findings revealed that the Covid-19 crisis has the same impact on children's learning around the world, which is consistent with the UNESCO (2020) report and other studies (Beng et al., 2020; Khlaif & Salha, 2020; Van Lancker & Parolin, 2020). The school closures have deprived them of their right to education, and online learning was one of the urgent solutions (Azevedo et al., 2020; Corlatean, 2020). The impact was also felt on children's social interaction and emotional development. Despite the same impact, the social and cultural background of each country influenced its decisions on how to respond to the crisis. Teachers from the three different countries experienced a huge workload in the first four weeks of school closures in implementing the emergency remote teaching paradigm. This finding is congruent with previous studies such as Mohmmed (2020) and Lindzon (2020). Teachers in the three developing countries had underestimated the complexity of successful online teaching and learning, the amount of content and its type as well as the time needed for preparation. Moreover, the challenge to engage students in online learning and to assess learning was also a common issue between the three countries. The local community was important for continuing the transfer from face-to-face learning to ERL during the crisis (Shraim & Khlaif, 2010; Traxler et al., 2019). This was an important factor that distinguished the three countries' experiences, since communities in each country have a different role to support students. This could be explained due to cultural backgrounds and the importance of education in some rural communities.

Teachers were ready to create new solutions despite all the existing challenges. All the countries faced the same challenges in general but also specific ones related to their environmental and economic situations. The two main challenges are infrastructure and teachers' technical knowledge and skills, which are two major components of online learning, and without them, online learning can rarely happen. Regarding the infrastructure, the gap between students from different backgrounds will always exist to reduce the opportunity of poor students to be able to engage in online learning with their colleagues (Plucker & Peters, 2020; Rees & Seaton, 2011). A creative alternative was found in some areas, which was to open computer centres for poor students to use while maintaining social distance with other students and following health protocols, which is not easy with young children. Digital justice will continue to be an important aim for all communities in online learning (Katsh & Rabinovich-Einy, 2017).

Equity and digital privacy were also another challenge for remote learning plans as well as increasing the guidelines for students with special needs (Laster Pirtle, 2020). Scaffolding students and providing timely feedback were essential in the ERL environment (Reich et al., 2020). Gender issues were raised in this research as girls are sometimes kept away from online activities in the more conservative areas especially in Afghanistan, while in the other two countries this was not an issue (Al-Shahomee et al., 2019; Cole & Lee, 2016). Cultural and social issues were also stressed in this research, where in some circumstances teachers had to contact children's parents and communicate with them. However, this can be a challenge in more conservative communities especially with female students (Archambault & Borup, 2020).

Teachers' capacity-building is not at all an easy task since time and effort are required to empower them with the needed skills. Despite the fact that the chosen teachers in this research are already highly skilled, they claimed to need more training, and they consider this a long journey. So, we recommend teachers' capacity-building in technology and pedagogy should be empowered through training programmes at different levels. It will be an open issue and a major challenge if working with less skilful teachers, which will lead to the continuity of the education system being threatened during different crises. Flexibility is a key issue with teachers' practices, so when choosing their technological tools a guide should help them to use the suitable one that can be used easily by them and their students (Huang et al., 2020).

It is recommended to consider this situation as an opportunity for changing teachers' classroom practices and developing their knowledge and skills to be ready to engage effectively in online learning. More efforts should be given globally to help developing countries to overcome the issues of digital literacy, digital justice and equity in teacher professional development.

The findings of the current study provide a road map for future work to transform traditional education to online learning by focusing on teachers' professional development based on their needs and to reshape the relationship between the local community and school environment. Conducting new research to explore in depth the impact of culture on online learning is important, as well as the factors associated with emergency remote learning and teaching in rural areas, to find a way to avoid digital inequity and achieve social justice.

Notes

1. Tawjihe is the general exam taken in the last year of secondary school in Palestine.

Disclosure statement

No potential conflict of interest was reported by the authors.

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