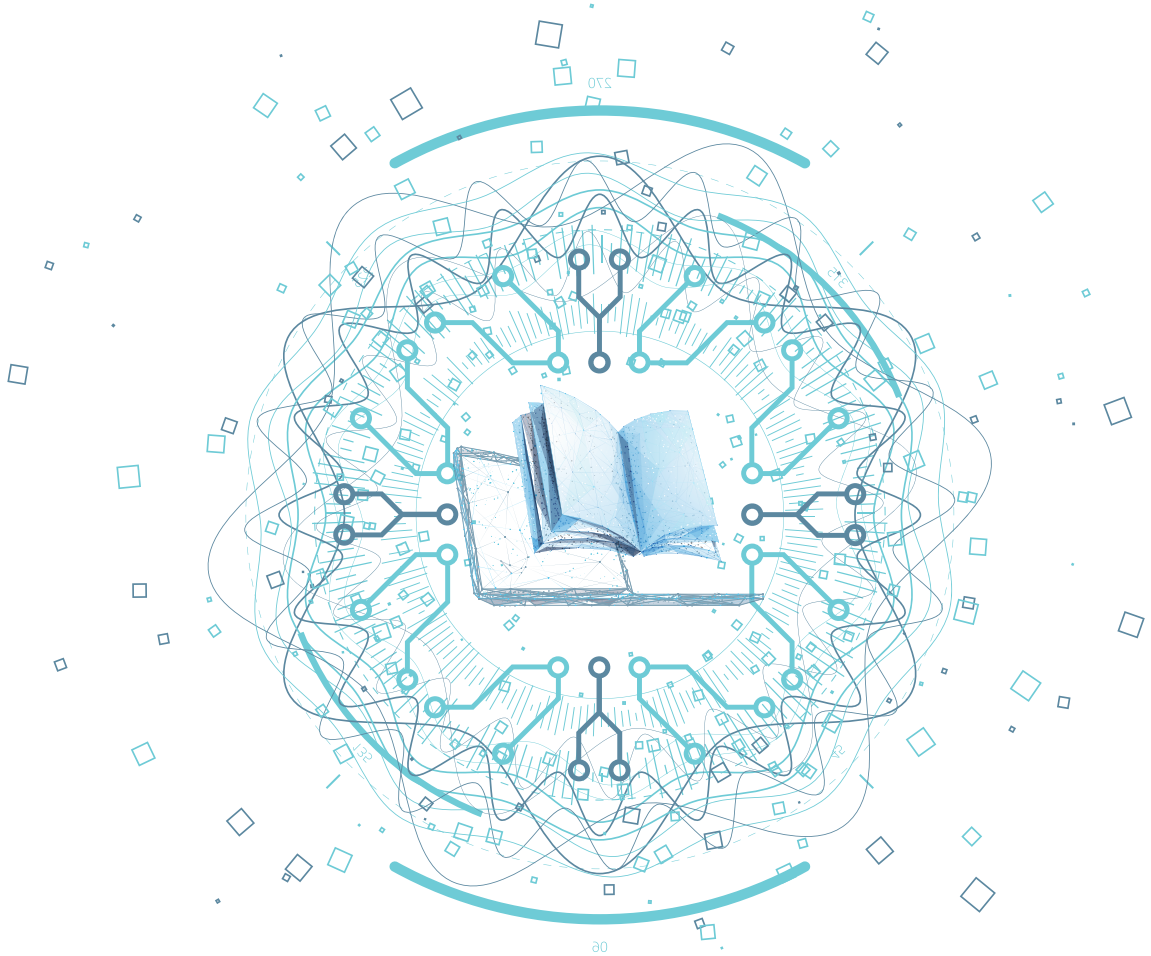




Distance Learning

in Arab Gulf States



Distance Learning in Arab Gulf States

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Arab Bureau of Education for the Gulf States
P. O. Box 94693 – Riyadh 11614
Tel: +966(11)4800555
Fax: +966(11)4802839
www.abegs.org
E-mail: abegs@abegs.org
Kingdom of Saudi Arabia

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Foreword

This study was undertaken in partnership by the Organisation for Economic Co-operation and Development (OECD) and the Arab Bureau of Education for the Gulf States (ABEGS). It builds on the collaboration between the OECD Directorate for Education and Skills and ABEGS, benefitting from our organisations' complementary experience and expertise. The study provides an analysis that is grounded in the context of distance learning policies in the public school section of the Arab Gulf States, while drawing on international research and best practice from around the world.

The 2020 and 2021 school closures due to the COVID-19 pandemic have put the spotlight on distance learning worldwide. While most countries in the Arab Gulf Region and the OECD had formal structures for distance learning well before 2020, these programmes were targeting a small sub-set of students that for various reasons were not able to attend formal schooling in a physical school environment. During the school closures in 2020, governments needed to bring distance learning to scale to reach all students and ensure continuity of education. Thanks to more than a decade of investment in online learning platforms and teacher training on ICT, Arab Gulf countries were able to transition to distance learning relatively seamlessly. However, as is the case in most OECD countries, the rapid expansion of distance learning has revealed several challenges for ensuring quality education for all students. Countries aim to improve access to digital technology for distance learning for students in remote communities, low socio-economic background and students with special education needs. Further developing teacher competencies for distance learning, in particular in areas of content development and assessment has also been identified as a key area for improvement. Finally, as is the case in OECD countries, Arab Gulf countries are aiming to improve students and teachers' well-being during distance learning.

The report describes policies on distance learning in the Arab Gulf region and provides international insights and examples of good practices from OECD countries and beyond. The study also gives Arab Gulf countries policy pointers to improve the quality and equity of distance learning. The study is based on a questionnaire on distance learning policies filled by policy-makers from the Ministries of education of the six Gulf States as well as OECD data and knowledge base. Above all, we hope that this study will be a useful reference for countries in the Arab Gulf as they design and improve their distance learning policies.

Andreas SCHLEICHER
Director for Education and Skills and
Special Advisor on Education Policy to the
Secretary-General, OECD

Dr. Abdulrahman AL ASMI,
Director General,
Arab Bureau of Education for the
Gulf States

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We are very grateful to the officials and education experts from the Ministries of Education of the Kingdom of Bahrain, the State of Kuwait, the Sultanate of Oman, the State of Qatar, the Kingdom of Saudi Arabia and the United Arab Emirates, who graciously shared their insights and knowledge with us.

The report was authored by Kristen Weatherby, international consultant, with guidance and support from staff of the Policy Advice and Implementation Division at OECD Directorate for Education and Skills. Dr. Mohammed Wahby translated this report from English to Arabic and we wish to express to him all our gratitude for his work.

1 Global Insights on Use of Technology for Distance Learning

This chapter presents key insights from the international literature and policy case studies on the use of technology for distance learning. The chapter first defines what distance learning is and how the technology use in distance learning evolved over time to become dominated in OECD and Arab Gulf Countries by digital technology. The chapter finishes with key considerations that policy-makers around the world should take into account in designing and implementing distance learning policies.

Introduction

Learners of all ages have taken advantage of distance education for hundreds of years, yet it was the COVID-19 pandemic that brought distance learning to the forefront as never before. Prior to 2020, most education systems around the world included some form of distance education provision that allowed students access to education even if they could not physically attend school. However, these programmes were not universal, in most cases, and addressed the specific needs of the targeted groups of students. At the height of the COVID-19 pandemic in 2020, over 140 countries had closed schools to students of all ages, suspending in-person instruction and instituting systems of distance education. Governments and school leaders worldwide faced challenges as they tried to expand any existing models of distance education to meet the myriad needs of learners, teachers and families.

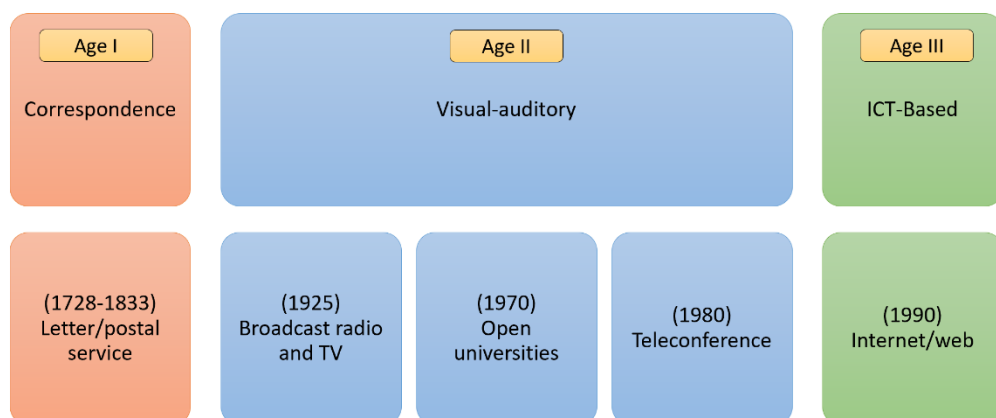
As education systems transitioned very quickly to remote learning in order to protect the health and safety of students and staff, it became immediately apparent how prepared governments, schools and teachers were for teaching and learning at a distance. Governments of the Gulf States will recognise the issues of equity, access and skills experienced by education systems worldwide that became barriers hindering or preventing many students from continuing their education at a distance. This chapter defines distance learning using both technological and traditional methods and discusses key issues for policymakers and school leaders in the Gulf States to consider when planning for successful distance education.

What is distance learning?

Distance learning or distance education is defined as the act of providing formal instruction to learners when the teacher and learner may not be in the same geographical location at the same time and thus cannot be in physical contact (King et al, 2001) (Moore et al, 2011). Distance learning is contrasted with in-person, or face-to-face instruction in which time and geographic constraints necessitate interaction between teacher and learner that is synchronous and in person (King et al, 2001). In other words, distance learning and distance education can be seen as formal education in which the teacher is in a different place than the learner and might be teaching at a different time .

Today, distance learning is often confused with online learning because of the prevalence of technology and digital learning methods in Arab Gulf and OECD countries. However, technology is a relatively recent addition to distance education which originated in the 1800s with correspondence courses, the content for which was delivered by post (Bozkurt, 2019). (See Figure 1.1).

Figure 1.1. Evolution of distance education



Source: Adapted from Bozkurt, 2019.

Distance education today still includes all of the modalities listed in Age II in Figure 1.1. Distance learning can be accomplished without technology, just as online learning can be used while teacher and student are in the same classroom (Moore et al, 2011). Online learning, covered in more detail later in this chapter, is considered by many to be a subset of distance learning (Means, Bakia & Murphy, 2014) .

Why is distance learning important?

- Although the COVID-19 pandemic immediately placed a spotlight on the importance of having a strong system for distance learning in place, distance learning has been used to achieve a variety of objectives since its inception. The initial objective of distance education, which dates from the earliest correspondence courses, is to provide more learners with access to education. This is still one of the main reasons governments around the world institute systems of distance learning today. For decades, distance learning has been used around the world to provide access to learners in the following instances (Means et al, 2014): Students who live in remote areas: In some of the more remote parts of the world, there are not enough children of similar age living in close-enough proximity to one another to justify building and staffing a school. In these instances, remote education can allow students to attend classes with peers of the same age but who may live far away. For example, students from remote rural areas in Western Australia are eligible for the

state's distance-learning programme called the School of Isolated and Distance Learning (SIDE), as described in Box 1.1

- Learners who are or have been absent from school due to long-term illness. Children with serious medical conditions can quickly fall behind on their schooling. Through distance learning, educational materials can be provided at home or in the hospital. This practice has been common in most Arab Gulf States since before the pandemic as well (see Chapter 2).
- Students who have been excluded from school due to behavioural issues. Some children have behavioural problems or social or emotional issues that make the school environment impossible for them. Distance education allows them to continue their schooling in the hopes that they will eventually be able to participate in formal in-person education or society. The SIDE distance-learning programme in Western Australia also provides provision for such pupils, as described in Box 1.1
- Students who have special needs or are at risk of failure. While in most schools there are processes in place to address students with learning difficulties, for those cases in which students have fallen too far behind their peers, it might be necessary for them to receive support outside of school hours. Distance learning allows students to receive additional tutoring or schooling during evenings, weekends or holidays.
- Learners who require access to courses or specialist knowledge that their school does not offer. Not all schools have the budget or staffing to offer classes that meet the needs or interests of all of their learners, especially in secondary school as learning becomes more specialised. Through distance learning, students can take classes offered by other schools, or even universities. They can also access to subject-matter experts in some specialised areas such as an uncommon musical instrument or language. Schools can also bring in experts as ways to provide more real-world context and interest to lessons thought in school.

Box 1.1. Distance learning in Western Australia

The state of Western Australia is geographically large, spanning the western third of the country, yet the majority of its population is found in its few larger cities. For those students who live in rural communities in the rest of the state, the government of Western Australia provides the School of Isolated and Distance Learning (SIDE). SIDE is an online school offering synchronous, live lessons with teachers. The government delivers any physical materials needed for learning to students' homes and has also created a learning platform with resources that are available anytime. SIDE is eligible for rural students as well as those in families who might live internationally for periods of time or for students suffering from long-term illness. Students who have been excluded from face-to-face education due to behavioural issues are also welcomed at SIDE, which includes special programmes for pastoral care of distance learners as well as support for parents.

Source: <https://www.side.wa.edu.au/> (accessed on 3 March 2021).

What tools and pedagogical approaches are used for distance learning?

While distance learning is more developed in higher education, with many universities offering massive open online courses (MOOCs) or degrees that make use of distance or a combination of distance and face-to-face learning, distance education has grown in primary and secondary education even before the COVID-19 pandemic thanks to the increasing popularity of virtual schools in some OECD countries. Virtual school models, in which all school classes are taught through the Internet or other web-based methods, have been popular in some countries, such as the United States (see Box 1.6) and Australia (see Box 1.1), for years (Curtis & Werth, 2015). Conversations around distance learning often focus on these virtual school models or innovative technology that claims to provide personalised or adaptive learning experiences for pupils. However, more traditional distance learning methodologies, such as radio and television broadcasts are still firmly rooted in primary and secondary education around the world, in developed and developing countries alike (Watson, 2020). Furthermore, both digital methods and traditional methods for distance learning can be used in a variety of distance learning models. The sections that follow explain digital and traditional models for distance learning in detail.

Traditional methods for distance learning

Even though distance learning is now associated with online learning, most education systems around the world continued to rely heavily on traditional methods for distance learning during the COVID-19 pandemic. Only one quarter of children globally can

access online educational resources outside of school (EdtechHub, 2020). In 2020, schools around the world provided worksheets or work packets that families could collect at school or that were delivered to family homes via e-mail or in person. More traditional methods of distance learning such as radio and television were also widely used during the COVID-19 pandemic in a large range of OECD countries, from France to New Zealand.

Radio programming for distance learning

Radio has been used for nearly 100 years for educational programming, and it has already been proven a successful medium for delivering educational content in low- and middle-income countries during epidemics (Damani & Mitchell, 2020). Most studies on radio explore how it can enforce or enhance classroom learning, rather than being used on its own in a home environment.

Radio's strengths lie in its affordability for end-users, portability and its reach for audiences who are lacking literacy skills. Radio's biggest challenge is that it is only audio. While this can prove beneficial in some lessons, allowing students to be more creative in storytelling for example, the lack of visual aids can make the teaching and learning of mathematics more challenging (Levine & Franzel, 2015).

One popular pedagogy with radio is called interactive radio instruction (IRI) (see Box 1.2). IRI involves radio content that is interspersed with learning activities and student exercises. The radio broadcast itself is paused at regular intervals to allow teachers to interact with students (if used in a classroom setting) or to allow students to work independently. The quality of IRI is only as good as the content of the broadcast itself, as well as any interactive activities that accompany it (Burns & Trucano, 2006).

Box 1.2. Using Interactive Radio Instruction for distance learning

Interactive radio instruction (IRI) has been shown to be a helpful pedagogy to provide access to education to those students who may be otherwise hard to reach. During the Ebola crisis in Africa in 2014, a combination of radio and SMS was used to provide education to learners who couldn't come to school. Learning was provided via IRI and text blasts were sent to mobile phones so that students were aware of the radio programming schedule each day (Education Development Center, 2014)

In remote areas with low Internet connectivity, IRI can help students continue their education. In the South Sudan, IRI was used to help thousands of out-of-school students improve their skills in numeracy, literacy and English (Schulze, 2019)

Source: Education Development Center. (2014). Learning in the time of Ebola, <https://www.edc.org/learning-time-ebola> (accessed on 29 March 2021).

Television programming for distance learning

Educational television is any television programming that incorporates academic or social learning into its content and has been designed to take advantage of how children access television (Watson & McIntyre, 2020). Educational television can be accessed at home, on regular television channels, or in school. Popular examples broadcast on public television channels are Sesame Street, which exists in 30 different versions in 150 countries around the world (Matza, 2019), but originated in the United States, and Ubongo Kids, which is broadcast in 40 countries. There are many other national examples, such as Telesecundaria in Mexico and Newsround in the United Kingdom, which are used in school and include support materials for teachers.

Television can be especially useful in involving parents and caregivers who might not be able to read to or with their children due to lack of literacy skills or language abilities. Programming can be created in such a way that encourages this interaction, which might include parents or caregivers explaining or discussing opinions on the content with their children. Alternatively, programming could encourage children to interact with other viewers, such as their siblings who might also be watching (Wang, 2014).

Box 1.3. The use of educational television during the COVID-19 pandemic

In emerging market and developed, OECD countries alike, television broadcasts of educational content were widely used throughout the COVID-19 pandemic. In some education systems, these new broadcasts were deemed so successful that they continued even when in-person schooling resumed.

- In the state of Sao Paulo in Brazil, the government was aware that not all students had access to computers. Thus every day, two hours of educational content was broadcast on national television channels. This method of providing distance learning through television has continued after the pandemic as a way to augment the current educational provision in Sao Paulo (Dellagnelo and Reimers, 2020).
- In New Zealand, the government broadcasted televised lessons for all levels of education on two national channels (one in English and one in te reo Māori) every day during school hours throughout the school closures. These lessons were so successful that the government extended broadcasting of early learning and Maori lessons beyond the period of school closures.
- In France, Lumni (<https://www.lumni.fr/>) became the new televised education offering for distance learning at all levels during the pandemic, and programming continued throughout 2020. Content is broadcast live on several French television channels and videos are saved on the website for later viewing. Students, teachers and parents can search the website for resources by subject or age level and there are a number of activities and games for learners as well as content for teachers to use in teaching around these videos.
- Nearly all countries in the Gulf Region made use of educational television before and during the COVID-19 pandemic. Before the pandemic, the educational television broadcasts in Kuwait were used as part of a flipped classroom pedagogy in which students could review the televised content at home and complete activities to apply their new knowledge in class. In Oman, a live educational television programme has long been used to help students prepare for exams. During 2020, Saudi Arabia had 23 educational channels broadcasting educational content 24 hours a day in 2020.

Source: <https://www.education.govt.nz/covid-19/distance-learning/> (accessed on 4 March 2021).

Digital methods for distance learning

Digital methods for distance education and their associated technology tools can be, but are not always, called e-learning, online learning or anywhere/anytime learning. E-

learning and online learning are both defined as being learning experiences that make use of technology or multimedia (Sehra et al, 2014; Moore et al, 2011).

Different modern technologies can be used for online learning, depending on the desired outcomes or usage. Both prior to and during the COVID-19 crisis, countries in the Gulf Region developed and made use of many of these technologies to aid in distance learning, such as learning platforms to help teachers assign and collect student work and interact with students remotely. Gulf countries also made use of communication and collaboration software to allow teachers to conduct online classes or interact with parents, students and their own peers.

These digital tools are often used in combination which can be both beneficial and cumbersome for users, depending on how they are managed. For example, providing a variety of products ensures that users can enjoy features and functionality that allow them to accomplish more tasks than they might be able to with only one product. However, if each product or application requires its own username, password and sign-on, just the act of registering, uploading class lists and logging in to each of the products can be time-consuming for users. It can also be challenging for less technologically-savvy users to learn how to use the full feature set of each of these products. Governments should consider how to best align the technology tools they offer to schools and provide single sign-on for users when possible. Examples of digital tools for distance learning are explained in more detail in Table 1.1.

Table 1.1. Common technology used for distance education

Technology	Description
Virtual Learning Environments(VLEs)/ Learning Platforms/ Learning management systems	In higher education, these platforms are often called course management systems and serve to accomplish many of the tasks that are achieved by the other resources in this table. They can be used by teachers to post resources for students, assign homework, give assessments, communicate feedback or marks, and, in some cases, hold live video conferences or chats with students. Some VLEs also enable communication with parents. While many VLEs were created explicitly for the education market, standard communication and collaboration software designed for business is often used by schools.
Communication and Collaboration software	Communication and collaboration software is often designed for business use and repurposed for use by schools. It includes live video-conference and chat capabilities, as well as document sharing and repositories, enabling teachers to post resources for students and students to post homework or collaborate on shared document with peers.
E-portfolios	E-portfolio software enables teachers to capture a child's learning journey by documenting (often through photo or video) learning and storing student work over a period of time. Often this software allows sharing of the e-portfolio with parents and provision for assessment or evaluation of student progress.
Live video-conferencing	This software enables live group or 1:1 video chats between teachers and students or parents.
Pre-recorded videos	Teachers can use videos they have found online or film lectures or mini-lessons for their students using any kind of video-capture technology. Students can also film videos as part of their class work. Videos can then be e-mailed or posted to VLEs or other sites for sharing with the class or beyond.
Streamed audio, video or podcasts	Audio and video streaming services have educational content that can be used by teachers and students. In addition, bespoke educational content streaming services exist in some countries that contain materials that are safe for educational use. Students can also create podcasts as part of their class work.
Social networks	Social networks are often public but some enable the creation of private groups that can be used for classes or schools. These groups allow document sharing and communication between members.
Desktopsoftware suites	Major software manufacturers develop software suites for business that are also widely used in education. These include software for word-processing, e-mail, presentations and spreadsheets.
Digital textbooks	Many publishers have put their traditional textbooks online, with varying levels of interactive content and activities for students.
Subject- or age-specific software applications	There are countless applications for every subject and age group taught in school, ranging from apps that help children learn to read and write, to apps that enable students to visualise complex mathematical proofs.
Gaming, simulations and virtual reality technologies	These technologies enable students to experience elements of the world that they would not be able to from inside a classroom. Students can walk on the moon using virtual reality or fly a plane using a simulation. Much learning software employs a game structure to motivate students as they compete against peers or themselves.
Mobile technologies	Many of the standard technologies we have on our mobile phones can also be used for education, such as text messaging or video chats. However, many software companies create mobile apps specifically for education, that enable students to learn from anywhere. Mobile apps are particularly popular for exam revision or language learning.
Data dashboards and visualisations	As more data are collected by schools and software, much software takes advantages of dashboards and visualizations to communicate the data to teachers, students and other key stakeholders.

Common pedagogical models for distance learning

Regardless of whether distance education is achieved using digital methods, traditional methods or some combination thereof, teaching in distance learning can be synchronous, asynchronous, or blended.

Synchronous distance learning

Synchronous distance learning occurs when both teacher and learners are using technology to conduct person-to-person interactions in real time. Tools used for synchronous distance learning tend to involve video- or audio-conferencing or live online chat (Martin et al, 2017). However, live radio or television broadcasts are also synchronous, as learners have to tune in at the time of the broadcast.

Synchronous digital learning can add a human feel to the online learning experience (Martin et al, 2017), allowing students to ask questions and interact with the teacher and peers just as they would in a classroom setting. One of the disadvantages of synchronous instruction is that the teaching and learning activities cannot be repeated for those students who miss it (Bergdahl & Nouri, 2020), unless they are recorded. Even then, any student who missed the live lesson can watch recordings, but they will miss out on any interaction that occurred in class and will not have the ability to ask questions themselves.

Many countries in the Gulf Region employed synchronous distance learning methods during the COVID-19 pandemic. For example, in the United Arab Emirates, students in public schools were able to attend live lessons with their teachers, complete and submit work and interact with teachers and classmates through the national Microsoft Teams communication and collaboration platform. In Saudi Arabia, students of lower and upper secondary education were able to connect with their teachers on the Microsoft Teams platform starting 9 am and students of primary starting 3 pm. Teachers in Qatar were required to conduct and report on their real-time communication and interaction with parents and student each school day.

Asynchronous distance learning

Much distance learning occurs asynchronously. This includes anytime student are working on their own on self-paced learning activities, whether with or without technology. Asynchronous learning is more flexible in that learners can complete activities at times that are convenient to them. However, it becomes more challenging to get support or ask questions from teachers or peers, as questions are not posed in real time and answers might be delayed.

Most countries in the Gulf Region provided a variety of asynchronous resources for students during the COVID-19 pandemic. Other than paper-based resources, such as worksheets, the most frequently-used asynchronous resource in the Gulf was one or more online video channels. Countries tended to use YouTube for these videos, but many had multiple channels organised by topic or age group. In Saudi Arabia and Bahrain, for example,

all of the educational television broadcasts were posted to YouTube or otherwise posted online for students to view later.

Blended learning

Blended learning combines synchronous and asynchronous methods of teaching, as it involves merging both in-person, teacher-led instruction with some form of online or distance learning, using either traditional or digital methods. Blended or hybrid learning models are gaining in popularity, especially as more research in primary and secondary education extols their benefits in terms of a variety of cognitive and non-cognitive outcomes for students, such as achievement and motivation. Blended learning also allows for increased differentiation of instruction for students of varied abilities, as teachers can allow students to learn at their own pace using materials at assorted levels of difficulty (Means et al, 2014). Two meta analyses examining literature from primary and secondary distance education found positive effects on student academic performance for blended learning when compared to strictly online learning or pure classroom instruction (Means et al, 2009; Cavanaugh, 2001). These positive effects of blended learning were even more pronounced where online instruction was collaborative or instructor-led, rather than when students were left to work independently (Means et al, 2009).

Blended learning is also thought of by some as a sort of “hybrid” education model that allows educators to take the best elements of face-to-face instruction and combine them with the most successful online learning practices (Christensen, Horn & Staker, 2013). According to some researchers, one of the key reasons that blended learning models are so successful is that they do not challenge existing systems; rather they work within existing, familiar educational structures. For example, in many blended learning models, students take classes in core subjects delivered by teachers for a set time period each day. Sometimes they physically attend school, and other times they learn remotely. This approach, similar to a school week in which students attend school during the day and do homework afterward, does not radically upset traditional beliefs about education (Christensen et al, 2013).

Box 1.3 provides an example of how Sweden made use of blended learning during the COVID-19 pandemic.

Box 1.3. Distance learning in Sweden during the COVID-19 pandemic

At the beginning phases of the school closures in Sweden in 2020, schools responded to a survey that indicated what synchronous, asynchronous, traditional and digital distance learning practices they were engaging in for distance learning. The objective of the survey was to assess teacher preparedness for distance learning and understand what additional planning and professional and resource development was necessary to make the distance learning process more successful.

The survey results found that the most common digital tools used and requested by teachers were those used for real-time (synchronous) video-conferencing, communication and collaboration with learners and parents, document sharing, and digital learning resources in Swedish. Because teachers were worried about making sure all students had access to digital resources, most reported adopting a mixed synchronous/asynchronous approach to instruction and thus also made substantial use of paper-based resources.

Source: Bergdahl & Nouri, 2020.

The flipped classroom model

The so-called “flipped” classroom model is one common approach to blended learning with which some countries in the Gulf were familiar even before the COVID-19 pandemic (see Chapter 2). This practice involves students being introduced to new content at home, often through video lecture or other asynchronous online resources, and practicing or applying their new knowledge or skills while at school (Curtis & Werth, 2015). It is the opposite to the traditional approach of being presented new content at school, through lectures or activities with the teacher, and then completing homework to apply new learnings without any support. The flipped classroom model is thought of positively by some researchers as it enables teachers to spend more time helping students individually and allows students to work together rather than individually as they would on homework (Means et al, 2014).

Box 1.4. The Flipped Classroom model: Khan Academy in the United States

One of the best-known models of the flipped classroom is from the Khan Academy, a non-profit educational organisation in the United States. Originally started in 2006 as a series of instructional videos posted online, by 2014 the Khan Academy website was seeing upwards of 10 million unique visitors per month. The substantial instructional video library from the Khan Academy is available for free and allows teachers to provide video resources to students to use at home to learn new content, while allowing in-person classroom time to be used for practice, application of skills, and otherwise extend learning. However, a two-year study conducted on Khan Academy revealed that teachers did not just use its online resources for flipped classrooms; they are used to support students who are struggling with certain concepts, to challenge more advanced students, or as extra practice to support students' mastery of skills learned in the classroom.

Source: Murphy et al, 2014.

Virtual school models

As mentioned previously, in some countries (such as the United States and Australia), models of virtual schooling have been in existence for years. In most cases, a virtual school does not have a physical location, and students receive instruction from teachers through the Internet or web-based methods. (Curtis & Werth, 2015). Virtual schools are generally used for those students who are unable to physically attend school, due to a variety of reasons. Students could live in geographically remote areas or lack transportation to their nearest school. They could have disciplinary or health issues that preclude them from attending school with other children. Box 1.1 explains how the state of Western Australia has created virtual schooling models to address such issues.

In some areas, virtual schools can fall outside of the government-managed public-school sector. In the United States, as explained in Box 1.6, virtual schools can form part of a charter school model, allowing access to school for children who live in disadvantaged areas where the quality of the local state school might not be high.

Similar to teaching with other distance learning models, teaching in a virtual school requires some of the pedagogies and practices used in in-person schooling, along with new ones that are unique to virtual schooling. Preparing teachers to use these practices is not yet commonplace in pre-service or continuing teacher professional learning. (Barbour, 2012) Governments and initial teacher training institutes need to make sure provision for teachers of virtual schools is included in their offerings, so that teachers are prepared to teach in-person or virtually during their careers.

Box 1.5. Virtual Schools in the United States

The United States is largely thought to have the most developed system of virtual schools in primary and secondary education. Most of these schools are charter schools, which sit outside of the publicly-managed school systems in the United States. As of 2020, there were 500 virtual charter schools educating over 300 000 students in the primary and secondary sector. Many of these charter schools are focused on reaching disadvantaged students but since they fall outside state-regulated schooling, their quality often varies. Virtual high schools continue to gain popularity, however, so several education organisations in the United States joined together to publish the National Standards for Quality Online Learning in 2019. These standards include behaviours such as engaging learners, teaching to diverse groups of learners, pedagogy for digital teaching, instructional design, assessment and digital citizenship.

Sources: Ndaruhutse et al, 2020; <https://www.nsqol.org> (accessed on 25 March 2021).

Key considerations to ensure equity and quality of the distance learning experience for students

The most important considerations when planning distance learning are equity and quality (Morgan, 2020). Traditionally online learning has been considered of lower quality than face-to-face learning. It can be more difficult for teachers to monitor student learning and behaviour and offer scaffolding when they are not face-to-face. Providing meaningful interactions between all actors in the learning process is also challenging when people are not in the same room. In addition, providing support for students with special needs or those who need extra help can also be difficult when trying to manage a large group of remote learners. However, with careful planning, purchasing and training, online learning can be just as successful as in-person learning (Means et al, 2014).

Governments need to address issues of equity in distance education so that all learners can access high-quality teaching and learning, regardless of their location, socio-economic status or family situation. These issues of quality and equity are interlinked and involve governments working with partners in the public and private sector to address issues of infrastructure that might prevent some learners from accessing learning at a distance. High-quality, equitable systems of distance learning necessitate partnering with or providing standards for creators of content appropriate for both traditional and digital methods of delivering distance education. They also require ongoing provision of assistance for parents, students and teachers to learn new skills and practices associated with distance learning and to monitor and support social and emotional well-being. Governments also need to learn from

evidence, including academic research, international best practice, and their own data, as to what is working and what needs to be changed.

Planning for high-quality distance learning

When planning for the optimal distance learning experience for all learners, governments need to consider the content that is being provided, by both teachers and other partners (such as education publishers or technology providers), to make sure that it is map to the education system's curriculum standards for students. It is understood that teachers will create some of this content, in the form of lesson plans, student activities, and formative and summative assessments. Preparing teachers to develop good-quality distance learning content is covered in detail in Chapter 3.

In addition to content, there is a certain amount of skill-building that is required for all actors who are touched by distance learning, including students, teachers and parents. Building teachers' skills for distance learning pedagogy and practice is discussed in Chapter 3. However, in addition to helping make sure students are prepared to learn at home, parents also need to be supported to make sure they have the capacity to help their children when needed.

Finally, the social and emotional well-being of both learners and teachers is important in distance learning, as there is less physical, in-person contact to monitor issues of health or neglect (for students), workload (teachers), or stress (both). Governments need to make this a priority as part of their distance education planning.

Developing quality content

There is a difference between getting distance learning up quickly during pandemic and planning for content and delivery that is appropriate for this method of delivery (Hodges et al, 2020). If there is adequate time to plan for distance learning, education systems can take into account learnings from academic research as to what content is most appropriate for distance education materials. For example, distance learning has been shown to be more successful when students are actively involved in their own learning, rather than passively receiving content (Morgan, 2020). Online learning should be as engaging as that which occurs in a classroom, rather than just consisting of worksheets, which are easy to distribute and mark but much less interesting for learners. For this reason, pedagogies such as student-centred learning, inquiry-based learning and project- or problem-based learning are often recommended as being successful in distance learning (ibid). In addition, any work designed to be completed by students independently needs to be appropriately paced for students with differing abilities.

This kind of information could form part of a set of standards or guidelines that governments create for any content providers that are developing distance learning materials. Content should be piloted and quality assured before being widely adopted by schools to

ensure that it is both engaging to and meets the learning needs of students who are learning independently or remotely. In addition, teachers need to be given instructional design skills to develop their own lesson plans and content that adhere to the principles of high-quality distance education. This is covered in more detail in Chapter 3.

Preparing all actors for distance learning

Teachers are not the only actors in the distance learning process who require extra support to ensure success, however. Students and parents need assistance to prepare for and engage in distance education as well.

Maintaining students' commitment and motivation to learn can be challenging when learners are not in a formal classroom environment and might be learning independently. Students need to develop skills in self-regulation so that they can monitor their own learning and progress and motivate themselves to continue with work outside of a classroom environment (Basaza et al, 2010; Curtis & Werth, 2015). Learning activities that encourage students to control their own use of media or ask them to reflect or self-monitor are effective at promoting student performance when learning at a distance (Means et al, 2009). However, success is also dependent on full participation from students in distance learning activities (Curtis & Werth, 2015). Students who pick and choose which days to join in or which activities to complete will miss out on valuable learning just as if they had been absent from school.

Supporting all parents in distance education

Communication and liaison with parents is vital to the success of distance learning for children in primary and secondary education (Morgan, 2020). Parents of younger children will especially need to be involved in distance learning, to help them with instructions, asking questions of their teachers, and to stay on task (Bergdahl & Nouri, 2020). Students are more likely to be engaged in distance learning when parents are also engaged (Borup et al, 2014). This can be difficult when parents are working or do not have the educational skills or experience to help their children. Schools and school systems might consider providing resources or training for parents so that they understand how to support their children and can reinforce what teachers are doing. (Ndaruhutse et al, 2020). The government of British Columbia, Canada provided such resources throughout 2020 and beyond, as discussed in Box 1.7.

Box 1.6. Support for parents during the COVID-19 school closures in Canada

During the period of remote learning in 2020, the province of British Columbia, Canada developed the “Keep Learning” website that provided resources and ideas for parents to support their children’s learning from home. Parents were provided with learning activities they could easily complete at home, as well as ways to support their children’s health and well-being. They were even provided with suggestions for discussing children’s fears about COVID-19. The website was so successful that it was maintained after schools reopened and is continually updated with new content for parents.

Source: <https://www.openschool.bc.ca/keeplearning/> (accessed on 29 March 2021).

Monitoring and supporting the well-being of students

When students are in school, they come into contact with a myriad of different adults and scores of peers who might notice daily differences in their physical appearance, behaviour or temperament that could indicate that students are being harmed or are in a fragile mental state. Distance learning removes students’ contact with many other humans each day, leaving them vulnerable to issues that might not be as quickly identified at a distance. Indeed, there are many increased risks to students through distance learning that should be considered in all distance learning policies and practices at a government and school level. They include:

1. Well-being and mental health, including students feeling less motivated or experiencing increased anxiety. Student well-being could manifest itself in lack of personal hygiene, which could be identified by teachers online.
2. Risk factors within the family, which can include an increase in conflicts at home as families themselves are stressed or, especially in the case of the COVID-19 pandemic, might be experiencing economic crises. This can manifest itself in physical or emotional abuse or neglect of children.
3. Online risks, including safety, security and cyber-bullying, which increase simply because students are spending more time online and accessing a wider variety of online platforms.
4. Lack of protective factors, in terms of a variety of responsible adults and peers who come in contact with student every day at school and are able to identify changes in appearance or behaviour that might be indicative of a decline in well-being.

Time needs to be allocated in the distance-learning “school day” for teachers to check in on students in a meaningful manner. It may be necessary for schools and other

social services to schedule in-person visits to students who had previously been identified as being at risk, and to extend such visits to students newly-recognised as suffering from deteriorating physical or mental health.

Governments and schools should also consider creating content around safer online practices and behaviours for students. Teachers and parents need to be trained in how to recognise possibly dangerous software applications so that they can avoid using these with students.

Supporting teacher well-being

Teaching is a stressful and busy profession at the best of times. During the COVID-19 pandemic it became even more so for teachers in some of the Gulf States who were required to plan and deliver lessons to be delivered once “live” (either online or in-person) and again on television or via other traditional, paper-based resources.

Research has shown that teacher well-being is related to how successfully teachers can develop and nurture relationships with their students, manage classroom discipline issues and create a classroom climate conducive to learning. (Jennings & Greenberg, 2009). Likewise, teachers’ perceptions of their workload and their reported levels of stress have been shown to be related to their levels of job satisfaction and self-efficacy, as well as whether they stay in the teaching profession (OECD, 2020a). Governments need to put measures in place to monitor and address issues of teacher workload, stress and social and emotional well-being regardless of whether they are teaching students in person or remotely. Box 1.8 provides an example of how some education systems and schools in the United States are addressing these issues.

Box 1.8. Supporting teacher well-being in the United States

Surveys administered by teachers' unions in the United States in 2020 demonstrated the extent of teacher burnout resulting from distance learning during the COVID-19 pandemic. Findings indicated that nearly 30% of teachers were more likely to leave the profession or retire early due to their experiences with remote learning during school closures. These findings, and those from other surveys, are starting to gain the attention of policymakers at a state and national level, who are making changes to help alleviate teacher burnout and keep teachers in the profession. In November 2020, the state of Minnesota gave an executive order that required schools to provide all teachers with 30-minutes of preparation time each day for remote or blended learning and discouraged schools from requiring teachers to simultaneously teach students in-person and at a distance. This has been taken further in some school districts, where teachers have provided with one day per week of planning time. School districts have also begun offering counselling services to teachers as well as other perks such as yoga classes with peers. Leaders are checking in regularly with teachers on issues of work-life balance and adapting their support to fit the needs of their staff.

Source: Singer, 2020.

Ensuring equitable access to distance education for all students

In every country, there are families who do not have sufficient access to technology to allow their children to learn from home. PISA 2018 data indicate that within some countries there is a substantial variation in students' access to digital resources at home, including a reliable Internet connection or a computer on which to do schoolwork (OECD, 2020). Research indicates that countries with a history of using distance learning well before the COVID-19 pandemic have several common practices (Ndaruhutse et al, 2020; OECD, 2021). In the Republic of South Korea, for example, distance learning using technology has played a strong part in the national education system agenda since the turn of this century. Box 1.9 describes in detail how this tradition of remote and online learning positively impacted the education they were able to provide to South Korean students during the 2020 school closures.

Governments need to consider the following areas to ensure equitable access to distance education for all learners.

Ensuring that all schools and families have access to adequate distance learning resources

Governments who have used distance education for years have partnerships with broadcasters, technology companies and telecommunications companies to help provide the infrastructure for distance education using digital and traditional methods. This might include working with nationally- or privately-owned television channels to agree to the broadcasting of televised educational content at regular intervals to ensure that it reaches as many students as possible. Agreements can also be made with Internet service providers or telecommunications companies to provide free or reduced-price high-speed Internet access or free data plans to disadvantaged families – or to all families for educational use. Many of the countries in the Gulf region, recognising the issues of access to digital devices or adequate Internet, have already begun entering into partnerships to provide these resources to students.

Ensuring that disadvantaged families have access to adequate digital equipment

If public-private partnerships are not possible, the government can purchase and provide laptops or other digital devices to students in need. This practice was commonplace in numerous countries such as Japan (OECD, 2021), including many in the Gulf Region, during the COVID-19 school closures. In terms of Internet access, some countries (such as Estonia) have had nationwide wireless Internet access for year for all of their citizens. However, it is important to remember that in accessing the Internet, it is not just access that is important: governments should consider reliability, speed and bandwidth as well (Morgan, 2020). In some larger countries, this might be challenging to provide to remote areas without significant improvements in infrastructure. For example, in some rural areas in the United States, wifi-enabled buses were driven in to use as hotspots during the COVID-19 school closures.

Ensuring that content and presenters are representative of the audience.

Regardless of whether content is being created for traditional or digital distance learning methods, it is important that learners can see their own culture and ethnicity reflected in educational content whenever possible. To this end governments have made partnerships with local content providers to ensure that all educational content provided is relevant to and representative of the national culture.

Box 1.7. South Korea's preparedness for distance learning

The government of South Korea has a long-standing tradition of distance learning using technology through its KERIS initiative, which began in 1999 with the objective of providing the benefits of supplemental home learning to all South Korean youth. The initiatives enacted by the South Korean government are as follows:

1. Operate national e-learning system. The government created EDUNET, through which they can develop, store and quality-assure online learning materials for teachers and students. All materials are kept up-to-date and linked to the national curriculum. The EDUNET platform also allows students and teachers to connect, collaborate and share resources with each other.
2. Develop teachers' technology skills. The government created a system to provide continued professional development to teachers around teaching with technology. The SMART learning model helps teachers learn how to use new technologies and understand how they can be used in the classroom. The SMART pedagogy focuses on student-centred learning, differentiated instruction using technology, experiential learning and encouraging creativity. There is also a system in place to support and encourage continuous improvement of classroom teaching using technology.
3. Develop Cyber Home Learning system. Called CHLS, this system was set up to provide more equity for students' self-directed learning at home.
4. Develop digital textbooks. Working with content partners, interactive, customisable digital textbooks were piloted in classrooms with students. Additional training was provided to teachers as well.

The government of South Korea was lauded for its medical response to the COVID-19 pandemic, but having these e-learning systems already in place allowed them to smoothly transition their education system to distance learning when schools were closed. Students and teachers used the EDUNET and CHLS platforms for home learning. Disadvantaged students were provided with devices and funding for Internet costs. Teachers were provided with additional training on how they could handle tasks such as marking work and setting assessment from a distance. An additional, remote community of practice was developed for teachers using existing SMART programme leads. This became a mechanism for teachers to share good practice and learn from each other.

Source: Ndaruhutse, et al, 2020

Guaranteeing educational provision for students with special needs

During in-person classroom instruction, students with special educational needs often receive extra assistance or support from teachers or other specialists, either one on one or in small groups of peers. Many countries struggled to continue this provision during the period of school closures in 2020 when people could not be in close proximity with others outside their own household. For some special needs students, losing this extra support left them without academic, social or emotional support they needed to continue with their education, thus further widening the gaps between them and their peers. Many Gulf countries acknowledged this issue but had not undertaken real steps to address it. If countries are committed to providing equitable systems of distance education, they need to provide support, resources and programmes to guarantee that all children, regardless of need, are able to continue their learning at a distance.

Making distance learning decisions based on evidence

Children only get one chance at their education, so it is important that the content, pedagogies and practices recommended and used by governments, teachers and schools are based on strong evidence that they are effective. Time and money are precious resources in education, and no one wants to waste either on products or practices that simply do not help students learn and thrive.

Countries moved very quickly to distance learning during the pandemic, so there was not much spare time to think about whether the policies and practices were working. After prolonged school closures in many countries, however, it is important for countries to gather and analyse evidence on a variety of student and teacher outcomes to assess the success of their endeavours and avoid negatively impacting children's education for the long term.

Reviewing practices and progress to understand what works

To get a better picture of what is working and what is not, countries need to collect data from a variety of sources. Student learning, attendance and engagement should be examined to understand which students are flourishing and which are at risk of falling behind. Teachers and school leaders should be surveyed to understand what they have found successful and uncover any concern about their own well-being and that of their students. Feedback from parents is needed to understand how to help them support their children's learning. The review of practices and policies should be ongoing, creating a continuous cycle of feedback and improvement in schools.

Gathering regular feedback to support teacher learning

Distance learning requires new pedagogies and skills for some teachers. Moreover, the technology that is used for remote learning is constantly evolving, and teachers need to be

kept up to date. Some countries in the Gulf Region collected feedback from teachers, school leaders and others to help direct their efforts to provide professional learning to address teachers' needs during the pandemic. Not all countries did this, however. It is important to continually assess teachers' development and skills to provide professional learning that targets their needs.

Asking technology suppliers for evidence of technology outcomes and data protection

It is important for those making technology purchase decisions for a school, school system or nation, to work with teachers to understand what their needs are before making a decision to buy technology. Many schools and governments have wasted money on technology that has never been used. For example, a study in the United States from 2019 tracked 200 000 curriculum software licenses purchased by schools in one year and found that 67% went unused by schools. Technology should be reviewed to understand whether it will meet teachers' needs, and purchasers should ask technology suppliers for evidence that the product achieves the stated outcomes.

There is a great deal of education technology products that are available for free, but this does not mean that they are high-quality. (It does not mean that they are poor quality, either.) Those who are procuring technology for schools also need to ask providers for evidence that their products actually achieve the advertised outcomes. Purchasers also need to ask suppliers about the necessary conditions for success in using their technology. This includes system requirements but also information about the context, environments and practices used to achieve successful results (Weatherby & Clark-Wilson, 2019). With every purchase or partnership made in technology, governments and school should consider several key elements to keep students safe. Data protection and ownership are very important in education (Bergdahl & Nouri, 2020). Governments and schools need to be aware of who owns your students' data, where it is stored and how secure it is. Not all technology products will have been developed locally, so the terms and conditions may not adhere to local national laws and data may be stored outside national borders.

In addition, many technology products used in education were created for business first. As such, they do not contain many of the built-in restrictions that limit student searches on the Internet, for example, or keep outsiders from accessing students and their personal information. Students and teachers need to be educated on how to stay safe when using such products.

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2 Policy Snapshots of Arab Gulf Countries

The chapter describes distance learning policies in the public school sector in six Arab Gulf Countries: the Kingdom of Bahrain, the State of Kuwait, the Sultanate of Oman, the State of Qatar, the Kingdom of Saudi Arabia and the United Arab Emirates. Each country's case study presents the state of distance learning before 2020 and how the 2020/2021 school closures impacted the development and use of distance learning. The chapter also pays close attention to teachers preparedness and readiness to teach at a distance.

Introduction

In the autumn of 2020, Ministries of Education of six Arab Gulf countries were sent questionnaires from the OECD to understand their readiness for distance learning in the public school sector (primary and secondary level). Countries were asked about their past policies and practices around distance education, including teacher preparation capacity for teaching at a distance. Countries answered questions about their experiences with distance education during the COVID-19 pandemic and provided information about the policies they had put into place based on their learnings during this initial period of school closures. Countries also discussed their plans for distance education within the context of their larger education system.

Country Case: The United Arab Emirates

Distance learning prior to 2020

Distance learning played a role in the United Arab Emirates (UAE) prior to the pandemic, originating with the beginning of the Sheikh Mohammed bin Rashid Project for Smart Learning, which began in 2012 with Grades 6 and 7 in 100 schools. The Smart Learning project enabled the use of technology-aided learning in both in-class and distance learning. The programme was supported by a custom built learning management system. The overall objective of the programme is connected to the goal of developing the future workforce of the UAE in order to build a knowledge economy.

The Smart Learning project centred on developing a new curriculum and teacher training to implement “smart classes,” making use of high-speed Internet access and digital devices in schools. By 2017, the programme became available to all students from kindergarten through Grade 12 as part of the Emirati School Model launched in 2017-2018.

In addition to the technology foundation and resources built within the Smart Learning project, the UAE had long provided an optional home learning model for students of all grades using asynchronous and traditional methods and resources. This model reached learners who were not able to attend school for various reasons, such as long-term illness or other health conditions or students needing to be abroad or families who opted for home-schooling. Home learning also featured as part of the Integrated Continuing Education Program, which provides additional literacy instruction for learners of all ages and vocational skills for adults.

Distance learning during the COVID-19 school closures

Consequently, when public schools in the UAE were closed due to COVID-19 pandemic in the third term of the 2019/2020 academic year, distance learning should have been a relatively familiar concept for teachers and learners. A system of total remote learning was instituted in the UAE until schools were reopened again at the start of the new 2020/2021 school year in the autumn. At this point, however, parents were given the option of sending their children to school for in-person learning or keeping them home and allowing them to learn at a distance. For Emirati teachers and schools, therefore, distance education still continues for some learners at the time of this report’s publication.

The Ministry monitored students’ attendance and participation in activities during school closure. The Ministry reported in the preparatory questionnaire of this report that during the period of distance learning, 86% of public-school students on average attended daily lessons and classes. While this figure was perhaps not as high as expected, the Ministry hoped that the additional self-paced learning materials would mitigate the lower attendance

rate. Furthermore, there was no noticeable increase in students dropping out of formal education. In fact, an increase was noted in registrations for a virtual pre-kindergarten programme for children aged three and above. At the beginning of the 2020/2021 school year, a baseline assessment was given to ascertain students' current level of learning and evaluate progress.

Distance learning resources

Unlike most other countries, the UAE did not provide students with traditional resources such as worksheets, printed textbooks or television broadcasts during the pandemic. Instead, their focus has been on the digitalisation of all educational resources (including worksheets, books and activities) allowing for access by student from the public sector anytime and anywhere.

Additionally, the UAE has made available many “smart” educational applications for science, mathematics, Arabic, English and other subjects that adapt instruction for learners based on their performance and learning needs. These applications are based on artificial intelligence to provide a differentiated education based on students' profile and the curriculum objectives. These applications also provide teachers and schools with data and learning analytics that enable them to better differentiate instruction. The government has taken it upon itself to create a raft of content for teachers, including lesson plans, activities, and instructional videos so that teachers do not have to. However, teachers still have the freedom to adapt and develop their own resources for students as needs arise.

Box 2.1. The Smart Learning Policy

The United Arab Emirates' early commitment to ICT in education led to the development of the Smart Education policy. As part of this policy, the UAE developed a range of national online learning platforms and tools. One notable platform is Alef Education, a partnership between the Ministry of Education and Abu Dhabi's Department of Education and Knowledge. Alef Education provided free access to its platforms to ensure the continuity of education during the school closures. These include:

- The Alef Platform is an artificial intelligence-based learning platform that is available for students, teachers, school leaders, and parents. It provides students with an interactive and engaging learning environment by offering digital or guided lessons and interactive activities. It allows teachers to dedicate more time to helping students by providing immediate feedback on student performance, detailed lesson plans, and auto-grading of assignment. It also provides feedback to parents on their children's performance and real-time data to school leaders. It is based on the UAE Ministry of Education Curriculum for Grades 5 to 9 in the six core subjects (Arabic, Social Studies, Islamic Studies, English, Math & Science) and is aligned with the US Common Core Standards for Grades 6-8. This platform is available for both students, and teachers.
- Curio provides game-based learning of Math, Science and Arabic for students in Grades 5 to 9 that allows students to learn concepts, practice, and compete with their classmates. Teachers are provided with data on their students' performance, progress, and areas of improvement and recommendations of activities or lessons to complete based on a student's individual need or for the entire class.
- Abjadiyat is a digital platform that focuses on Arabic skills for early learners, between Grades K to 4. It includes a wide range of games, books, and videos of lessons and can be used by teachers to assign lessons or track progress through formative and summative assessments.

Nahla wa Nahil is another digital platform offering more than a thousand Arabic e-books selected according to graded levels of reading and with a set of related exercises. It provides an opportunity for students to advance at different levels of reading. The platform enables teachers to create specialised assignments targeting an individual student or a group of students' learning needs. The Ministry of Education has recognised the importance of adaptive learning platforms to provide a personalised and positive learning experience for students and advanced analytics that allow for real-time and instant feedback on the performance and engagement of students in core subjects across education levels.

Source: Alef Education (n.d.), Learning Does Not Stop!, <http://learning4all.alefed.com/> (accessed on 15 February 2021).

Pedagogical models for distance learning

To accommodate the mix of students learning in person and at home, all schools have adopted a blended learning model. Training on this model has been provided to teachers on the Ministry's teacher training platform called the Learning Curve. Teachers have learned how to incorporate its three teaching methods into their daily work: school learning, self-paced learning and directed online learning. In the directed online learning model, teachers use Microsoft Teams to conduct live lessons for students, monitor and provide feedback on their work and answer questions. A comprehensive online library of student learning resources has been provided to aid with the self-paced learning model, allowing students to learn independently. These digital resources include materials such as online textbooks but also educational videos containing lessons and other interactive activities. Students can use these activities to follow lessons from home or to augment face-to-face school learning. Simulation software has also been provided that enables students to conduct scientific experiments outside of a physical laboratory.

During the school closures, students in the UAE submitted homework and sat regular end-of-year exams. Teachers marked homework and assessed students as normal. Students were able to complete and submit homework on the computer, in addition to taking tests online and through e-learning software applications. The Ministry set up online test banks to generate online examination tests that are secure and use adaptive testing technology to better describe student learning levels. Teachers were also able to conduct assessments via video, which could be done live, or pre-recorded by the student and submitted electronically.

Preparing Emirati teachers for distance education

Emirati teachers were already well prepared for the technology-based aspects of distance education

As mentioned previously, teacher training for the e-learning aspect of distance education has been present in the UAE as part of the Sheikh Mohammed bin Rashid project for Smart Learning. However, it is unclear whether any other aspects of distance learning are covered in initial teacher preparation or teacher professional development in UAE.

Teachers in UAE were offered comprehensive professional learning for all aspects of distance education during the pandemic but still have pressing professional development needs

Extensive professional development was provided for teachers and school administrative staff throughout the COVID-19 pandemic, to familiarise teachers with the

aforementioned distance learning model and increase digital literacy. Over 23 000 teachers attended workshops in the following areas:

- Strategies and models for creating lesson plans and other class materials adapted for distance learning
- Digital tools used in distance learning
- Familiarisation with the code of conduct created to regulate online learning in the UAE
- Students' socio-emotional development in distance learning
- Cyberbullying.

In addition, virtual communities of educators were created so that teacher could ask questions and share practice. Teachers and administrative staff were also provided with free subscriptions to leading global platforms dedicated to other related skills such as programming, artificial intelligence, management and content development.

Nonetheless, the MOE recognises that there still are some areas in which teachers need further professional development, including those needed for designing effective distance learning lessons and collaborating with colleagues at a distance.

Policies for improving distance learning in the United Arab Emirates

This box summarises some current priorities in the UAE to improve the quality of distance learning for all students

Quality of content and delivery of learning

- Improving parents' digital literacy: As in many countries, some Emirati parents had difficulty with the distance learning platforms and technologies. This was especially apparent with young learners (ages 3-6), who were unable to manage the technology applications or regulate their own learning. The Ministry of Education expended a great deal of effort to encourage these families to support their young children's learning both on and offline. Virtual summer camps and workshops were offered for families to increase their digital literacy, and detailed instructional guides were provided to help parents understand the distance learning model and the technology associated with it. The engagement of the youngest learners in remote learning continues to be an area of focus for both educators and the government, through raising awareness about the potential of remote learning and the development of game-like technology to capture pupils' interest.
- Providing students with adequate tools and resources for scientific experimentation: According to the Ministry of Education, the most pressing challenge they faced during the school closures was being able to give students access to the scientific or technical equipment necessary to conduct the hands-on or experimental based learning activities that were planned. In lieu of this, some activities were conducted virtually through simulations where possible. Further development of these technology programs and platforms is a priority for the future, and the Ministry is currently re-engineering a prototype of an experimental learning kit to make it cost effective enough to be distributed to every child who needs it, ideally at a 1:1 ratio.

Equity of access and learning opportunities

Providing adequate personalised learning experiences for students with Special Education Needs: As in many countries, the government of the UAE recognises the challenges associated with providing adequate personalised learning experiences and 1:1 support to address the individual needs of each of these students. The Ministry is investigating how technology can help through specialised learning platform.

Country Case: The Kingdom of Bahrain

Distance learning prior to 2020

The Kingdom of Bahrain has long had educational practices and resources in place to support distance learning for particular contexts or student needs. Students who suffered from long-term illnesses or were unable to attend school could continue their education at home by using printed materials provided by the government.

Supplemental technology-based resources for education have also been provided on a central government website since 2005 through the Future Schools project. The original learning management system hosting these resources, was replaced by the Ministry of Education's online education portal, eduNet, created in 2015 (see Box 2.2). The eduNet portal provides a platform and forum for teachers and students to interact through live discussions. It has been used to provide more flexible learning opportunities for students, in a flipped classroom pedagogy, project based learning, self-learning sessions or to provide one-to-one tutoring when needed. This national-level learning platform is similar to those that have been in place for years in OECD countries such as Scotland (GLOW) and South Korea (KERIS). The eduNet portal became especially useful during the period of school closures in 2020.

Distance learning during the COVID-19 school closures

In-school education in Bahrain was suspended from February until the end of the second semester of the 2019-2020 school year. However, teachers and administrative staff in Bahrain were allowed to come back into school buildings starting March 2020. This policy mirrors that of many education systems in many OECD countries which allowed teachers to work from school even during school closures for students. This aimed to alleviate any issues arising from teachers having unstable or inadequate access to the Internet and computing equipment and provided them with a quiet place in which to work.

For the 2020-2021 academic year, parents were given the choice as to whether their children would participate in education fully online or whether they would take part in a blended learning model, in which students studied remotely for part of the week and were required to attend school in person for one or two days each week. This is a different approach from most European countries, for example, where schools were largely re-opened in the autumn for the start of the 2020-2021 school year.

Distance learning resources

The government of Bahrain provided both digital and traditional resources for distance learning, to accommodate those students who did not have access to the Internet or digital devices to use for remote learning. Nationally televised lessons were developed by

teachers, who were given guidance from education specialists. After their initial broadcast, these lessons were made available for repeated viewing by students online. Other traditional resources, such as printed textbooks and other printed materials, such as worksheets, which were distributed to all students through their schools.

Digital resources were provided for students in all levels through the eduNet portal (See Box 2.2). These resources included 327 e-books that were uploaded during the pandemic, as well as model lessons for teachers, learning activities for students and hundreds of sample exam questions and answers. In addition, digital versions of all textbooks were provided on eduNet and the Ministry of Education websites. It was the Ministry's hope that these asynchronous resources could be used by students for self-paced learning.

Synchronous digital resources were provided through the Microsoft Teams collaboration software. The Ministry gave students Microsoft 365 accounts to access these resources and use an Online Learning and Content Management System with their teachers as their online classrooms. By early 2021, the Ministry of Education reported that around 18 000 teachers and 150 000 students – about half of primary and secondary school-aged students – had made use of the Teams platform. Students and teachers might be more accustomed to using the eduNet portal, which has been in use for years and also has the capability for students to complete lessons and activities for their schoolwork as well as taking tests and participating in live discussions with teachers or classmates.

Box 2.2. Capitalising on existing platforms to expand distanced learning offer in Bahrain

EduNET is a national portal for eLearning that was established in 2015 to provide education and administrative services and enable communication and exchanges between education stakeholders, notably students, teachers, parents, and the Ministry of Education. Given that education stakeholders were familiar with the portal, it was heavily relied upon and expanded when schools closed and shifted to distanced learning. During the COVID-19 pandemic, this portal was used to provide digital services and resources to the different education stakeholders, as summarised below.

- **Students:** Prior to the pandemic, students had access to digital educational content, such as e-lessons, educational resources, and educational programmes, such as simulation software for science and mathematics that enabled students to learn interactively and through hands-on experimentation. Discussion sessions between students and teachers could also be hosted on the platform. These functions were expanded during the pandemic; with all textbooks, hundreds of e-books, and thousands of model lessons, learning activities, and sample assessments uploaded to the portal. Students could also attend discussion sessions with teachers, submit their assignments, and take tests on the portal.
- **Teachers:** Prior to the pandemic, the portal provided teachers with a wealth of information, including data on the most active teachers on the portal, the lessons or panel discussions that received the most engagement, teacher's progress on the correction of assessments, calendar of important dates and school events, and students' grades. Teachers could also host panel discussions, upload their own lessons and enrichment material, access education resources including lessons, test banks, and textbooks, and communicate with students and parents. During the pandemic, teachers received access to professional development material under the digital empowerment in education program, lessons that were developed by curriculum specialists, and e-teams whereby education specialists shared knowledge and best practices.
- **Parents:** Prior to the pandemic, parents used eduNet as a platform that allowed them to follow up on their children's performance and wellbeing and communicate with teachers, school administration, and the Ministry of Education. Notably, parents received information on their children's grades, academic schedule, daily lessons, daily attendance and absence, assignments and exam dates and submissions, school events, as well as access to digital education resources. During the pandemic, the Ministry of Education provided parents with additional training and services to support their use of the platform, including a technical support page and a hotlines for technical support for parents.

Sources: Kingdom of Bahrain Ministry of Education (n.d.), EduNet Teachers' Guide, <https://edunet.bh/manual/teachers.pdf> (accessed on 3 March 2021); Kingdom of Bahrain Ministry of Education (n.d.), EduNet Parents' Guide, <https://edunet.bh/manual/parents.pdf> (accessed on 3 March 2021); Kingdom of Bahrain Ministry of Education (n.d.), Education Portal, <https://www.moe.gov.bh/edunet.aspx> (accessed on 4 March 2021).

Pedagogy for distance learning

Similar to practices in many OECD countries during the pandemic, the Ministry provided teachers with sample lessons, which they could use, and also allowed them some flexibility to create their own digital content using for example their own personal YouTube channels or social media sites. The sample lessons helped save teachers time by providing them with ready-made lessons, while giving them examples of high-quality content upon which they could design their own lessons and learning activities.

Teachers continued to collect and mark homework and assessed students during the school closures. While students were able to complete homework and take at-home tests on paper and hand-deliver them to their teacher or school, they could also accomplish these tasks on the computer, submitting work or assessments electronically via e-mail, or through the EduNet and Microsoft 360 platforms. Some of the e-learning programs that students had access to also enabled them to take online assessments. Furthermore, teachers tracked students' attendance and noted their rates of participation in distance learning activities.

Preparing Bahrain's teachers for distance education

Teachers in Bahrain are familiar with distance learning platforms and tools

According to the Ministry of Education, Bahrain's teachers received training on many aspects of distance learning prior to the COVID-19 school closures. Initial teacher preparation in Bahrain includes pedagogical topics such as flipped classroom models and project-based learning, as well as a variety of online educational tools, were prominent in the professional development offerings available to Bahrain's teachers. In addition, since eduNet was developed in 2015, teachers were familiar with the platform, as well as Microsoft 365 applications.

During the pandemic, teachers were offered formal professional development free of charge, as well as other free resources hosted on edunet to improve their capacity to teach students at a distance. Peer-learning and collaboration opportunities were also provided on eduNet which served as a meeting location for virtual "e-teams" of teachers. The Royal Future Schools project contributed significantly to this training.

Bahrain aims to further improve teacher training in teaching methods for distance learning

As is the case in many OECD countries the Ministry recognises the need for further professional development around pedagogical skills for teaching with educational technology, skills for assessing students using technology and strategies for working with parents to support student learning. The Ministry of Education also aims to further improve

teachers' competencies in instructional design skills to recognise student social or emotional issues during distance learning. Bahraini teachers also need support developing their own social or emotional skills to cope with issues of stress and balancing workload.

Policies for improving distance learning in Bahrain

This box summarises some of Bahrain's current policy priorities to improve the quality of distance learning for all students.

Quality of content and delivery of learning

- Engaging parents in distance learning: The Kingdom of Bahrain recognises the key role parents play in supporting their children's use for distance learning. Parents are often responsible for guiding students to use information communication technologies (ICTs) at home and providing a good learning environment at home. The Ministry of Education created a number of resources to help parents develop the competencies needed to support distance learning, including:
 - Instructional videos that explained to parents how they and their children could use distance learning tools and resources
 - Online training workshops for parents conducted by schools
 - A technical support page for parents on eduNet
 - Hotlines for technical support for parents.

Equity of access and learning opportunities

- Addressing issues related to varying levels of access to infrastructure and digital materials: The government of Bahrain has made it a priority to provide students with adequate access to the Internet and digital technology, such as computers, in order to successfully participate in remote learning from home for all students. Students without computers were able, in many cases, to use other smart devices such as mobile phones and tablets to access digital learning resources – if they had Internet access. Some areas of Bahrain suffer from poor Internet coverage, and there are many parents who cannot afford to provide Internet access at all. Although the Ministry provided alternative traditional resources (such as televised lessons and printed activities), as well as the option for students to physically attend school full time, there is still a need to develop partnerships with Internet providers to secure Internet access for all students.

Country case: The State of Kuwait

Distance learning prior to 2020

Similar to other countries across the OECD and around the world, distance learning played a role in Kuwait's education system prior to 2020 for certain specific purposes, such as to allow students with infectious diseases or other serious illnesses to continue their education. A mix of resources were created over the years both to support these students and to create more flexible learning opportunities for all students. Traditional educational resources, such as books and worksheets, are also provided on a regular basis for students to augment or continue their scientific or literary studies outside of school. Similar materials have also been provided for at-home religious education beginning in the 9th grade, and for additional support with literacy at all levels of schooling for those learners who need it. Resources such as the educational television channels in Kuwait also enable teachers to make use of flipped classroom pedagogies, allowing students to watch educational content at home and apply it in their lessons at school.

Several e-learning initiatives and projects were launched in the past to improve digital learning, with varying success and sustainability. In 2011, the Ministry of Education launched the memory stick project that aimed to transfer all textbooks and learning materials for each grade onto a USB stick. This was followed by one of the largest online learning projects that distributed approximately 80 000 tablets to all secondary school students and teachers to be used in the classroom. Most notably, Kuwait launched its online learning platform, "the electronic gate", through which students, teachers and parents could communicate and curriculum material and homework was made available. The Ministry has now migrated to using a new learning platform for schools backed by the Microsoft Teams Programme. Finally, Kuwait also introduced in 2016-2017 a blended learning model for teaching math, sciences and English. This model was tested across lower secondary schools in the country.

Distance learning during the COVID-19 school closures

Consequently, when the government made the decision to close all schools from March 2020, some learning resources and educational platforms were already available for use with distance learning. These have been augmented during the period of school closures, which endures even at the time of publication. For while school buildings were eventually reopened for administrative and teaching staff, students were still attending school remotely well into 2020.

Box 2.3. Professional Development of Teachers and Educational Personnel in Kuwait

In response to the shift to distance education and the arising need for supplementary training and support, the Ministry of Education developed a training plan for the 2020/21 academic year that encompasses all teachers and education personnel under the MOE, levels, and subjects. The plan includes over 84 trainings lasting an average of 15 hours over 5 days and benefits over 7 100 trainees and over 14 bodies and administrations.

In addition to subject-matter specific trainings, the Ministry offered training in a variety of transversal topics to equip teachers and education personnel with the knowledge and skills for distance education. Teachers will receive trainings in time management, managing a virtual classroom, designing virtual lessons, using electronic platforms for teaching, assessing students at a distance, effective mentoring and coaching, and pedagogies for teaching at a distance. Principals will receive training on fulfilling leadership responsibilities at a distance, conducting visits to teachers, using e-learning platforms, problem solving and creative thinking, among others. Education personnel working at the Ministry, administrative personnel, and researchers in the fields of social science and psychology also received trainings.

Source: Kuwait Ministry of Education . (n.d.).

خطة البرامج التدريبية، التدريب التربوي للعام ٢٠٢٠/٢٠٢١م.

Distance learning resources

As in other countries, a mix of traditional and digital learning resources were made available to Kuwaiti students for use during school closure. In terms of analog resources, textbooks were delivered to students at home, and educational content was broadcast on the national educational television channel, as was common in many OECD and non-OECD countries.

The Ministry of Education also provided a host of digital materials through their website, including curriculum material, lessons, activities, and sample assessment for different classes and subjects. Students and teachers received accounts on Microsoft Teams, which allowed students to attend live lessons, view videos or presentations or access and submit homework assignments.

Pedagogy for distance learning

No information was provided as to the kind of pedagogy used by teachers in distance learning in Kuwait. However, in terms of assessing student progress, teachers collected and marked homework as usual, albeit from a distance, and students sat regular end-of-year exams. Students were able to complete and submit homework and exams online and also took tests that were part of e-learning applications. Teachers also assessed students via video, either in real-time or pre-recorded videos which students could submit to teachers later. Finally, teachers monitored student attendance and participation in distance learning.

Preparing Kuwait's teachers for distance education

Kuwaiti aims to improve teachers' capacity to use technology and teach remotely

The Ministry of Education encouraged teachers in Kuwait to get a certification in ICT skills in order to be licenced to teach. Despite this policy, the Ministry of Education notes that one of the most urgent challenges to distance learning in Kuwait is teachers not having sufficient technology and lesson design skills for distance learning. Teachers also found it difficult both to personalise learning activities when delivered at a distance and to develop lessons that were suitable for remote learning. Even before the pandemic, Kuwait offered some professional development in technology topics and skills related to distance learning. The Ministry provided training to teachers on using the Microsoft Teams platform in their classes since 2015. Such support was increased during the pandemic. Teachers were given accounts to access online materials such as digital lesson plans to help them design their online class. The Ministry also supported peer-learning and teacher collaboration by setting private channels and networks for teachers to exchange ideas and good practices.

Kuwait collected feedback from teachers on their training needs for distance learning

As is the case in some OECD countries such as Sweden, the Ministry of Education in Kuwait has gathered feedback in 2020 to understand teachers' remaining professional development needs for distance learning and used this information to design a training and support plan. Teachers in Kuwait were visited by supervisors and mentors during their distance lessons and responded to a questionnaire regarding the challenges they faced during distance learning. School principals and heads of department also provided the government with their observations and recommendations. Through this information, the Ministry has learned that teachers still have needs for professional development around using technology to assess students, designing high-quality distance lessons, recognising students' social and emotional problems when learning from a distance and coping with their own work-life balance. Of these, the needs for instructional design and assessment skills are deemed to be the most urgent.

Policies for improving distance learning in Kuwait

Kuwait identifies the following policies for improving distance learning:

Quality of content and delivery of learning

- Revising the curriculum to accommodate distance learning: In early 2021, Kuwait set up three plans whose implementation will depend on the evolution of the pandemic situation in the country: (1) A full return to in-school learning, (2) a blended learning model, (3) distance learning. The second and third plans have required a review of the curriculum and modification of the school schedule to accommodate distance and blended learning. For instance Kuwait reviewed the school year calendar and the organisation of the school day to integrate distance learning.
- Ensuring that all students have the necessary ICT skills to complete distance learning coursework using digital technology: Kuwait recognises the need to further address students' ICT skills and ensure their familiarity with e-learning and communication platforms. According to the Ministry, both students and teachers struggled with the Microsoft Teams platform during the period of distance learning in 2020. In some cases, students' lack of technical skills prevented them from completing their remote learning coursework.

Equity of access and learning opportunities

- Supporting parents struggling with ICT skills: In 2020, Kuwait offered parents struggling with ICT training to help them better engage with their children's learning.
- Ensuring adequate Internet access and digital devices: In order to generalise access to distance learning and reduce inequity, the government of Kuwait is aware that more needs to be done to support families and schools in securing adequate Internet coverage and devices. The government collaborated with Internet and telecom providers to provide students access to free hours of Internet daily. While some progress was made during the pandemic, this is an area that still requires attention.
- Helping students with special educational needs access adequate distance learning: The Ministry also recognised the need to reach all students in Kuwait with distance learning, even those with special needs. In addition to training for teachers, parents and students with special needs were also offered specialised training in 2020.

Country case: The Kingdom of Saudi Arabia

Distance learning prior to 2020

The Kingdom of Saudi Arabia already had some distance learning resources and practices in place prior to 2020 through the Future Gate and other platforms. These platforms and materials were designed to reach students living abroad or in the remote southern regions of the country. They also allowed seriously ill students to continue their education, provided all students with more flexible learning options and enabled teachers to implement “flipped classroom” pedagogies. The main resources that facilitated distance learning prior to the COVID-19 pandemic were part of the Future Gate portal which provided teachers and schools access to digital textbooks and model lessons. The portal contains interactive digital content derived from the transformation of existing school textbooks into interactive e-books for all levels of students and in subjects ranging from Islamic studies and Arabic language to physical education and social studies. The content is available to students, teachers and supervisors in Learning Resources Centres, school libraries and computer labs. The student-facing content allows learners to explore new content and regulate their own learning.

In addition to the curriculum portal and e-book initiatives, the other significant distance learning initiative involves the Future Gate portal, which was developed by the Ministry of Education and launched in the beginning of 2018. The Future Gate platform consisted of a learning management system (LMS), a content management system and an item bank that teachers can contribute to. Teachers received training on how to use Future Gate to extend student learning through the platform and to develop their own resources or augment existing resources on the platform. Originally launched in 150 schools in three regions, by January 2020, Future Gate was being used by 3 500 schools in 16 educational areas around the Kingdom.

Distance learning during the COVID-19 school closures.

On 7 March 2020, the Kingdom of Saudi Arabia made the decision to close all public schools. All in-person education activities in schools and universities were also suspended from this date as well. From this day forward, the Minister of Education instituted a system of virtual schools and home learning for all students that continued through the end of the 2019/2020 school year and through the next academic school year.

Distance learning resources

Once schools closed, a system of distance learning was put in place that allowed all students to continue their education remotely, whether using traditional or digital resources. Some students in Saudi Arabia are unable to access online educational resources for

geographical or economic reasons. Students who had sufficient access to the Internet and digital devices were able to use online resources for distance learning; for those students without such access, traditional resources were provided.

The primary traditional resources provided for distance learning is the creation of the IEN Educational Channels created by the Ministry Education. While many other countries made use of televised educational programming for learners, the offering in Saudi Arabia was much more extensive than most. IEN channels were used to provide teaching during school closure and followed the curriculum. There are 23 television channels that broadcast 24 hours per day (and mirrored on YouTube for later viewing). Three of the channels are dedicated to Special Education Needs students, one is for adult education, and all include sign language interpretation. Programming comprises explanations of lessons in all subjects for students at every level.

The primary digital resource provided for distance learning is the Madrasati (My School) platform. This is an interactive learning platform developed by the Ministry of Education. Teachers can offer virtual classes on the platform according to the class schedule set by each school. Each user has their own account on the platform and data are collected regarding log-ins, participation and performance. Madrasati also includes pedagogical resources that students and teachers can draw on for asynchronous distance learning. Madrasati is for example connected to an item bank to generate tests and activities for learners and a content repository for lesson planning. Madrasati is considered a success by the Ministry with an average of 6 million active users

The Madrasati and the Future Gate allowed students with and without access to technology to seamlessly continue their education during school closures, providing a level of equity in Saudi Arabia that was not seen in many OECD countries during the pandemic. For example, when textbooks were printed and delivered to all students, teachers could deliver live lessons on the Madrasati platform and film televised lessons at the Ministry's broadcasting centre to appear on the nation's educational television channels. Students with access to Madrasati could download homework and other assigned tasks from the platform, whereas those without online access were assigned a specific day to pick up packets of printed work from their schools. Students could then deliver their finished assignments back to the school for marking. Students on the Madrasati platform could interact with teachers in real-time to ask questions and receive feedback, whereas students without this access were assigned a day per week on which they could go to the school in person to ask questions and receive feedback from their teachers.

Box 2.4. Ensuring access to education to students with special education needs in Saudi Arabia

The Ministry of Education in the Kingdom of Saudi Arabia took several steps to ensure the continued access to quality education and ongoing support for students with special education needs (SEN). First, students with special education needs had access to school premises to attend in-person individual classes at school and receive support services. Moreover, students could also attend individual classes through the Madrasati platform. SEN students, parents, schools, teachers, and supervisors all received dedicated user manuals for the Madrasati platform.

To ensure the quality of education for students with special needs, the Ministry selected a group of advanced/exceptional teachers and trained them on how to deliver distance education for students with special needs and on how to use technologies and platforms. Moreover, the General Administration of Special Education and supervisors for special education from the Riyadh Education Department reviewed educational material and supervised lessons for students with special needs. The Ministry also produced a comprehensive guide for special education schools, 21 textbooks and 6 teacher guides for SEN teachers. 11 training programs were created on the use of the textbooks and the guides for special education students and over 5 500 teachers and supervisors attended.

The Ministry also provided platforms for distance education through launching three dedicated television channels for students with special needs. The three IEN TV channels included a channel for the elementary level, a channel for the intermediate level, and a channel dedicated to students with autism. Each channel had 100 813, 108 000, and 92 271 views respectively. Over 1 100 lessons were translated to sign language. All lessons that were broadcasted on IEN were also uploaded to YouTube and Madrasati platforms for students to be able to access them freely. The channel dedicated to autism also offered training sessions for parents and support services for students that suffer from autism.

Source: Ministry of Education (2020).

جهود وزارة التعليم في المملكة العربية السعودية في ظل جائحة كورونا .
(Presentation during ABEGS meeting on 8 December 2020).

Preparing Saudi teachers for distance education

Saudi teachers were well-prepared for many aspects of distance learning before the pandemic

Prior to the COVID-19 pandemic, the Saudi government was already focusing on improving teachers' skills to use technology and teach with e-learning pedagogies. Teaching with technology already formed part of teachers' initial teacher preparation and was part of the professional development offering available to practicing teachers. The Ministry of Education had also developed specialised professional development offerings designed to improve teachers' use of e-learning in different subject areas. These include training both in how to use specific technologies, including the Madrasati platform, as well as specific practices for teaching and assessment. In 2016, the government signed an agreement with Microsoft to equip schools and train school leadership and teachers to use the company's digital solutions for online learning and teaching. Teachers have also been involved in pilots or trials of distance education.

Saudi teachers received a wide range of professional development opportunities during the pandemic but are still in need of further training and support

During the pandemic, teachers were offered professional development through the National Centre of Educational Professional Development. They could attend courses or webinars on educational technology topics and were able to ask questions or receive support from leadership or peers through the Madrasati platform and social networks.

The government reported that teachers require support in instructional design, recognising student social or emotional issues, collaborating with fellow teachers at a distance and support with their own issues of stress and work/life balance. More urgently, however, are the technical, pedagogical, and assessment skills still required by Saudi teachers to successfully implement distance education.

Policies for improving distance learning in Saudi Arabia

This box summarises some current policy priorities in Saudi Arabia to improve the quality of distance learning for all students

Quality of content and delivery of learning

- Supporting parents to engage with their children in distance learning: During the school closures, the Ministry observed that some parents were unable to aid their children in home schooling due to their own lack of technology skills or limited education levels. Other parents were too busy with their own jobs, leaving many students to face distance learning on their own. These issues are common in all countries, but are key issues acknowledged by the Ministry of Education that need to be addressed to improve the quality of distance learning in Saudi Arabia.

Equity of access and learning opportunities

- Ensuring access to technology for all students and teachers: Saudi Arabia has set as a priority to address the limited access to devices, Internet or network access for some student, due to their geographical location or socio-economic conditions. Collaborating with the Ministry of Communication and Information Technology and Foundations to improve access to distance learning for all students: The government provided devices to students from disadvantaged families through the Takaful Charity Foundation. This Foundation was established to support financially disadvantaged students in public schools across the country. Future partnerships with other governmental Ministries, as well as foundations like Takaful, will be necessary to meet the needs facing some of the most disadvantaged Saudi families, which include not only resources for digital devices but additional education and skills for parents to support their children. For example, the Ministry of Education has signed a Memorandum of Understanding with a major national telecom provider to improve telecom signal in remote areas of the country.

Country case: The Sultanate of Oman

Distance learning prior to 2020

Unlike most OECD countries, formal distance learning did not exist in Oman's public school system prior to the COVID-19 pandemic. Some schools in the private sector in Oman provided distance learning opportunities as a form of enrichment for students in some subject areas. In these instances, the distance learning materials used were asynchronous, traditional methods such as worksheets and other printed materials.

Even so, the official web portal of the Ministry of Education in the Sultanate of Oman did supply some digital resources prior to 2020 that were available to teachers and students anytime to provide flexible opportunities for learning. These resources included 3-D videos, listening tracks, and electronic versions of textbooks. The web portal also provided educational forums, which could be accessed through a variety of digital devices, including tablets, mobile devices and computers. Although these resources were readily available, it is unclear how much they were used prior to the pandemic.

The Sultanate of Oman also had a tradition of broadcasting a live television programme at the end of the semester to help students in Grades 5-12 prepare for their final semester exams. The programme, called "Live Lesson Programme" allowed students to call in and ask live questions of teachers in a variety of subjects.

Distance learning during the COVID-19 school closures.

During the period of COVID-19 school closures and blended learning, the Ministry of Education for the Sultanate of Oman augmented the distance learning resources they provided to all schools. All public and private schools in Oman were closed on 15 March 2020 for a period of five or six months. Public schools reopened again for the new school year on 1 November 2020, for a system of blended learning. General education diploma students are required to attend part of their lessons in person and part remotely. Students who live in remote locations with low population density are required to come to school. All other students in Grades 5-11, along with any other students who have chronic or long-term illnesses, are required to learn remotely from home. Parents of these students have agreed with the government to support their children's learning from home.

Distance learning resources

Traditional educational materials were provided in the form of textbooks, which were given to all students. The Ministry of Education also increased the frequency of their regular televised programme by launching another programme of live lessons for schools teaching Grades 4-12, which aired five times per week on two national television channels.

On the Ministry of Education's website, the traditional resources provided were supplemented by a number of digital materials, including electronic versions of all textbooks, videos of lessons on YouTube and infographics explaining key concepts, and audio tracks allowing student to listen to English-language books and documentaries. It is unclear whether these were also made available in another format for those students who were unable to access the Internet. The Ministry has noticed an important increase in number of visits to its web portal during the COVID-19 school closures. In addition to these digital support materials, the Ministry of Education created two new educational platforms for schools that could be accessed from one website, the Edugate platform (<https://edugate.moe.gov.om/>): the Mandhara learning platform for students in Grades 1-4, and Google Classroom for those in Grades 5-12.

On the landing page for these platforms, students are asked to enter a government identification number and their date of birth. This links the student directly to his or her own page within the learning platform containing all of the education materials he or she uses.

These learning platforms allowed teachers to provide both synchronous and asynchronous distance learning through video lectures, slide presentations, e-learning activities and to present other videos and instructional graphics to aid all students in remote learning. The Ministry of Education is continuing development of the two national learning platforms to include features and resources for special needs students.

Pedagogy for distance learning

The variety of learning platforms provided to teachers in Oman enabled them to present live lessons and interact with students much as they would in a face-to-face classroom, but it is unclear from the data what distance learning pedagogies were employed by Omani teachers. In terms of assessment, students were able to complete and submit homework and take tests online through the learning platforms. Some of the additional e-learning products provided to students also included built-in assessments that students may or may not have taken as part of their self-guided study using these projects. Students were also able to record video assessments that were then submitted to their teachers, and they continued to sit regular, end-of-year exams. Preparing Oman's teachers for distance education

Offers for teacher training for distance learning were limited prior to the 2020 pandemic.

Prior to the 2020 pandemic, the Ministry had signed Memorandum of agreements with private companies such as Microsoft and Intel to train teachers on how to incorporate ICT platforms in teaching and learning. The Ministry reported that teachers received some

professional learning in distance education, either in their initial teacher preparation, or in their continuing professional development. .

Oman instituted a comprehensive, cascading training model to reach all teachers

Recognising the need to reach all of its teachers, Oman instituted a comprehensive training model during the pandemic that aimed to reach all teachers, an example model for countries around the world wishing to improve teachers' capacity for distance learning. Teachers were trained remotely in the use of the two technology platforms, as well as any other technology they might need to use to interact with students. The Specialized Institute of Teachers prepared a group of expert trainers to initiate a cascading "train-the-trainer" model that would eventually reach all teachers in all directorates prior to schools starting again in November 2020. The main trainers selected senior or exemplar teachers from schools to receive the initial trainings. These teachers then offered the training to other teachers in their schools. All teachers were supported through WhatsApp messaging groups for support and technical help, and the main group of trainers were available for two hours on every weekend to support any teacher who had questions or issues with the platforms. In addition, all school leaders have been provided with professional development on how to manage and support teachers' use of the two learning platforms. A similar plan for a comprehensive training programme for the 2020/21 academic year was published in September 2020.

This systematic training for teachers and leaders was thorough in its coverage of the technology aspects of distance learning. However, the Ministry of education reported one of the biggest remaining challenges is to equip teachers with skills on designing quality lessons for distance education. There are plans for additional professional development in all subjects for teachers to be rolled out throughout the course of the school year, and these topics would be useful to cover (see Box 2.5) .

Box 2.5. Cascading Plan for Teacher Training on Distance Education in Oman for the 2020/21 school year

Recognising the increasing importance of equipping teachers with the knowledge, skills, and tools to deliver quality education in the context of the COVID-19 pandemic and the shift to distance learning, the Specialized Institute for Teacher Training developed a plan for training teachers, principals, and education personnel for the 2020/2021 school year. The plan aims to raise awareness on the importance of distance learning, equip teachers with the pedagogical and technological knowledge to deliver teaching remotely, and ensure the continuity and quality of education in the current circumstances.

The program will be delivered to selected trainers from the education directorates in each province, which may include advanced teachers from different levels (primary, secondary, and special education), education and administrative supervisors, principals, and specialists in assessment, curricula, and/or digital resources. The education directorates would then be responsible for overseeing the delivery of training to all the teachers, principals, and education personnel in their province.

The training programme consists of two phases: the training phase, which includes an education and a technical module, and the follow-up and ongoing support phase. The education module aims to equip teachers with the strategies and skills for teaching, assessing, and providing students with psychological and social support in a virtual environment. Principals are equipped with the knowledge and skills to lead virtual teams, support teachers and students, and communicate with stakeholders. The technical module focuses on the knowledge of digital platforms such as Google Classrooms and Moodle.

After the completion of the training phase, inspectors in each province would provide ongoing support and follow up to ensure that all teachers and personnel in public schools receive the necessary training. A survey will be administered before and after the training programme to measure the benefits of the programme and identify needs for further enrichment programmes.

Source: The Sultanate of Oman Ministry of Education (2020),

خطة مقترحة لتنفيذ برنامج تدريب للهيئة التدريسية والوظائف المرتبطة به التعليم عن بعد ، العام الدراسي ٢٠٢١/٢٠٢٠م

Policies for improving distance learning in Oman

This box summarises some current priorities in Saudi Arabia to improve the quality of distance learning for all students:

Quality of content and delivery of learning

- Providing technical support and solutions to students and schools: The Ministry of Education is increasing its own services to citizens by providing 24-hour technical support from the ICT department and by sending its own representatives to each of the 11 governorates in Oman to address any technical issues faced by schools.
- Supporting parents with guidelines and training opportunities: One of the most significant challenges to distance learning in Oman, not unlike most other countries, is lack of technology skills of some parents. This limits their ability to support their children's learning at a distance. The development of the new learning platforms for students means that all actors (teachers, parents and students) are unfamiliar with the new technology. The ICT department in the government have distributed tutorials and other instructional materials to help users with these platforms. However, the Ministry of Education recognises that it needs to raise both the awareness and the skill level of parents with these platforms and plan additional training in technology skills for parents.

Equity of access and learning opportunities

- Providing students in remote areas with adequate solutions for distance learning: Improving access to distance learning in remote areas has been identified as national priority by Oman. The Ministry of Education is working with the Communications Regulatory Authority to find ways to strengthen access to the Internet in these areas. In the meantime, there are plans for the Ministry to provide students in these areas with alternative learning materials, such as those accessible by CD rather than relying on Internet access. The Ministry also mentioned that many schools in Oman do not have effective online learning platforms. While supplying students with computers or other digital devices is vital if they are to participate in online learning, the use of Oman's national learning platforms may supersede the need for school-level learning platforms.
- Partnering with the private sector to improve access to Internet and devices for all students: The Ministry of Education, with the help of the Communications Regulatory Authority, has made partnerships with private sector organisations to strengthen connections to the Internet in remote areas using satellites, and they are committed to addressing the issue of slow Internet in schools. In addition, agreements have been made with other private sector entities, such as telecommunications and software companies, to offer students, parents and teachers free data browsing when using the country's learning platforms, as well as increased data storage on the cloud.

Country case: The State of Qatar

Distance learning prior to 2020

The State of Qatar has set up an ambitious distance education strategy for the past several years. As such, the E-Learning Department was created within the Ministry of Education and Higher Education and affiliated with the Curriculum and Learning Resources Department, with the express purpose of leading efforts to develop distance education in Qatar. Prior to 2020, the objectives of distance education in Qatar were to provide education for seriously ill students and provide supplemental learning that could be accessed in a flexible manner by students. To this end, the Qatari Ministry of Education and Higher Education has created a national learning management system (LMS) on which students can receive and submit communication and assignments from teachers, an e-learning platform containing interactive coursework and other digital resources for students and a YouTube channel. The online video resources provide lessons for students that help them build the skills set out in the Qatari national curriculum and prepare for national exams. Qatari teachers were already familiar with using such digital resources as part of a “flipped classroom” pedagogy, and frequently communicate with their students outside of class through text messaging and using the learning management system.

Distance learning during the COVID-19 school closures.

At the start of the COVID-19 pandemic, the Ministry of Education and Higher Education closed all public and private schools and universities on 10 March 2020. At this point, the Department of Education Affairs in the Ministry set out an alternative plan of study for all years of primary and secondary schooling, and the existing system of distance learning was initiated so that students could continue the school year with minimal disruption (See Box 2.6).

At the start of the 2020/2021 school year, the Ministry of Education and Higher Education, in coordination with the Ministry of Public Health, made the decision to implement a system of blended learning for the first semester of the school year rather than allowing all students to return to in-person public schooling at the same time. The system of blended learning applies to all levels of public and private schools, from kindergarten to higher education institutions, and was designed to help avoid both increased rates of infection from the virus as well as any educational loss that could result from suspending or postponing the start of the school year. The blended learning arrangement requires students to attend school in person from one to three times a week and schools to operate at an attendance rate of 30% of their total student capacity each day. The face-to-face learning will allow student to participate in activities they could not at home, such as science experiments, as well as taking tests and attending some basic subject classes. All other learning will occur online using the resources discussed in the next sections.

Box 2.6. The Shift to Distance Education and the Alternative Plan of Study in Qatar

With the decision to close schools on 10 March 2020 and shift to distance education, the Ministry of Education and Higher Education in Qatar took several steps to ensure the continuity of education and the quality of distance education. The existence and use of the national learning management system since 2012 facilitated the shift to distance learning, with most educational actors already accustomed to it. The Ministry supplemented this with various digital resources including Microsoft Teams platform and a comprehensive YouTube Channel, which also showed very high levels of engagement from education stakeholders.

The Ministry transformed all educational units at all levels into high-quality video lessons, including similar video lessons for students with special education needs and for adult learners. These were uploaded on the Ministry's YouTube Channel "Distance Learning in Qatar", which in the first month of use had 23 533 video lessons uploaded, an average of 8 410 862 views, and an average of 83 795 subscribers. Moreover, over 2 121 lessons, 2 121 daily quizzes or assignments (through Microsoft Forms), and 648 weekly assessments were conducted on the Microsoft Teams application for Grades 3 to 12 and in all subjects.

Source: Ministry of Education and Higher Education (2020).
(Presentation during ABEGS meeting on 8 December 2020).

تأثيرات جائحة كورونا على المنظومة التعليمية، دولة قطر.

Distance learning resources

Students in Qatar were provided with books, worksheets, quizzes and assignments as part of their learning during the pandemic, many delivered electronically or made available on the national learning management system. In cooperation with Qatar television, two open-access television channels were established, called Education 1 and Education 2. These channels broadcast programming that helps students transition from physical learning in the classroom to learning online from home.

Most resources for distance learning during the pandemic were provided digitally (See Box 2.6). In addition to the national learning management system (LMS), the Ministry gave guidance to schools to use Microsoft Teams to enable video conferencing, written chat, and document sharing and collaboration. Schools used this to facilitate direct communication between teachers, students and parents. Teachers used this platform and the national LMS to teach live, real-time lessons and to have discussions with their students. Students could use either platform to download and submit assignments and activities.

The online video channel, “Distance Learning in Qatar” was divided into 19 sub-channels that provide study materials for all years from kindergarten to grade 12, as well as materials for children with special needs and for adult learning. Text messaging and social media were used as a way for schools to communicate with parents and to keep families informed about the plans and resources available for distance learning.

Pedagogical models for distance learning

The Ministry provided teachers with very detailed and granular guidelines for designing and organising distance learning. These guidelines aimed to create a consistent distance learning experience for all students. For example, the government set a schedule for publishing new educational content. Teachers were required to post new educational videos and links to learning content early in the day for students to access throughout the school day. Teachers also had to follow a schedule to ensure they regularly assigned and marked students’ work. They were also required to interact and respond to both students and parents online. All of these activities, along with the progress of their class’ work, were consistently reported to the Early Education Department. While many education systems provided guidance to teachers, such as model lessons or direction on the amount or duration of live lessons that needed to occur each week, this level of regulation and reporting during the pandemic was not common. On the contrary, most OECD countries have tried to decrease teachers’ administrative and reporting burdens as it was seen as detrimental to their well-being during school closures.

In terms of assessment practices, in addition to assessing students’ regular work, teachers also collected video assessments that student could record in advance and used real-time video conferencing to evaluate students. Some of the e-learning applications used by Qatari students also included online assessment that students could take to demonstrate mastery.

To achieve the objective of continuous, flexible learning for all, Qatar is planning for a future in which distance education plays a key role, either through total simultaneous distance learning or partial, asynchronous distance learning.

1. Simultaneous distance learning: Similar to the learning that occurs face-to-face in classrooms, this distance learning option is implemented in a series of educational “rooms” on the Internet. It involves active, synchronous interaction between teachers and learners or learners and their peers. This interaction can take place through audio or video meetings or via chat or instant messages.
2. Partial, asynchronous distance learning: This system allows the learner to work at the pace that is appropriate to his or her own learning, when it is convenient to them. Students will not have live interactions with teachers other than through message boards and discussion platforms, on which they can ask questions and interact with

peers. They will be able to access a wide variety of interactive, online educational content whenever they choose.

Preparing Qatar's teachers for distance education

Qatari teachers had some knowledge of distance education before the pandemic

One of the challenges facing distance learning in Qatar is that Qatari teachers lack sufficient skills both in using technology for teaching and in designing lessons for distance education, which is not uncommon among teachers around the world. However, even before the pandemic, distance learning pedagogies were part of teachers' formal initial teacher training, and teachers were offered professional development in distance learning – albeit only at some institutions and schools. Qatar's preparations for distance learning prior to 2020 also included involving some teachers in pilots or trials of distance learning.

Teachers in Qatar received professional learning in skills necessary for distance learning but further training is needed

During the pandemic, teachers were offered formal professional development in the form of online training workshops, access to printed or online resources and peer networks within their schools. Teachers also received regular guidance, schedules and follow-up to ensure that they understood the revised schooling plan for the semester and were clear on their new roles as distance educators.

According to the government, teachers in Qatar still require additional professional development in a number of areas in order to make distance learning successful. The most urgent professional development needs are around assessing students using educational technology and instructional design skills for developing effective distance learning. However, the Qatari government also recognises the urgent need for teachers to develop the social and emotional skills needed to cope with their own feelings of stress or issues of work/life balance.

Improving distance learning in Qatar

This box summarises some current policy priorities in Saudi Arabia to improve the quality of distance learning for all students.

Quality of content and delivery of learning

- Producing quality and adapted content for distance learning to complement schools' teaching: In addition to providing resources to help teachers develop their own distance learning content, the government recognised that other content would be necessary for delivery via other channels (such as the national online video channel or the educational television channels). For this reason, various state Ministries and institutions have entered into public-private partnerships with private sector companies for the production of content for distance learning.
- Improving the capacity of the online platform: Although a national learning platform existed before the pandemic, it did not have the capacity needed to accommodate the increased usage by students and teachers, which hindered its operation at the beginning of the period of school closures. The government developed new solutions, using Microsoft Teams as the main learning platform and increasing the amount of content on the online video channels, to alleviate some of the traffic to the national LMS.

Current priorities and planned policies to improve equity of access and learning in a distance learning setting

- Producing content for Special Education Needs students: Recognising that some students with special educational needs might not be able to access the content provided in the mainstream channels for distance learning, the government of Qatar specially produced and published video lessons addressing those students with special needs.
- Helping disadvantaged students access adequate devices and Internet: As with many other countries, the most urgent challenges facing distance learning in Qatar are ones of access to technology. At the beginning of the pandemic, some students did not have access to computers at home for learning. In addition, not all students had access to the Internet at home, and for some who did, connections were poor. The Ministry of Education and Higher Education provided students with devices (computers or tablets) when needed and provided Wi-Fi connections to the Internet.

*Summary snapshot
Table 2.1. Snapshot of distance learning policies and practices in the Arab Gulf States before and after 2020*

Distance Education prior to 2020			Distance learning since 2020								
Country	Purpose and audience	Types of resources used	Teacher training	Organisation of school year in 2019/20	Organisation of school year in 2020/21	Education resources	Teacher Training and support	Student Assessment	Support for Parents	Initiatives for students with Special Educational Needs	Identified challenges
UAE	Students who could not attend school	Project for Smart Learning since 2012, which included a new curriculum for distance learning	Teacher training programme as part of the smart learning programme	School closure during the third term of the 2019/20 academic year	Reopening of schools for the 2020/21 year with option of in-person or online learning	Digital resources including worksheets, books, educational videos, and activities	Workshops on strategies and models for creating online classes, digital tools used in distance learning, code of conduct	Homework submitted online	Virtual summer camps and workshops provided for families to increase digital literacy	N/A	Supporting children with special educational needs,
	Home schooling	For the use of flipped classroom pedagogy and for flexible learning opportunities	Traditional and asynchronous resources available for home learning	Shift to online learning	Blended learning model, combining school, self-paced, and directed online learning	Smart Learning Applications for core subjects	Simulation software to replicate scientific experiments	Free subscription to global platforms specialised in technological skills	Regular end of year exams were held	Detailed instructional guides on the distance learning model and the technology associated with	Parents' lack of technological skills to support their children's distance learning
	For one-to-one tutoring						Online communities to share best practices	Regular end of year exams were held	Free subscription to global platforms specialised in technological skills	Training on blended learning model	Making the best use of the technology available, notably hands-on and experimental based learning applications

Country	Students who could not attend school	Traditional (printed material)	Initial teacher training and professional development included pedagogies for e-learning and online education tools	School closures from February 2020 and suspension of in-person learning for the rest of the academic year	Schools were re-opened for the 2020/21 academic year	National televised lessons uploaded to the EdinNet platform and YouTube	Model lessons and activities provided with flexibility for teachers' to use their own content	Assignments and assessments submitted through the school (in paper format) or electronically	Online training workshops led by schools	Special education specialists provided distance or online education via phone or online methods	Students' access to Internet and digital devices
Bahrain		Learning management system (since 2005, replaced by edinNet in 2015) used for flexible learning opportunities, flipped classrooms, and live discussions				Printed textbooks and material distributed to students through schools	Free professional development opportunities	Possibility of online assessments through e-learning programs	A technical support page for parents on edinNet		Lack of technological skills and low levels of education of parents
						Synchronous learning through Microsoft Teams	E-teams of teachers to share best practices	Structure of exams was changed by the MOE	Hotlines for technical support for parents		
Kuwait	Supplement to in-school instruction for some subjects in secondary education	Traditional resources	Teacher professional development opportunities in technology topics and skills for distance learning	School closure starting 19 March 2020	No reopening of schools	Textbooks delivered to students' homes	Ready-made lesson material	Assignments submitted online	Some training offered to parents	Training offered to students with SEN and their parents and teachers	Students' lack of technical skills
		Educational TV channel allowing for flipped classroom	Shift to online remote learning	Shift to distance learning		National televised lessons and YouTube channel (not updated)	Plans for teacher training and development opportunities were developed	Assessments through e-learning applications or through live or pre-recorded videos			Parents' lack of technical skills
						Microsoft Teams for live sessions, access to videos and presentations		Certification exams for Grade 12 were planned to be held in-person in September 2020			Lack of adequate technology and poor Internet connection of teachers and students
						Online portal piloted for Grade 12 in June 2020					Teachers' need for training on pedagogical and technological aspects of distance learning

**Saudi
Arabia**

Oman	No formal distance learning prior to 2020	Digital resources (e-books, videos, audio tracks) and forums available for teachers and students for flexible learning opportunities and enrichment	Initial teacher training or professional development on distance education	School closures starting 15 March 2020	Reopening of schools in November, 2020	Textbooks distributed to all students	Cascading training programme to reach all teachers	Homework submitted online	Instructional guides provided to parents for the use of e-learning platforms	N/A	Limited or lack of Internet access in students' homes
	“Live Lesson Programme” for exam preparation for Grades 5 to 12	TV programme, “Live Lesson Programme” for exam preparation for Grades 5 to 12	Shift to online learning for most students	Blended learning model for Grade 12 and full online learning for Grades 5 to 11	TV programme of live lessons for Grades 5 to 10	Digital resources (electronic textbooks, videos, audio books in English)	Additional support provided through WhatsApp groups and access to trainers	Self-assessments through e-learning products	Assessments done online or through video assessment	Regular end of year exams were held	Under-developed communication between parents and schools

Qatar	Students who could not attend school	National learning management system that allows students to communicate with teachers and submit assignments	Limited training, professional development	School closures starting 10 March 2020	Reopening of schools for 2020/21 year	Digital resources (books, worksheets, quizzes, assignments) and live lessons through the national learning management system	Model lessons and instructional material	Homework submitted through learning management system or Microsoft Teams	Training for parents on how to use learning platforms to monitor their children's learning and communicate with teachers	Online video channel provided to students with SEN	Limited or lack of internet access or technological devices in students' homes
	For the use of flipped classroom pedagogy	E-learning platform with interactive content and resources	Shift to online learning	Blended learning model for all levels of public and private schools	Open-access TV channels	Microsoft Teams for live video lessons, document sharing and collaboration, and communication between teachers, students and parents	Online resources and peer networks within schools	Online training workshops	Online and/or video assessment (pre-recorded and live)	Regular end of year exams were held for Grade 12	Need for teacher professional development on the pedagogies of distance learning and the tools to develop social and emotional skills

3 Building Teacher Capacity for Distance Learning

This chapter presents the teacher competencies required to be an effective teacher of distance learning. It also sums up the current situation of teacher preparedness in the Gulf and how governments in the Arab Gulf States can develop action plans to improve teachers' capacity for distance learning.

Introduction

Teachers are a vital and important part of distance learning. To be successful teachers of distance education, teachers need to have all of the skills that are required of them for face-to-face learning, as well as the ability to design successful distance learning lessons and activities, monitor and assess student progress from a distance, and engage with any technology required to make this happen (Christensen et al, 2013). Preparing teachers for distance education requires training them in methods and pedagogies that will make remote learning engaging for students and help support and scaffold learning at a distance (Basaza et al, 2010).

This chapter discusses in detail the additional skills that teachers need to be successful teachers of distance learning and explores the international data that gives policymakers an indication of the preparedness of teaching workforces around the world. It provides recommendations for governments on content and format of initial teacher preparation and continuing professional development that are especially suited to equipping teachers for teaching at a distance.

What skills and competencies do teachers need for distance education?

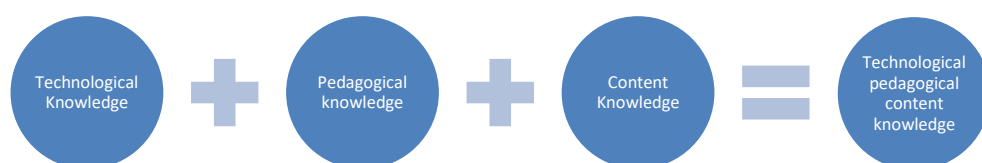
When considering the skills necessary for today's distance educators, fluency in the usage and application of a myriad of technologies is often the main focus. However, as discussed in Chapter 1, distance education pedagogies are different from those which are successful when teaching face-to-face. Teachers need to learn new pedagogies for distance education and how to apply varying technologies to achieve a diverse set of outcomes. They need to evaluate, motivate and support students without having all of the visual and auditory cues they would have if the students were sitting in the same room. They also need the skills to design compelling, student-centred learning that can be self-paced and engaging and challenging for learners of differing abilities, at a distance. Also discussed in Chapter 1 is the need for close relationships between parents and educators in order for distance learning to succeed. Teachers need to learn how to build and nurture relationships with parents and caregivers as well.

In addition, governments need to support and help teachers develop skills to support their own professional growth and well-being. Teaching is already considered an isolating profession (Ostovar-Nameghi & Sheikhamadi, 2016) but teachers of distance education are even more isolated from colleagues as they do not have physical contact with other teachers throughout the school day. As teacher collaboration has been shown to be positively related to students' academic achievement (Dumont et al, 2010) and to teachers' self-efficacy and job satisfaction (OECD, 2014), teachers of distance education also need to learn how to collaborate and network with colleagues virtually.

Technological, pedagogical, content knowledge for distance education

Traditionally, initial teacher preparation focuses on providing teachers with knowledge around the content of the subject area they teach, as well as pedagogy, or knowledge about how to teach, both in general and in their specific subject area (Guerriero, 2017). The TPACK model (which stands for Technological, Pedagogical and Content Knowledge) asserts that for teachers who teach with technology, including those who teach at a distance using technology, a third domain of technological knowledge is necessary. In other words, initial teacher training and continuing professional development for teaching with technology should consider the intersection of technology, pedagogy and content (Moore-Adams, Jones & Cohen, 2016) as illustrated in Figure 3.1.

Figure 3.1. TPACK: The technological, pedagogical and content knowledge needed for online learning



Source: Adapted from Moore-Adams et al, 2016.

The TPACK model also asserts that skills in these individual areas are not sufficient. Teachers need to be able to master competencies at the intersection of each of these domains. For example:

- Technological Pedagogical Knowledge: How can teachers build relationships with students when they are not in physical contact with them? How can teachers address inappropriate student behaviour online?
- Technological Content Knowledge: How can teachers use their knowledge of the subject and their students to integrate technology that will make the content come alive for students?

As the model indicates, teachers need to have a deep understanding of their own content area, as well as how technology and an online environment might influence what they are trying to teach and how they teach it (Archambault et al, 2014). They need to

understand how technology impacts synchronous or asynchronous instruction and need to be informed by the research and theory behind successful online learning (Avgerinou & Moros, 2020). All of this needs to be taken into consideration when planning professional development for distance or online learning (See the last section in this Chapter).

How prepared are teachers to teach with technology?

According to the TPACK model, at a minimum, teachers should possess technological knowledge as follows:

- High level of proficiency in the technology used for online learning
- Ease in navigating other online environments
- Basic technology skills to enable adoption of new digital tools for learning
- Ability to search for or develop resources to fulfil certain objectives
- Ability to provide recommendations of high-quality online resources for learners (Moore-Adams et al, 2016).

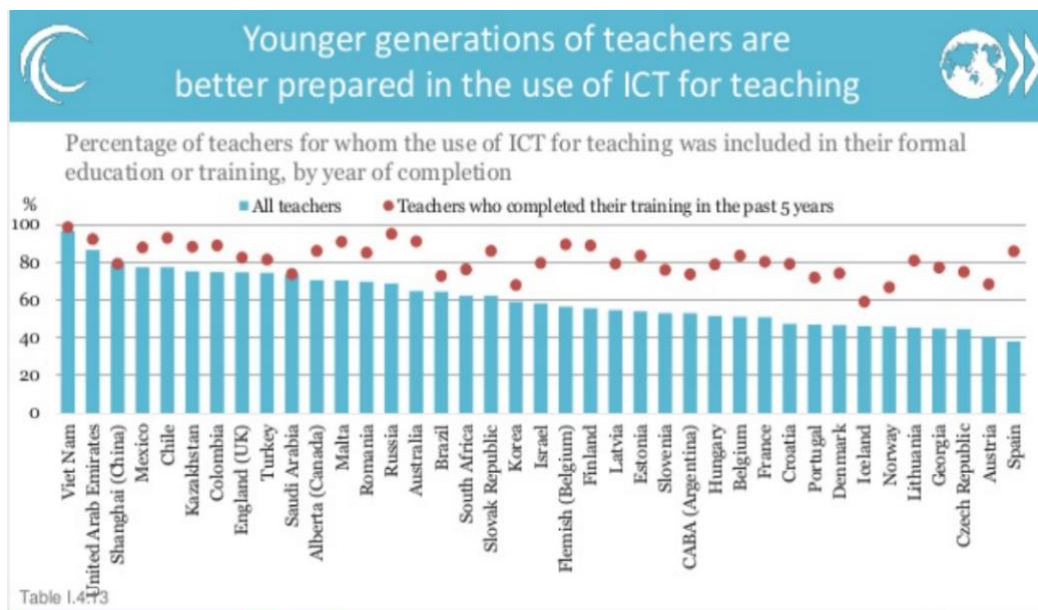
Despite progress, however, an important number of teachers in OECD and Gulf countries still lack the necessary technology skills and confidence which may prevent a smooth transition to distance education. A sizeable number of teachers participating in TALIS 2018 reported feeling less confident with technology than they should be to support remote learning using ICT. Across OECD countries, about two-thirds of teachers (67%) said they felt they could support student learning through digital technologies (OECD, 2020d). This is one area in which teachers in Gulf States may have an advantage, as TALIS data indicate higher percentages of teachers in the Kingdom of Saudi Arabia (75%) and United Arab Emirates (88%) feel confident supporting student learning through technology. School principals also showed some scepticism as to whether teachers had the necessary skills for distance learning. One in three students attend schools where principals do not believe that teachers have the necessary technical or pedagogical skills for integrating technology in teaching at a distance (OECD, 2020b).

This lack of teacher confidence could be related to how often teachers use technology with their students in face-to-face classroom settings. Across OECD countries, only 53% of teachers say they frequently or always let students use ICT for class work. In Saudi Arabia, less than half (49%) of teachers report letting students use digital technologies with this level of frequency, while in the United Arab Emirates, it is more than three-quarters (77%). It became clear during mass school closures of 2020 that a deficit in teacher skills around using digital technologies could provide a barrier to all students receiving a quality education at a distance (European Union, 2020). Thus many educationalists and policy-makers in 2020 came to believe that technology proficiency is no longer optional for teachers: it is required (Beteille et al, 2020).

Another explanation for teachers' lack of confidence in using digital technologies could be the initial formal training they undertook to become a teacher. In 27 of the 45 countries participating in TALIS 2018, teachers who report that their pre-service teacher training included teaching with technology are more likely to let their students use ICT in class (OECD, 2020c). Across the OECD, 56% of teachers said that teaching with technology was included in their initial teacher preparation. Teachers in the Gulf States participating in TALIS 2018 report being better prepared in this area by their initial training: 73% of teacher in Saudi Arabia and 87% of teachers in the United Arab Emirates report that their formal preparation to become a teacher included teaching with technology. When asked how well teachers thought this formal training prepared them for these areas, only 43% of teachers said they felt well or very well prepared to teach with technology. Again, these figures are higher for Gulf nations, with 72% of teacher in Saudi Arabia and 86% of teacher in the United Arab Emirates saying they felt well or very well prepared to teach with technology (OECD, 2019b).

International trends show that many countries around the world are more and more prioritising ICT in teacher education. Younger teachers may well be better prepared for using information and communications technologies (ICT) in their teaching, however, as a higher percentages of teachers who completed their initial training within the last five years report that teaching with ICT was included (see Figer 3.2). It is interesting to note in Figure 3.2 that while this is true in most countries, there does not seem to be a difference between more experienced and newer teachers in Saudi Arabia or the United Arab Emirates.

Figure 3.2. Percentage of teacher for whom the use of ICT for teaching was included in their formal education or training, by year of completion.



Source: OECD (2019b), *TALIS 2018 results (Volume I): Teachers and school leaders as lifelong learners*.

To have a high-quality and equitable system of distance learning across an education system, however, all teachers – not just the ones the younger generations – need to be proficient in the use of digital technologies. This requires a robust system of professional development to help teachers whose skills are lacking. However, such a system is lacking in most countries. In all three TALIS surveys (2008, 2013 and 2018), teaching with ICT was one of the top two needs for professional development expressed by teachers. In 2018, 18% of teachers in OECD countries reported a high level of need for professional development around using ICT skills for teaching (OECD, 2019b).

In spite of teachers' professional development needs around teaching with technology, teachers are not necessarily pursuing additional development or training in this area. Four out of ten teachers did not attend any professional development in ICT skills during the year prior to the TALIS survey. Across OECD countries, more men (62%) than women (59%) participated in professional development for ICT skills. Participation rates were also higher for experienced teachers (61%) than novice teachers (58%) and for teachers of STEM subjects (64%) than non-STEM subjects (59%). In all but two countries, teachers

who had had professional development around teaching with ICT were more likely to let their students use it in class (OECD, 2020b). Governments need to consider how to address these persistent needs for professional development and training around the use of technology in teaching, at all stages of a teacher's career. The European Commission has recognised the need to prepare teachers to teach with technology; for years they have provided a variety of learning opportunities for teachers at all stages of their careers (see Box 3.1).

Box 3.1. Professional development from the European Commission

The European Commission regularly monitors the use of digital technologies in education across its member states. In 2019, it found that compulsory teacher professional development around teaching with technology is not common in European countries; rather, six out of ten students are taught by teachers who have to engage in such training in their own time. The European Commission offers a number of opportunities for teachers, leaders and schools across Europe to build their skills around incorporating technologies into teaching and learning. These include:

- **Twinning:** This online network allows teachers and other school staff to collaborate on common projects with peers in other European countries. They offer free online professional development and online seminars to all members.
- **School Education Gateway:** This online platform offers school leaders and teachers alike the opportunity to attend free professional development in person or online in the form of webinars or MOOCs (Massive Open Online Courses) in a variety of topics. During the COVID-19 pandemic, a number of resources to support schools in distance learning were added to this platform.
- **SELFIE:** SELFIE stands for Self-reflection on Effective Learning by Fostering the use of Innovative Educational technologies. It is a free self-assessment for schools to understand their readiness for embedding technology into teaching, learning and assessment. Based on data from teachers, students and school leaders on how technology is currently being used in school, SELFIE provides schools in Europe and beyond with report the strengths and weaknesses in their technology use.

Source: European Commission, 2019

How prepared are teachers for distance learning pedagogy and content?

Just as with traditional, face-to-face learning, teachers of distance learning need to have a high level of knowledge of the content that they are teaching and continually develop their own knowledge in their subject area (Moore-Adams et al, 2016). The pedagogies

required for distance learning seem similar to what teachers might use in a classroom, but teachers must alter how they teach to achieve the same objectives at a distance. For example, teachers still need to develop relationships and make connections with learners, but this becomes more challenging when teacher and learner are not in the same room. Teachers need to offer scaffolding support to students when appropriate, but it becomes more complicated to identify students who are struggling when they are working independently at home. Teachers also need to understand discipline and behaviour management of students online and develop activities that keep them engaged in their learning (ibid).

Teachers are first introduced to the content and pedagogy of what they are to teach during their initial teacher preparation. While most teachers feel prepared to teach content and pedagogy in a classroom setting, emerging evidence from 2020 shows that they are facing difficulties translating their pedagogical skills into a distance learning setting. According to TALIS data, the majority of teachers in OECD feel that their formal training prepared them well for both the content (80%) and pedagogy (71%) of what they teach in a classroom environment. These percentages are even higher in the Gulf States of Saudi Arabia (more than three-quarters of teachers in both areas) and the United Arab Emirates (more than 90% of teachers in both areas). In most countries, teachers' initial teacher preparation does not prepare them for distance education (Moore-Adams et al, 2016). Thus countries need to consider adding distance learning pedagogy to the teacher preparation for new teachers, and providing professional development in these areas for those teachers already in the profession. Some countries such as China already offer such professional development, as described in Box 3.2.

Box 3.2. Providing teacher training in distance learning pedagogy.

During the 2020 school closures in China, the Ministry of Education instituted a programme called “Disrupted Classes, Undisrupted Learning,” which drove the remote education provided to all Chinese students. Part of this programme included providing teachers with research-driven guidance on pedagogies to be used to help them deliver a successful distance education. From the research literature, they understood the challenges associated with engaging students remotely and encouraged teachers to focus their pedagogy as follows:

1. Foster a sense of community amongst learners
2. Provide regular feedback to students
3. Alleviate student stress by discouraging competition

To address the third priority, teachers were provided with ideas for assessment that did not involve traditional tests, such as e-portfolios, which could demonstrate students’ progress over time to both learner and teacher.

During the same period in the State of California, teachers were given the pedagogical guidance to focus on developing their “teaching presence” online. The concept of presence in distance education emphasises that the teacher plays a vital role in student success in distance education. As such, learning should be designed so that the teacher remains highly visible to the student, rather than encouraging the student to mainly work independently. In California, teachers were given concrete examples of how to be present while teaching at a distance. These included making use of formative assessment and recording a short video each week for students that reviewed learning from the previous week and explained what students would learn in the coming week.

Source: McAleavy, T. & Gorgen, K. (2020).

How prepared are teachers for classroom management in distance learning settings?

Classroom management includes helping students stay on task, behave in a way that is not disruptive to learning and treat other students and teachers with respect. It also involves some of the administrative tasks associated with teaching, such as taking attendance, organising students into groups for learning, and noting student participation in activities. Some of these activities are alleviated in distance education; for example, teachers no longer need to create seating charts when students are working individually at home. Likewise, students can avoid disruption from their peers by simply turning down the volume on their computer speakers. However, some aspects of classroom management become more

challenging when students are not sitting in the same room with their teachers. For example, students may look like they are paying attention from the teacher's computer screen, but they could actually be watching a movie on their computer or doing something else altogether. Part of keeping students on task in distance learning involves developing engaging and motivating student-centred learning activities that capture students' attention. However, teachers also need to develop practices to monitor students' continued learning and keep them on task.

While fewer teachers across the OECD express that their initial teacher preparation prepared them for student behaviour and classroom management (53%). Although these percentages are also higher than the OECD average in Gulf countries, they may hide real difficulties in managing remote or virtual classrooms. Countries will want to include classroom management of distance education classrooms in their initial teacher preparation programmes for new teachers, as well as providing continuing professional development for those teachers who are new to distance education. A central set of guidelines developed with researchers, teacher educators and current teachers for classroom management of online or remote spaces would also be helpful.

Planning for learning at a distance

In addition to developing the technological, pedagogical and content knowledge needed for distance learning, teachers need training in how to develop learning materials for online or distance learning (Basaza et al, 2010). Student-centred learning – especially when delivered remotely – requires new ways of teaching with which teachers might be unfamiliar (Morgan, 2020). Teachers need to provide ways for students to connect to collaborate with each other, even if they are not in the same physical location (Curtis & Werth, 2015). Teachers need to be creative in order to adapt different practices to support students who need extra help. For example, teachers can create mini lessons using video to help explain concepts to learners (Morgan, 2020). These can be available in a resource bank of sorts for students to access when they need them.

As well as the pedagogical considerations discussed earlier, there are certain characteristics of online learning that need to be considered in order to develop high-quality online learning materials. Each of these dimensions contains several choices that need to be made by online learning designers, whether these are individual teachers or system-level content providers. These elements all need to be taken into consideration by governments, teachers or other instructional designers when planning and creating online learning (see Figure 3.3).

Figure 3.3. Nine dimensions for designing online learning materials.

Modality	Fully online
	Blended (consider percentage of online or F2F)
	Web-enabled F2F??
Pacing	Self-paced (learners have open enter and exit)
	Class-paced
	Class-paced with some self-paced
Student-Instructor ratio	<35 to 1
	36 to 50
	51 to 100
	Etc
Student Role Online	Listen or read
	Collaborate with peers
	Explore resources and simulations
	Collaborate with peers
Synchrony	Asynchronous only
	Synchronous only
	Some blend of both
Pedagogy	Expository
	Practice
	Exploratory
	Collaborative
Source of Feedback	Automated
	Teacher
	Peers
Role of online assessments	Determine if student is ready for new content
	Tell system how to support the student
	Provide student or teacher with information about learning state
	Input to mark
	Identify students at risk of failure

Source: Adapted from Means et al, 2014.

How prepared are teachers for designing student-centred learning?

As discussed in detail in Chapter 1, research into high-quality distance learning recommends using pedagogies that engage students in their own learning, to keep them motivated when they are not in the same physical space with their teachers and peers. Student-oriented pedagogies are often provided as one example of a way to ensure students

are engaged in learning even when working remotely (Morgan, 2020). The idea of giving student more control over their own learning is one that has been espoused by educationalists for decades in traditional classrooms as well. TALIS 2018 measured the frequency with which teacher report using certain student-centred pedagogies in traditional, face-to-face instruction, including:

- Having students work in small groups to come up with a joint solution to a problem or task
- Giving students projects that require at least a week to complete
- Asking student to decide on their own procedures for solving complex tasks

Across OECD countries, the majority of teachers do not, in most cases, report using these practices with high frequency in their teaching. Half of teachers in OECD countries report frequently or always having students work in small groups, while only 29% of teachers frequently or always assign students projects that take at least a week to complete and 45% let students decide on their own procedures for solving complex tasks with the same frequency. Teachers in the Gulf states of Saudi Arabia and the United Arab Emirates report using both of these practices more frequently when compared to the OECD average. In Saudi Arabia, nearly three-quarters (72%) of teachers frequently or always use small groups, while in the United Arab Emirates 84% do. In both Gulf nations, far fewer teachers report assigning projects that take more than a week to complete (in Saudi Arabia 42% of teacher report this while in the United Arab Emirates, 55% do), which makes sense as these kinds of long term projects cannot be assigned to students every day. More than half of teachers in Saudi Arabia (56%) frequently or always ask students to decide on their own procedures for solving complex tasks, while 70% of teachers the United Arab Emirates report using this practice with the same frequency.

This indicates that teachers may be prepared to use student-centred practices such as these in face-to-face teaching, but they will still need professional development to understand how to employ these same practices at a distance. For example, when assigning students to groups in distance education, teachers need to think about how large groups should be if students are to have success working remotely. How will teachers monitor each student's contribution to the group and make sure they are contributing equally? What additional skills do students need to have to be able to collaborate successfully with peers at a distance? (Jacobs & Ivone, 2020).

How much time do teachers need to plan learning at a distance?

Teachers who are transitioning to distance learning or are not familiar with it need to be given more time to prepare for distance learning, since it requires a different style of teaching and different resources. Moreover, teachers of distance learning may be planning and delivering lessons twice; once for a real-time or live virtual classroom, and another as a

recorded lesson to be delivered asynchronously. Already only 61% of school principals reported that teachers have sufficient time to prepare face-to-face lessons that integrate digital devices into learning (OECD, 2020a). Teachers also spend significant proportions of their weekly working time on planning lessons for face-to-face instructions. On average across OECD countries, teachers already spend more than 17% of their total working time (approximately 7 hours of a 39-hour week) planning or preparing lessons either inside or outside of school. These percentages are higher in Saudi Arabia, where teachers spend roughly 20% of their total teaching time planning (approximately 6 hours of a 29-hour week), but similar in the United Arab Emirates, where teachers report working a longer week (40 hours) and spending 7 hours planning.

There were many reports in the media about the long hours teachers worldwide were working during the period of school closures in 2020 and how this has negatively impacted teachers' well-being and their interest in staying in the teaching profession¹. If teachers are to plan student-centred lessons using new pedagogies for distance learning, they need to be given extra time that does not add to their already overwhelming workload. Some countries have already taken this into account during the COVID-19 pandemic, as discussed. In Brazil for example, the Sao Paulo government used the school holiday period to help teachers prepare and transition to distance learning (see Box 3.3).

(1) For example, see: From the United Kingdom <https://www.tes.com/news/exclusive-one-seven-teachers-brink>; From France: http://www.cafepedagogique.net/lemensuel/laclassse/Pages/192_Sommaire.aspx; From the United States: <https://www.nytimes.com/2020/11/30/us/teachers-remote-learning-burnout.html?referringSource=articleShare>

Box 3.3. Providing teachers with planning time and resources for remote learning in Brazil and the United Arab Emirates

When the government of the state of Sao Paulo in Brazil realised that schools would need to close due to the spread of COVID-19, they immediately changed the school calendar to bring the approaching school holiday period forward. This gave the government, teachers and schools two weeks in which to plan and prepare for remote learning. During this period, the government offered free online training every day for all of the State's 54 000 teachers in how to teach remotely. They also created a mobile phone app with which teachers could record or broadcast video or audio content for students anywhere, and anytime.

At the beginning of the pandemic in the United Arab Emirates, the Ministry of Education and Hamdan bin Mohammed Smart University trained over 42 000 teachers on distance learning in a 24-hour period. The online course, titled "Be an online tutor in 24 hours" offered teachers skills in how to manage online classrooms and use the technology necessary for these platforms. A second course, titled "Design an online course in 24 hours" was offered a few days later. Thus teachers in the United Arab Emirates were able to begin the period of distance learning with some initial preparation for how to plan and manage lessons through technology.

Source: Dellagnelo & Reimers, 2020; Mojib, 2020.

Collaborating with peers

All of the skills and competencies discussed so far in this chapter are vital for systems to properly prepare teachers for teaching at a distance. However, it is important to remember some of the other aspects of teaching such as collaborating with peers, that not only help teachers to learn from each other, but can help them improve their own teaching practice as well (Reeves, Pun & Chung, 2017). Indeed, some feel that teacher collaboration is in itself a form of continuing professional development for teachers (Trust, Krutka & Carpenter, 2016).

Teachers were even more isolated during the COVID-19 pandemic, as they were unable to enjoy much of the camaraderie and professional support of trusted colleagues when teaching at a distance. To combat this isolation, teachers of distance learning need more than ever to be part of professional networks as part of their virtual school and beyond since they will not experience the same collegiality that naturally occurs inside a school building. Unfortunately only 40% of teachers on average across OECD countries report being part of such a network for their professional development. In Saudi Arabia, 43% of teachers report being part of a network for professional development, while in the United Arab Emirates a majority of teachers (70%) report the same. Teachers also need school leaders who will help

them foster relationships with other teachers at their school, whether in-person or virtual. Again this is an area that requires attention, as according to TALIS 2018, large shares of principals report a high need for professional development are in developing collaboration among teachers: 26% of principals across OECD countries, 23% of principals in Saudi Arabia and only 12% of principals in the United Arab Emirates report this need.

Working with parents in distance education

Teachers are also required to be even more closely connected with parents when teaching at a distance as teachers and schools must aid parents in supporting their child's learning (see Chapter 1). Yet out of the average 39-hour work week, teachers spend only 1.4 hours per week communicating with parents and guardians. Furthermore, only 9% of teachers report a high level of need for further development in this area. This can be interpreted as a reflection of the fact that parental communication might not happen as much as it should, rather than an actual skills deficit for teachers (OECD 2020b).

Some countries already had systems in place for teachers to learn from each other; others provided opportunities for teachers to connect to other practitioners during the COVID-19 pandemic (see Box 3.4).

Box 3.4. Teacher networks and collaboration in France and the United States

When France was planning for imminent school closures in 2020, the Ministry of Education called on its network of Digital Education Advisors to support schools and teachers as they translated from face-to-face to distance learning. These advisors typically work with schools, groups of schools and other organisations (such as industry) on a regional level to aid in the use of digital tools in education. As such, the advisors have strong local networks that could help them support schools and disseminate best practice. During 2020, the Digital Education Advisors also provided online training to teachers and school leaders about technology and other digital resources to use for remote learning and shared and promoted teaching and learning practices to teachers in their regions.

Edcamps, a form of peer-learning for teachers, emerged in the United States in 2010 and have since grown to 43 countries around the world. The Edcamp model is a form of “un-conference” at which participants plan and lead the professional development sessions depending on their own needs. It is an opportunity for teachers to learn from peers both by attending the conferences and collaborating on their development. During the COVID-19 pandemic, Edcamps were hosted and run entirely online to provide professional development around the transition to remote learning. They focused on supporting teachers’ use of technology and sharing ideas and techniques for distance education, while providing participants with an opportunity to network and make connections with peers in the same situation.

Source: Vincent-Lacrin, 2020; Modica, 2020.

How can governments provide professional development for distance learning?

As this chapter explains, teachers need substantial preparation to teach successfully at a distance. Ideally governments would embed distance learning pedagogical and technological skills for teachers into initial teacher preparation and ongoing professional development systems within an education system. One of the reasons that South Korea's transition to distance learning worked so seamlessly during the COVID-19 pandemic, was that teachers had already been receiving extensive training in using ICT and structures were in place to offer additional professional development at a distance (see Chapter 1). According to TALIS data, most teachers around the world are not familiar with participating in professional development that is offered online. Before the COVID-19 crisis, only 36% of teachers reported that they had attended online professional development (OECD, 2020d).

Professional development for distance education can and should be thought of at a national – or system-wide – and local level. In the United States, multiple organisations working in virtual schooling have collaborated together to develop standards for online instruction. The National Standards for Quality Online Learning¹ include competencies like engaging learners, teaching to diverse groups of learners, pedagogy for digital teaching, instructional design, assessment and digital citizenship.

School-specific training, such as that for a school-wide learning platform, for example, can be offered to all teachers within a school. Other professional development needs to be more targeted to teachers of specific subjects or year groups, since teachers also need to be familiar with technology products and online learning pedagogy for teaching their own subjects, as well as the differences between teaching older and younger children. (Avgerinou & Moros, 2020). Research has also found that such professional development is more effective when it is offered by teachers who are themselves successfully addressing these challenges in their teaching (Avgerinou & Moros, 2020).

Finally, governments need to continually seek feedback from teachers and school leaders to monitor their professional development needs and ensure that the professional learning that is offered is meeting those needs. This is something that few countries in the Gulf States reported doing during the COVID-19 pandemic, and it would be a useful practice to embed in any education system on an ongoing basis.

shows what a continuum of teacher professional learning for distance education might look like over the course of a teacher's career.

(1) <https://www.nsqol.org/>

Table 3.1. Distance learning professional learning for teachers throughout their careers

Career stage	Topic of professional development
Initial teacher preparation	TPACK for in-person learning TPACK for distance learning Pedagogies for blended or hybrid learning Instructional design for Classroom management for in-person and distance education Assessment for in-person and distance education
Novice teaching (0-5 years)	School induction to distance learning model used at that school Ongoing mentoring to develop practices in above areas.
Regular data collection from government	Survey or other feedback from teachers and school leaders to assess professional development needs.
Continuing professional development	New technology tools to be used in distance education New distance learning practices Refresher courses in any of the areas covered in Initial teacher preparation Ongoing mentoring, lesson observation and collaborative professional development offerings with peers.

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4 Policy Pointers for Distance Learning in the Arab Gulf Region

The final chapter of the report is targeted at policy-makers and provides pointers to help them design and implement distance learning policies that ensure quality learning for all students. The chapter builds on the analysis from the earlier chapters of the report and on the results of the questionnaires shared with the Ministries of Education of the six Arab Gulf Countries in late 2020.

Introduction

As is the case in most countries around the world, distance learning in Arab Gulf States prior to 2020 was most used to provide education to seriously ill children or those who were unable to physically attend school. As such, when the COVID-19 pandemic of 2020 struck, these countries, like most other countries around the world, were making a universal shift to distance education without having tested it on a large scale before. Policymakers, school leaders, teachers and parents were not yet sure where inequities and deficiencies (in skills and equipment) would lie until the system of remote learning was well underway. It was then up to education decision-makers at all levels to put policies and practices in place to ensure that as many learners as possible could continue to access a high-quality education while in-person schooling was closed.

This chapter aims to provide policy pointers to Arab Gulf States to help them design action plans for quality and sustainable delivery of distance learning after the COVID crisis. It discusses issues highlighted by Ministries of Education themselves as policy priorities well as themes observed in data from all countries' questionnaire responses.

Policy pointers to improve the quality of distance learning in the Gulf States

Education systems in the Arab Gulf region were rightly concerned about the quality of the distance education they could provide to all learners during the rapid transition to distance learning in 2020. However, education systems in the Gulf region had several advantages that may not have been present in other education systems and which worked to their benefit during this period of school closures. First, because most education systems in the Arab Gulf states are centralised, they had the advantage that any resources they provided were available to all schools. For example, most countries created a national-level learning platform that was available to all public schools in the country, thus alleviating the need for individual schools or school systems to source and provide their own technology systems, which was a common occurrence in many other countries around the world. Likewise, any video or digital content that was created could be mapped to the national curriculum, ensuring that any public school or teacher could use it.

Second, all countries in the Gulf region recognised the importance of rapidly helping teachers acquire the skills necessary for distance learning, whether technical or otherwise. To support their teachers, most of whom had little to no experience teaching at a distance, all countries in the Gulf region offered teachers professional development free of charge during the pandemic, which is not something that occurred in all OECD countries, for example.

Despite these efforts, ensuring that teachers, students and parents have the necessary skills needed for distance learning remain a challenge. Arab Gulf countries express concern with further improving skills, both for the teachers who have to understand and employ the technologies, pedagogies and practices needed for distance learning, and for the parents who

need to support their children's learning from home. Most countries also acknowledged a need for teachers to develop skills related to managing their own social and emotional well-being. Other areas such as teacher and student well-being while using distance learning are also key challenges facing Arab Gulf states.

The sections that follow expand on the specific policy pointers that are relevant for governments of Gulf countries who are interested in improving the quality of their distance learning offerings.

Preparing teachers for distance learning from the beginning of their careers, and supporting them throughout their career

The previous chapter discusses the topic of teacher professional development for distance learning in some detail. Some Gulf States have been offering teacher professional learning in technology-related topics for years prior to the pandemic, both as part of teachers' initial preparation and as continuing professional development. Moreover, all countries offered professional development to teachers during the period of school closures, which also tended to focus on the technology being employed to implement distance learning.

While additional technology training would certainly be helpful in terms of preparing teachers for one aspect of distance learning, it is by no means all that is necessary, as Chapter 3 explains. Other key competencies for distance learning such as pedagogy, content development and assessment strategies should form part of teachers' initial preparation to enter the profession as well as continuing professional learning offered throughout their careers. These competencies should be defined in teacher standards and form a part of the observations and evaluations that are ongoing throughout a teachers' career to help improve their teaching and build their expertise. to help improve their teaching and build their expertise.

Key teaching competencies for distance learning

- Pedagogy: Teachers need to understand the pedagogical skills necessary to teach at a distance.
- Content development: They should also be well versed in instructional design so that they can create high-quality distance learning lessons and activities.
- Assessment strategies: Teachers also need to be comfortable assessing students at a distance.
- Technology skills: Teachers need to be kept up-to-date on the technology that is used for distance learning and other technology that they can use with students to further their learning.

Building parents' skills so that they can support their children's learning

Parental digital skills are an issue around the world including in Arab Gulf States. As in all countries parents experience barriers to supporting their children that are due to their own level of education, digital skills, native language or the negative experiences they might have had in their own education. In Canada, for example, a report was published in July 2020, based on a survey of 32 000 parents or carers who had to support their children during the period of remote learning. Survey results indicated that those children whose parents had higher levels of education also had higher levels of participation in the home-schooling activities (Greenlee & Reid, 2020).

Parental involvement in a child's education is important at any time, as research shows it is related to improvement in a variety of student outcomes (Comfort, 2003; Higgins & Katsipataki, 2015). However, it is especially important in distance learning, as parents are required to support children in their learning, answering questions when needed and helping students – especially the youngest learners – stay on task and remain motivated to learn.

Guidance on parental engagement and support suggests that schools and governments should offer trainings for parents, both in terms of building parental skills but also in providing parents with concrete ways in which they can help their children with learning. It is important that schools specify exactly what is needed from parents in terms of support, materials, frequency, and so forth. In addition to delivering training for parents, schools should also provide professional development to teachers as to how to involve parents. Advice suggests working with groups of parents, rather than isolating individual families, which can make them feel stigmatised. Building trust with parents is important, especially when the parents themselves may have had negative schooling experiences. For this reason, a sustained programme of in-person events, during hours and in locations that are convenient to parents, are especially important (as opposed to a one-time training at a school or government building). Home visits might be necessary for those families with serious needs or who require additional support (Education Endowment Foundation, 2020).

Monitoring and addressing teacher well-being and increased workload due to distance learning

Teacher well-being, including levels of stress and teacher perceptions of their workload are important issues for policymakers to consider as research indicates they are related to teacher job satisfaction, self-efficacy and attrition, and through this, to teaching and learning quality (OECD, 2020). Even without the added pressures of rapid transitions to distance learning and a global pandemic, teaching can be a stressful profession. Responses to the questionnaires from countries in the Gulf region indicated the additional workload that teachers experienced during the period of distance learning, which included, in some cases:

- Learning to teach with new technologies, including attending additional professional development to learn how to use these technologies.
- Teaching live lessons to one group of students and then recording the same lessons – either televised or for use in blended learning – for those students who could not attend the live lessons.
- Creating two sets of activities and collecting and marking two sets of student work, both online and on paper.
- Adhering to a government-set schedule for publishing new materials, teaching live lessons, marking student work and providing help for students.
- Providing extra support to parents and students with special needs.
- Being available for live chat, phone calls or text messages from parents and students.

Governments and schools in Arab Gulf States should put policies and programmes in place to support teachers' well-being for distance learning. For example, government should support and facilitate virtual collaboration and set peer-learning platforms for teachers to avoid teacher isolation. Research suggests that while most initiatives around teacher well-being tend to focus on the individual teacher, they should actually focus on the school staff as a whole (Dabrowski, 2020). Especially in distance learning, it is challenging for teachers to collaborate with colleagues, and they do not have access to casual conversations with peers during which they can ask questions or seek advice. It might be easier for teachers to forget that they are a part of something larger and are not alone.

Addressing issues of student well-being during distance learning

Having a safe learning environment and general student well-being are vital for quality distance learning. It is harder for teachers to evaluate their students' well-being when teaching remotely and may miss important warning sign about a student's well-being. Countries need to make sure they have plans in place to identify signs of abuse or mental or physical health issues while remote learning is used. The Ministry of Education may consider partnerships with the Ministry of Health or other social services to make sure there are more people available to collect data from schools, families and students, and to make regular in-person visits to families when needed.

Policy pointers for providing equitable access to distance education in the Gulf States

All nations in the Arab Gulf region made considerable efforts to create equitable systems of distance learning during the school closures of 2020 and 2021. Arab Gulf countries made efforts to alleviate barriers to access distance learning, but there is still more work to be done to ensure that all student have access to the same quality of distance education, regardless of their socio-economic status. Countries in the Gulf region also acknowledge the need to develop their distance learning provision for students with special educational needs. These students often receive extra in-person support when at school and

sometimes have an adapted curriculum. This personalised learning was unavailable during school closures. Determining how to continue this support at a distance is an issue that concerns countries in the Gulf region.

Addressing issues of access to distance learning resources

Most countries around the world, including Arab Gulf States, have tried to address equity issues related to access and quality of distance learning provisions by providing free or subsidised access to technology, Internet, or funding to those in need or by providing a wealth of offline education resources to students. Most countries delivered printed textbooks and other printed materials to students so that they could continue learning without technology. Educational television programming was also developed and broadcast in all countries but one for the same reason. Countries also entered into public-private partnerships in an effort to aid both of these endeavours, making agreements with companies to provide low-cost or free devices or Internet, or to create high-quality education content for television or other media.

Providing specialised support to ensure that all children, including those with special needs, can access learning at a distance

While some countries in the Gulf region acknowledged that they had begun to think about addressing students with special needs in their distance learning plans, very little had been done in the region in general. This means that on average across the Gulf States, students with special needs were not included in country's provision for distance learning for most of 2020. Arab Gulf States may consider the guidelines provided by the Global Action on Disability Network and UNESCO to promote inclusive distance learning (see Box 4.1).

Box 4.1. Steps for setting an inclusive distance learning policy

The Global Action on Disability Network, together with UNESCO, recommend specific steps for governments to take to provide distance learning that is inclusive of all students, regardless of ability. These steps include the following:

1. Consider how all people learn when designing distance-learning resources. The learning sciences research on how students learn is quite advanced and should be used by content providers and familiar to teachers so that learning resources can be created to reach a wide variety of students.
2. Consider the method of delivery for distance learning. Many students with disabilities do not physically attend school anyway, and others struggle with accessing technology or Internet-based learning resources that are not specifically designed for people with their educational needs. Providing independent-learning resources or worksheets and textbook, may not work for students with special needs.
3. Providing support for students with special needs is more costly and time consuming, which needs to be considered in country budget planning. Students with special needs require one-to-one support in many cases, and often schools do not have specially trained staff to cope with the varying needs of their students. Students with varying learning needs also often require more time to learn, which needs to be a factor in determining the structure of the distance learning school day.
4. Do not forget the social aspects of schooling for students with special needs. Often it is the time playing with friends, interacting with school staff and other everyday tasks, such as getting lunch with peers that provides great value to students with varying disabilities. Distance learning provision also needs to take into account physical, social interactions for these students.

Source: (GLAD Network, 2020 ; UNESCO, 2020)

Policy pointers for making distance learning decisions based on evidence in the Gulf States

Strengthening processes for data collection

As Arab Gulf countries reflect on their current use of distance learning to further improve quality, they need to prioritise collecting data and evidence to better understand what worked, what did not and how best to address it. For example, countries should regularly collect feedback from teachers and school leaders that help them understand the current and changing needs for professional development. Although all Gulf nations offered free professional development to teachers during the pandemic, countries also need to make sure participation in professional development is not adding to teachers' already significant workload by providing teachers time within the school day for their own development.

Furthermore, monitoring students' learning outcomes in distance learning is key to improve the quality of content. Having a national assessment tool, which provide reliable information on student learning and is adapted to distance learning is particularly important.

Developing tools and processes to help policy-makers draw on existing data

Finally, the Gulf region can make better use of the data collected through the learning platforms to improve distance-learning practices. All countries in the Gulf region make active use of various forms of learning technology (learning platforms, communication and collaboration software, individual applications), which are collecting student data on usage, participation and in some cases performance. These can provide rich sources of data to be used alongside other measures to provide a more complete picture of cognitive and non-cognitive outcomes. Governments should make use of these data, but they should also provide training to teachers to interpret the data they receive at a classroom level and use it to make decisions in their teaching.

Action plan for implementing distance learning

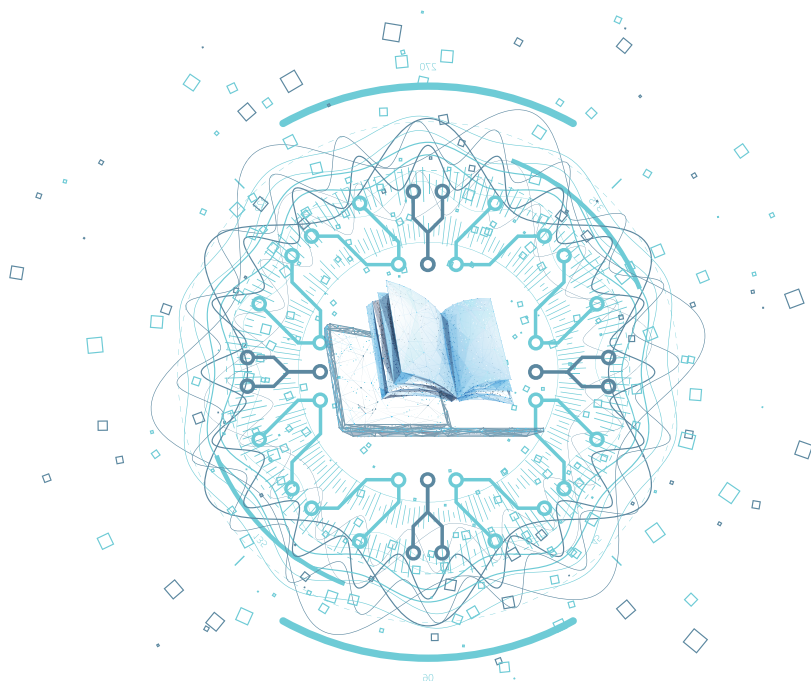
Based on the academic research around distance learning and the data analysis of current policies and practices in the Gulf region, the following process is recommended to help countries identify and address gaps in equity and quality (see Table 4.1).

Table 4.1. Key steps towards an action plan for implementing distance learning

Step 1: Understand where you are		
<i>Quality of distance learning</i>	<i>Equitable access to quality distance learning</i>	<i>Tools and process for monitoring and evaluation</i>
- Teachers' readiness for distance learning: collect and analyse data on teachers' skills in technology, content design and pedagogy for distance learning. Collect feedback from teachers on their experience with distance learning, including how it impacts their well-being - Students and parents' readiness for distance learning: collect information about parents and students' levels of engagement with distance learning, including their ICT skills. Monitor and survey students' well-being and learning progress and identify main risk factors. - Develop policies and programmes to support students and teachers' well-being.	- Infrastructure: evaluate levels of access and quality of infrastructure for distance learning including access to adequate technology, software and Internet bandwidth. Identify students at risk of not having access to equipment and infrastructure. - Inclusive education: assess how inclusive current processes and tools for distance learning are. Identify gaps and barriers of access	Review data availability on all the above mentioned points
Step 2: Fill the gaps		
<i>Quality of distance learning</i>	<i>Equitable access to quality distance learning</i>	<i>Tools and process for monitoring and evaluation</i>
- Teachers readiness: design or revise initial teacher education and continuous professional development to cover required competencies for distance learning. Develop tools and templates to help teachers with distance learning. Encourage peer learning and collaboration. - Provide training opportunities to parents and students on the use of ICT. Provide coaching to parents on how to support their children's distance learning - Set-up processes for teachers and schools to identify address or report cases of students' mental health issues or abuse.	- Make partnerships with relevant organisations in the government or outside to address issues of access. - Identify the resources and processes needed to make distance learning more inclusive	- Revise or develop assessment tools to monitor student learning - Set-up a "school" evaluation system adapted for distance learning
Step 3: Plan for the future		
<i>Quality of distance learning</i>	<i>Equitable access to quality distance learning</i>	<i>Tools and process for monitoring and evaluation</i>
- Consider the role of the teacher in distance learning. Does it need to change? What skills do teachers need when they enter the profession and how will they be kept up-to-date throughout their careers? - Consider the structure of the traditional teaching workweek. Does it make more sense for teachers to share responsibility and spend less time teaching so that they have more time to plan and prepare?	- Is the system ready for future school closures? - How to develop a system to reduce inequity as technology evolves?	Continue to evaluate the success of distance learning initiatives. This should be an ongoing activity to provide a clearer picture of the success of new initiatives and guidance for improvements that are needed.

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Distance Learning

in Arab Gulf States

This report “Distance Learning” examines distance learning policies in the Arab Gulf states during the Corona pandemic, reviews international perspectives, and provides many examples of good practices from OECD countries and others. It also reviews the trends of education policies in the Arab Gulf states, which seek to raise the quality of distance learning, until the end of December 2020. The report was prepared by policy makers in the Ministries of Education in the Arab Gulf states, and is based on the OECD database.



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