Migration Letters

Volume: 21, No: S7 (2024), pp. 1657-1678

ISSN: 1741-8984 (Print) ISSN: 1741-8992 (Online)

www.migrationletters.com

Saudi Ministry Of Education's Rapid Response And Best Practices For The Covid-19 Pandemic

Mishan S. Alotaibi[1], Hayat R. Alamri[2], Peter Shea[3], Homoud A. Al-Shanbari[4]

ABSTRACT

This Mixed-Method Study Analyses The Saudi Ministry Of Education's (Moe's) Rapid Response Involving Shifting To Distance Education (De) During The Covid-19 Pandemic And Examines Data Explaining Best Practices To Provide Safe And High-Quality Education. The Data Was Gathered From The Moe Archives, Official Websites, And Official Twitter Accounts. The Results Detail The Moe's Rapid Response And Steps Taken To Ensure The Adoption Of Best Practices To Shift To De, Demonstrating Swift Practical Development And Implementation Of De During The Covid-19 Pandemic. Recommendations Are Presented Based On The Findings.

KEYWORDS *Distance Learning, Rapid Response, Best Practices, Saudi Moe, Covid-19 Pandemic.*

INTRODUCTION

On December 31, 2019, an epidemic of uncertain origin identified in Wuhan, China, was first confirmed by China's WHO State Offices (Tanveer, Bhaumik et al. 2020a). The epidemic was declared an international public health emergency on January 30, 2020.

COVID-19 spread r[1]apidly, and governments internationally responded by introducing various changes to ensure ongoing education through the provision of temporary alternatives to face-to-face teaching. COVID-19 resulted in school closures in 177 countries worldwide. By May 2020, over 1.3 billion students, about 72% of registered attendees, were out of school (Al-Omayan, 2020).

In Saudi Arabia, the first case of COVID-19 was confirmed on March 2, 2020; making it the 67th country to register a confirmed case of the virus (Hassounah, Raheel, & Alhefzi, 2020). Saudi Arabia was among the first countries to implement early and unprecedented precautionary measures to manage the COVID-19 outbreak. It locked down the majority of public and private services restricting the population's mobility nationwide. With strict regulations in place, technology and digital solutions became essential services (AlHumaid, Ali, & Farooq, 2020). The decision to close Saudi schools and universities was taken very early, on March 8, just one week after the first COVID-19 case emerged in the country.

The Saudi Ministry of Education (MOE) ensured that educational activities were not interrupted by utilizing DL. It suspended face-to-face teaching, temporarily closing all

[1,2]Taibah University, Saudi Arabia.
[3]University Of Albany, Usa.
[4]Umm Al-Qura University, Saudi Arabia.

educational institutions, including public and private schools, technical and vocational training institutions, and universities (Almaghaslah & Alsayari, 2020).

A considerable number of studies have been conducted worldwide to explore the efforts and shortcomings of governmental responses to the pandemic in the context of education. For example, in Indonesia, Rasmitadila et al. (2020) collated primary school teachers' perceptions regarding the School-from-the-Home Program offered during the COVID-19 pandemic. The participating teachers stated that DL's success in Indonesia during the pandemic was determined variously by support and collaboration from all stakeholders, including governments, schools, social organizations, school committees, and parents, to formulate online learning goals to fulfil the national curriculum.

In Portugal, Sá and Serpa (2020) investigated the government's hard work and rapid efforts to overcome the potential adverse effects of the COVID-19 pandemic at all levels of education. However, these efforts were impeded by a lack of digital competencies, computers, and internet access.

In Spain, Encinas-Martin (2020) reviewed efforts to provide all teachers, families, and students with quality resources to learn during the coronavirus-related lockdown. The Spanish Ministry of Education and Vocational Training responded through the National Institute for Educational Technologies and Teacher Training, providing Open Educational Resources (OER) and training teachers on how to use ICT.

In China, Yao, Rao, Jiang, and Xiong (2020) found teaching live broadcasts with more teacher-student interaction improved students' academic performance during the shift to DE during the COVID-19 pandemic.

In South Africa, Van der Berg and Spaull (2020) argued that the potentially high social and economic costs of lockdowns and school closures made it imperative that education continues despite the surge in COVID-19 infections. They added that policymakers and government leaders in South Africa are obliged to evaluate the costs and collateral damage of policies, mainly focusing on children, the elderly, and those in poverty.

Several studies describe the educational efforts made in the United States of America (USA) during the outbreak. For example, Hedger (2020) indicated that most states assisted districts and schools to continue learning, overcoming challenges that might affect students' internet access at home. Part of states urgent plans included using online platforms for classes, streaming and TV-based content; providing teaching online or by phone, mailing resources, and facilitating in-person interactions for students with disabilities. Interestingly, one finding from a case study in the USA, conducted by Kaden (2020), indicated that the forced move to DL afforded a more compelling hybrid model of educating students with future potential. The researcher asserted the need for different online learning models to provide equitable educational opportunities to all.

Young and Donovan (2020) described the Michigan Department of Education's response to the pandemic, declaring that online instruction would not count toward the annual requirement for classroom-based instructional hours. This was attributed to the fact that teachers are unable to monitor or assess students at home. In their study, Kuhfeld et al. (2020) made a series of COVID-19-related projections in terms of learning loss and the potential effect on test scores in the 2020- 2021 school year relative to (a) estimates from prior literature, and (b) analyses of the typical summer learning patterns of five million students. American students were reportedly likely to return in fall 2020 with approximately 63-68% of the reading learning gains expected in a typical school year, and 37-50% of the learning gains in mathematics due to school closures.

Ali and Herrera (2020) outlined some recommendations for American schools and districts during the COVID-19 pandemic. They suggested that educational institutions could support and train teachers and families in developing DL practices. Likewise, teachers should

communicate with students to create an active and collaborative online classroom setting. Schools and districts should also provide additional social, emotional, and academic support to students transitioning from one stage to another.

As demonstrated, most countries' developed policies to protect people's health and provide high-quality education. It is now time for governments, ministries of education, and stakeholders worldwide to consider the shape of education going forward if the pandemic continues, and whether DE will remain a permanent option in the post-pandemic education system.

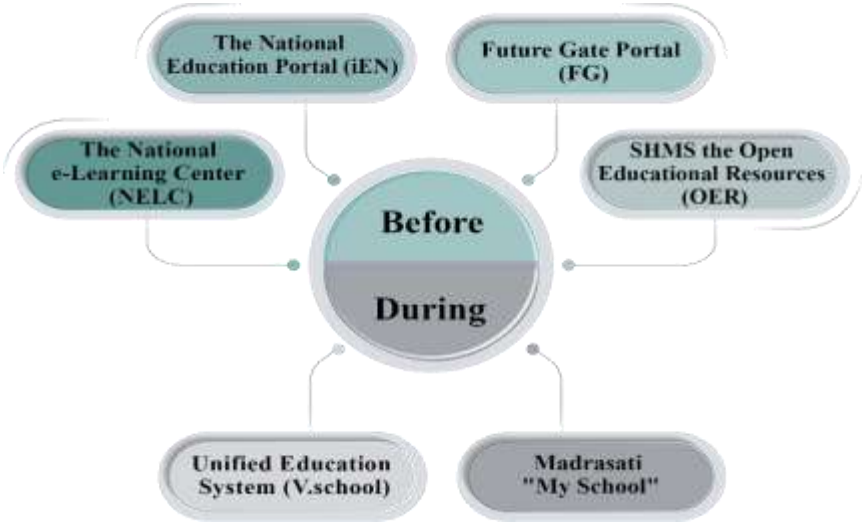
In Saudi Arabia, on March 8, 2020, programs at all schools, universities, and educational institutions were suspended. The MOE activated virtual and DL nationally. DL and several e-services for students, teachers, administrative staff, and parents were delivered via Saudi digital platforms (iEN, Future Gate, SHMS).

To date, numerous publications have reported the effects of the outbreak and the quarantine on medical, psychological, and public health in Saudi Arabia (AlAteeq, Aljhani, & AlEesa, 2020; AlHumaid et al., 2020; Samarkandy, & Abou Abbas, 2020; Tanveer, Hassan, et al., 2020b). However, only a limited number of studies have explored variables relating to DE during the outbreak (Aldarhami, Bazaid, Althomali, & Binsaleh, 2020; Almaghaslah & Alsayari, 2020; Tanveer, Bhaumik, et al., 2020).

BACKGROUND

This section describes the role of DE in Saudi general education before and during the COVID-19 pandemic (see Figure 1 below).

Figure 1. Saudi initiatives for e-learning before and during the COVID-19 pandemic



The researchers summarized the information in infographics to ensure reliability, comprehensiveness, and succinctness.

The Development of DE in Saudi Arabia before the Pandemic

Saudi Arabia is experiencing an acceleration in the number of students in general and university education. This poses significant challenges for government and private educational

institutions seeking to provide affordable and quality education. Hence, the Saudi government actively supports innovative instructional methods and has invested in e-learning and DL infrastructure.

On November 4, 2008, the King Abdullah bin Abdulaziz Public Education Development Project (Tatweer) was launched lending significant support to the MOE's efforts to improve education quality, to allow Saudi Arabia to reach the level of other developed countries. Tatweer is an Arabic term meaning "just reform." Tatweer established a comprehensive educational development program to improve the public education system in Saudi Arabia. Its primary aim was to set internationally-comparable standards to define the educational process and evaluate the quality and provision of education generally (Alabdulaziz, 2019).

Over its six-year implementation, Alabdulaziz (2019) reported, the project targeted four essential components of the education system:

(1) Developing curricula to meet the needs of communities and preserve values and traditions.
(2) Integrating technology into curricula to keep pace with scientific and technological developments.
(3) Presenting curricula using appropriate teaching methods.
(4) Providing teachers with ongoing training to implement and use technical equipment through an integrated learning environment.

The MOE also equipped schools with computer laboratories and interactive electronic whiteboards. With widespread internet connectivity, teachers moved toward internet-based instruction. In 2017, the MOE implemented DL, developing virtual classrooms, and schools launched several e-platforms (Al-Thobait, 2020; Filali, 2020), also providing training opportunities for teachers and students. The following section describes these initiatives in detail.

The National e-learning Centre (NELC)

The National e-Learning Centre (NELC), established as an independent entity by the Council of Ministers, provided the initial steps to consider the integration of e-learning. It was. It sought to enhance trust in the e-learning programs, lead innovation in digital learning transformation, and integrate educational institutions with the labour market (Al-Thobait, 2020). The NELC focuses on enhancing and improving access to high-quality online education; aligning education outcomes with labour market needs; promoting lifelong learning and development; investing in new technologies; continuing innovation and digital transformation in education; and developing national e-learning indicators. Recently, the NELC has also prepared quality control standards for e-learning in Saudi schools (NELC, 2020a).

The NELC developed the National Program for OER to enable entities and individuals to open educational content by organizing publications, and authoring, using, and financing OER (NELC, 2020a). Among the initiatives included are the following:

Figure 2. The initiatives of the OER program. https://nelc.gov.sa/en/nelc

The National Education Portal (iEN)

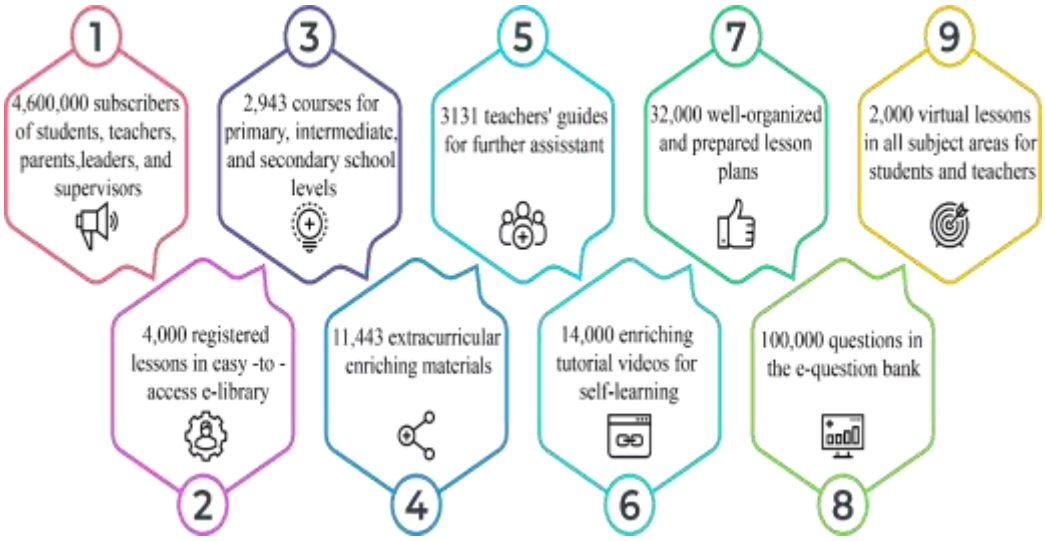
The iEN was established in partnership with the Tatweer Educational Services at the beginning of the academic year 2016-2017. The iEN's mission is to safely provide simplified and attractive digital content to all students equally, whether Saudi or Non-Saudi or in Saudi schools overseas (Al-Otaibi, 2020). The iEN portal provides innovative solutions enabling students to access the best education in the 21st century (Al-Melbi, 2020). Furthermore, it provides asynchronized official e-content for all subject areas across all school grades. It is a reliable platform for students, teachers, educational leaders, supervisors, and parents (Yousif, 2020a).

Since its launch, iEN has steadily evolved its beneficiary services, covering asynchronous curriculum content and providing alternative activities to teachers, students, parents, and other stakeholders (Al-Thobait, 2020). iEN utilizes a reliable infrastructure, providing high connectivity tools, and serving as a massive container for educational materials and digital content (Yousif, 2020a) (see the figure below).

Figure 3. iEN high-quality e-educational services. https://ien.edu.sa/#/

According to recent statistics (Al-Melbi, 2020; Al-Qahtani, 2020), iEN comprises the following:

Figure 4. iEN at a glance, 2020



iEN's extensive digital educational services directly target students, teachers, parents, school administrators, educational supervisors, and the community, and are set out below (Al-Melbi, 2020):

Figure 5. iEN services to beneficiaries. https://ien.edu.sa/#/

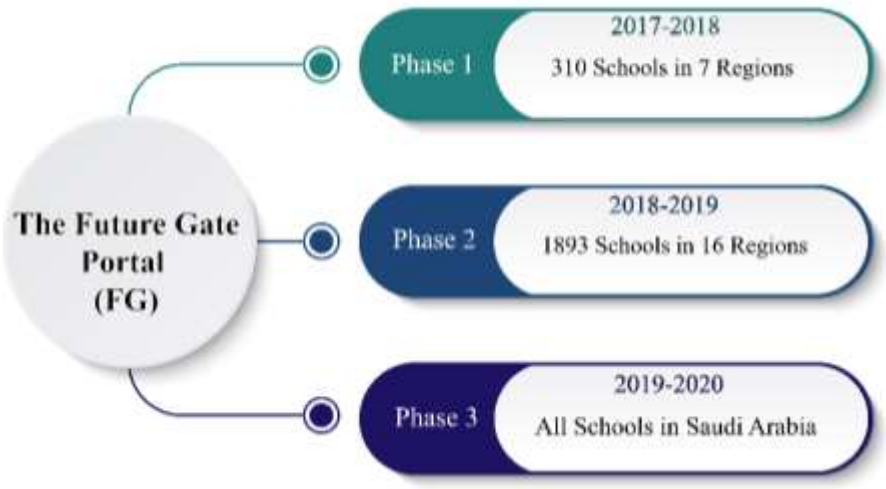
This portal has proven effective and efficient at bridging the educational gap on the Southern border of Saudi Arabia, as it facilitates continuous delivery of e-content to all students wishing to pursue their education (Al-Melbi, 2020). Hence, iEN has helped resolve student drop-out rates in the Southern region, ensuring sustainable education.

iEN TV virtual classrooms were critical for DL process activation in Saudi Arabia in response to COVID-19. iEN continuously provided services via 12 satellite channels broadcasting live from TV studios. By March 15 it was supporting 20 educational TV channels offering live and recorded broadcasts of classes to learners in all grades covering all subjects.

Future Gate Portal (FG)

In October 2017, the MOE launched the synchronized Future Gate portal (FG). FG serves students, teachers, parents, academic supervisors, school counsellors, and school leaders (Al-Khalidi, 2019). Teachers can use it to establish virtual classrooms and teach their students online. DE supervisors and teachers utilized the uploaded prepared lesson plans and tasks, and activities (see Figure 6 below).

Figure 6. FG activation phases



The FG launch plan included steps for delivery of and training on the portal, preparation of e-content by Tatweer Educational Services, and technical support to allow ease of access (Al-Khalidi, 2019). Teachers were asked to meet the target number of e-assignments, enriching panel discussions through chatrooms and the platform's tests. Teachers were also to manage students' attendance via FG (Ibid). MOE also provided teachers, students, parents, school leaders, supervisors, and school counsellors with manuals, user guides, and educational videos (see Figure 7 below).

Figure 7. Number of manuals, user guides, and educational videos about using FG. https://cutt.us/SeRFY, https://sites.google.com/view/future-gate

Al-Khalidi (2019) summarized the essential features of synchronized FG as to transform the traditional learning environment into a digital interactive setting, to enhance peer interaction and student-teacher interactions. Another objective of FG is to expand educational processes beyond schools. Moreover, FG aims to develop students' 21st-century skills in the domain of information and technology (see Figure 8 below).

Figure 8. FG educational services for teachers and students. https://fg.moe.gov.sa/

SHMS the Open Educational Resources (OER)

Launched on March 4, 2018, the National Open Education Resources Program (NOERP) overseen by NCEL enriches educational content to support education through partnership. Partnerships would be between institutions and specialized entities from both government and private sectors, enabling higher education faculties and teachers in public education to enrich content while guaranteeing quality (SHMS, 2020). NOERP supports lifelong education; the

accessibility of teaching and learning resources; development of creative digital and pedagogical content services; and coordination in design, development, and quality assurance of OER. Moreover, it promotes quality through self-evaluation and peer review and research designed to enhance the OER system.

SHMS, the Saudi OER Network, is the NOERP's primary initiative. SHMS offers fast and reliable free of charge educational resources for all Saudi educational institutions, faculty members, schoolteachers, students, parents, and lifelong learners, without registration. OER's aim with SHMS is to bring participants a means to design, publish, and share e-content (SHMS, 2020).

SHMS provides e-services according to three main categories: Discover, Create, and Connect. The Discover category permits users to browse collections produced by other educators by subject area, materials types, and the grade levels served (see the figures below).

Figure 9. Material types in SHMS to Sunday, November 8, 2020. https://shms.sa/oer

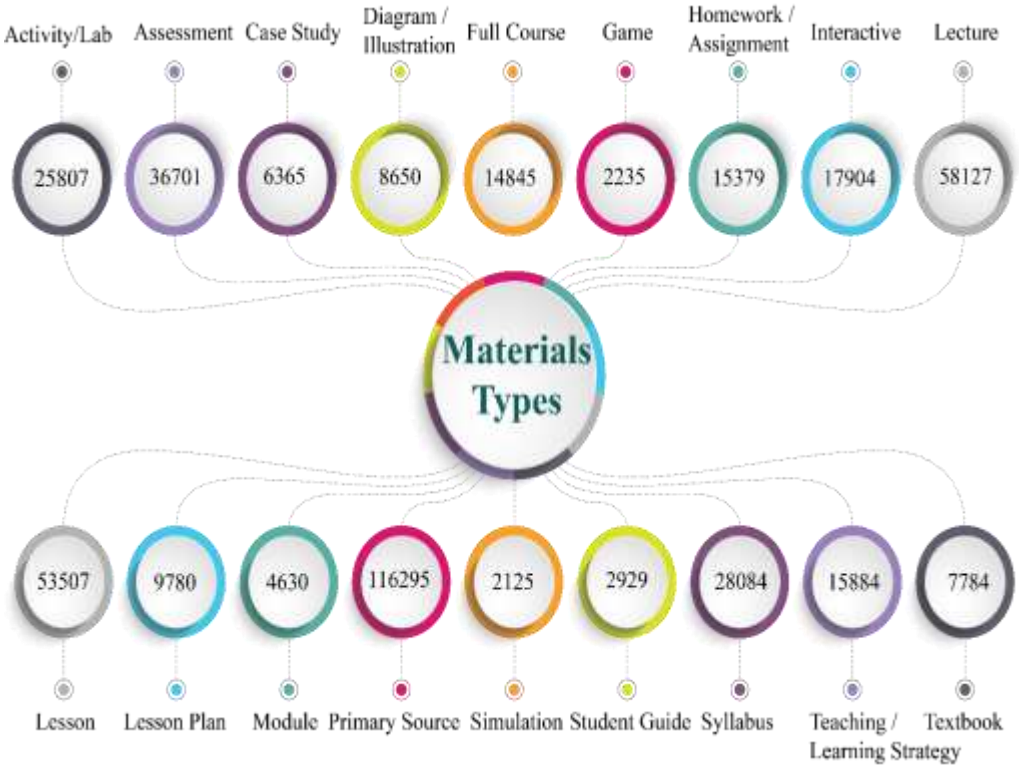


Figure 10. Subject areas in SHMS to Sunday, November 8, 2020. https://shms.sa/oer

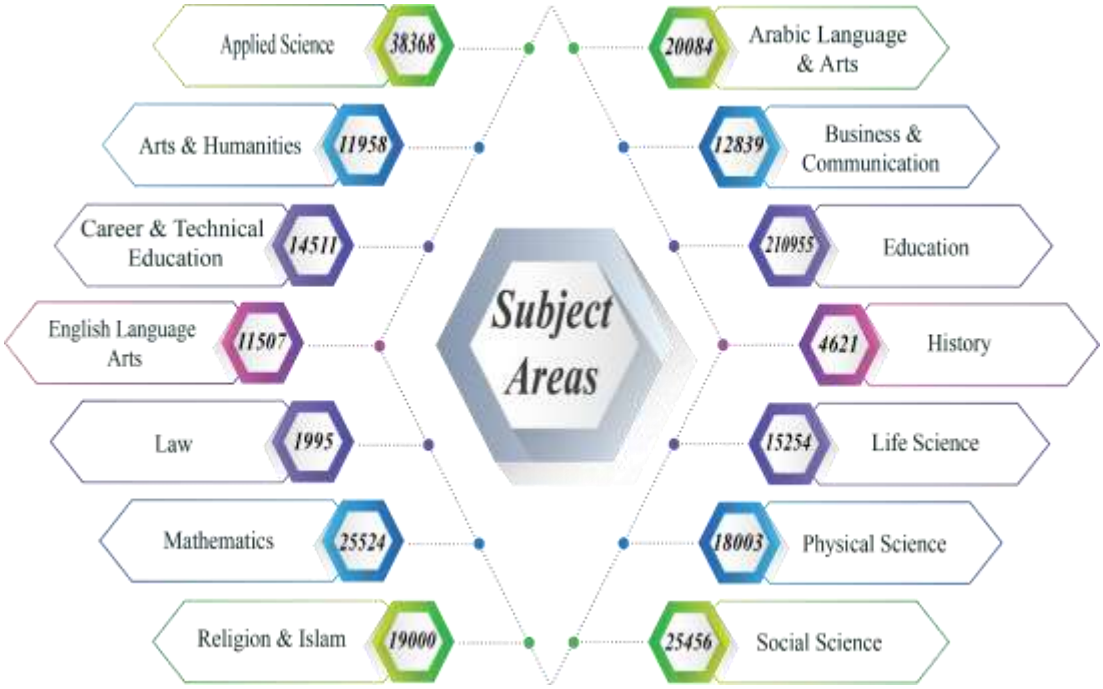
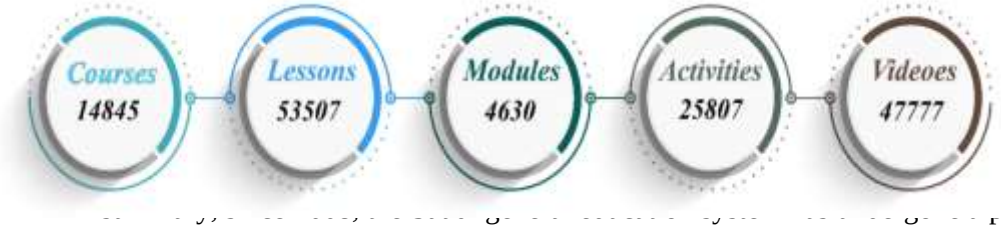


Figure 11. SHMS at a glance to Sunday, November 8, 2020. https://shms.sa/



of radical transformation to integrate technology into education and, more specifically, to activate DE, which positioned it well to manage online learning during the COVID-19 pandemic.

DE in Saudi Arabia during the COVID-19 Pandemic

Since February 1, 2020, the Saudi MOE has worked hard to implement its internal emergency plan and intensify awareness. Additionally, a committee to track the shift to DL was formed to ensure education and training system's readiness to produce results to guarantee education personnel's safety (Al-Thobait, 2020).

On March 6, 2020, MOE officials were empowered to suspend schools' normal operations in any affected province. Consequently, DE, for all school levels, was enforced on March 8, 2020. Attendance was suspended in all public and private educational facilities by Monday, March 9, 2020. DE technologies and systems were provided immediately in the form of support and technical enhancement to meet demand (Almaghaslah & Alsayari, 2020). The

Directorates of Education assisted families, providing them with the necessary resources and support to permit their students to learn at home.

Immediately, the MOE (2020) acted to improve readiness to shift to DE, facilitating improvements to remote learning, including universal student access to high-speed internet and devices for the start of the 2020-2021 school year, and drawing on successful practices, incorporating technology-enabled support for remote or asynchronous instruction deployed during the COVID-19 pandemic. These significant moves resulted in a homogeneous, reliable, and integrated fabric to assist Saudi citizens through the crisis with efficiency, distinction, and the least possible damage (Ministry of Education, 2020).

According to Hassounah, Raheel, and Alhefzi (2020), during the ongoing COVID-19 pandemic, an estimated 30,260,000 people in Saudi Arabia (89% of the population) are using the internet, and the majority of the population now has access to smartphones, laptop computers, desktop computers, and tablets.

Unified Education System (v. School)

On March 8, 2020, the MOE launched the unified education system (UES), delivering an instant and effective education solution for COVID-19 that can accommodate over six million students. The UES is a learning management system (LMS) designed to provide an interactive environment in which learners, teachers, parents, and other practitioners can access well-designed materials, activities, subject area lessons, and unlimited online classes (Al-Otaibi, 2020).

UES offers access to e-materials uploaded via iEN channels. Meanwhile, on March 9, 2020, the first day following the school closure—iEN satellite educational channels started broadcasting lessons to all students from temporary headquarters at Prince Sultan bin Abdulaziz Educational Complex in Riyadh. Lessons ran from 8 a.m. until 12 noon and were broadcast repeatedly around the clock until the lessons for the next day began broadcasting. Weekends were dedicated to rebroadcasts of lessons presented during the week (Ministry of Education, 2020). By March 15, 2020, the iEN satellite TV educational channels reached their potential of 20 educational TV channels providing live and recorded broadcasts of classes to all grades covering all subjects (Ministry of Education, 2020). The UES demanded that teachers, students, and parents follow these channels (Al-Otaibi, 2020).

From March 8, 2020, the first day after the school closure, until May 14, 2020, the end of the second semester of the academic year 2020, teachers, students, parents, school leaders, and supervisors were encouraged to use the iEN 20 satellite educational channels directly and/or log in through the UES after completing registration forms.

Madrasati "my school"

It was acknowledged that the shift to DE placed a considerable burden on teachers and parents to keep learning smooth and effective. Thus, in preparation for the new academic year the MOE two scenarios during the summer vacation period. The first involved returning children to school, requiring the cleaning and sterilizing of school buildings and sending of books. The second scenario, the continuation of DL, resulted in the design of a new platform, "Madrasati".

Madrasati "My School" was launched in August 2020. The MOE worked with Microsoft to connect the new platform to Microsoft "365". The platform provides visual communication, options to upload assignments, enrichment materials, recorded lessons, tests, and examinations, easy access, a friendly interface, effective teaching, interactivity, and live sessions, and security for all stakeholders (Yousif, 2020b).

Madrasati is a strategic choice, as unifying the education journey under one platform should smooth the implementation of changes. The MOE worked closely with the Ministry of Human Resources and Social Development, and the Ministry of Communication and

Information Technology to ensure all students could complete a successful school year via DL (Al-Thamiri, 2020; Yousif, 2020b).

In August 2020, the MOE announced 92% of students, 97% of teachers, and 37% of parents had joined the platform. It allows teachers to create live virtual classes and offers students various content, including presentations, educational videos, textbooks, exercises, and courses for different levels: primary, intermediate, and secondary. Moreover, the platform has a "Dashboard" for follow-up and evaluating all administrative levels and uses (Yousif, 2020b).

The Madrasati platform facilitates access to iEN channels. The MOE has recently set up 23 virtual educational channels to broadcast lessons to fit students' study schedules. These include three channels for special education. iEN channels are archived on YouTube for reference, so that a student who does not have a smart device or internet access can access content. In addition, the MOE set up a 24-hour hotline and artificial intelligence (AI) Chabot for students, parents, teachers, and several TV channels for students with poor internet connections (Yousif, 2020b).

Aim of the Study

This study's primary purpose is to clarify the Saudi MOE's rapid and urgent response to confront the Covid-19 pandemic and continue learning, providing insights into the MOE's best practices, taken from documented data and existing statistics, to continue education in a safe and quality environment. Moreover, the study will comprehensively review DE's development in Saudi Arabia before and during the COVID-19 pandemic. The results obtained will contribute to existing research, bridging the gap in knowledge regarding lessons learned, and practices that might support large-scale online education for K-12 moving forward.

Research Questions

The current study focused on two research questions.
RQ1: How did the Saudi MOE respond during the COVID-19 pandemic to ensure access to safe and high-quality education?
RQ2: What best practices emerged from the Saudi MOE during the COVID-19 pandemic?

METHODOLOGY

This descriptive mixed-methods study aims to analyse the Saudi MOE's rapid response to the COVID-19 pandemic in-depth and to obtain and examine data related to the best practices. For the qualitative component, the study employed textual analysis. In the case of the quantitative data, existing statistics were collected concerning the MOE's best practices during the pandemic.

Instrumentation

Qualitative measures involved textual analysis of the collected data, focusing on the responses and best practices of the Saudi MOE during the COVID-19 pandemic; including the decision to close schools and switch to DE via digital platforms, improvements made after school closures, the emergence of a single central digital platform after the first semester.

The quantitative data reports statistics covering the following:

- Number of users enrolled on the platforms and applications.
- Academic procedures taking place across digital platforms.
- Brochures published to explain the use of the platform.
- Videos designed and published describing the use of the platform.

- Ministerial Twitter accounts relating to the digital platform.
- Training courses offered for the platform.
- Tests used across the platform.
- Questions received from users concerning issues pertaining to the platform.

Data collection

The data was collected from multiple resources; i.e. MOE archives, official websites, and official Twitter accounts.

Data analysis

Part of the qualitative data was coded, and the categorized data was analysed using descriptive statistics (frequencies and percentages). The remainder was presented as statistical sums and/or frequencies.

RESULTS AND DISCUSSION

This section demonstrates the results from the data gathered regarding the Saudi MOE's rapid response and best practices, discussing the most prominent efforts arising from the monitoring of the MOE's contributions during the COVID-19 pandemic.

Saudi MOE Rapid and Urgent Responses during the COVID-19 Pandemic

Data were gathered and analysed in answer to the first research question, "How did the Saudi MOE respond during the COVID-19 pandemic to ensure access to a safe and high-quality education?".

Table 1. MOE rapid response to COVID-19 pandemic during the second semester

Dates	Rapid and Urgent Response	Data Type
1/2/2020	Updating emergency plans and intensify awareness	**Plan**
8/3/2020	Ministerial decision to close schools	Ministerial decision
9/3/2020	Ministry of Education forms a high-level committee to track the shift to DL	Ministerial decision
15-19/3/2020	Launching the Unified Education System (UES)	Platform
17/3/2020	Online assessment and alternative test arrangements during the COVID-19 pandemic	Booklet
21/3/2020	National Emergency Education Continuity Plan	Proposed plan
19/3/2020	How to learn online	Booklet
19/3/2020	Online teaching skills	Booklet
21/3/2020	Online learning regulations	Booklet
15/4/2020	Technical Support of Educational Platforms enhanced by the Unified National License	Procedures
18/4/2020	Assessment Guide released	Booklet
23/6/2020	15 educational videos on how to prevent COVID-19	Video
23/6/2020	15 flyers on how to prevent COVID-19	Flyer

The data in Table (1) shows how the MOE responded to the COVID-19 pandemic during the second semester of the academic year 2020.

Table 2. MOE activities and initiatives during COVID-19 pandemic

Dates	Activities and Initiatives	Data Type
11/8/2020	E-Learning standards framework for public education in Saudi Arabia	Document
10/8/2020	Guide to respiratory infection prevention in the school environment	User Guide
15/8/2020	Returning to DL for the first seven weeks of the semester	Ministerial Decree
21/8/2020	Launching Madrasati "My School" platform	Platform
8/10/2020	Continuing DL for the remainder of the first semester	Royal Decree
16/11/2020	Forming an international advisory committee on e-learning to develop e-learning programs	Ministerial Decree

Table (2) describes the MOE's continuous preparation for scenarios to be implemented in the new academic year.

Discussions about the Saudi MOE Rapid Response during the COVID-19 Pandemic

Tables (1) and (2) detail the MOE's rapid response to the COVID-19 pandemic began prior to the ministerial order to close schools and move to DL. This finding corresponds with that reported by Al-Khalidi (2019), Al-Melbi (2020), Al-Thobait (2020), and Alabdulaziz (2019), who explained the development of DE in Saudi Arabia enabled a smooth transition to DL. This was facilitated by the fact that the MOE already had an appropriate structure in place to support an urgent move to DE.

From the above data, it emerged that the MOE rapidly launched the UES then Madrasati and published a series of booklets on e-learning skills for teachers and students. Educational videos, brochures, and flyers were published and distributed to students, teachers, and parents. An international advisory committee was organized to track the shift to DL and report problems or pitfalls affecting the teaching-learning process, as noted by Almaghaslah and Alsayari (2020) and the MOE (2020).

During the outbreak, Saudi Arabia took precautionary measures to suspend education by launching DE, enabling more than six million Saudi students to continue their education. According to Almaghaslah and Alsayari (2020), Saudi schools were suspended without halting education, and administrative work continued to run smoothly.

By publishing an e-learning standards framework for public education and a guide to respiratory infection prevention in the school environment, the MOE targeted minimizing education losses and completing the curriculum, as indicated by Al-Thobait (2020) and Yousif (2020a). The MOE provided students in primary, intermediate, and secondary schools with appropriate e-content, e-assignments, e-exams, and additional features to make learning accessible and manageable. Furthermore, the MOE launched a project with the Takaful Association's assistance to monitor low-income Saudi families' requirements for internet connections or computer devices.

Saudi MOE Best Practices that Emerged during the Pandemic

To answer the second research question, "What best practices emerged from the Saudi MOE during the COVID-19 pandemic?" data was gathered and analysed.

Table 3. Statistics for iEN 20 satellite TV educational channels to 18/3/2020. https://twitter.com/moe_gov_sa/status/1240355839975849985/photo/1

Activities in iEN 20 Channels	Responses until 18/3/2020
Number of Live Streams	176
Virtual Lectures	968
Live Stream Hours	4800
YouTube Stream Hours	880
Total of Viewers	22,400,000

Table (3) depicts the MOE's best practices within the first ten days following the school closure via iEN 20 channels. The activities varied between live streams and virtual lectures. In response to the MOE's rapid shift to DE, more than 22 million viewers accessed the iEN 20 channels.

Table 4. FG Statistics to 18/3/2020. https://twitter.com/moe_gov_sa/status/1240351087992795136/photo/1

Activities in FG	Statistics until 18/3/2020			
Virtual Classrooms	616,66			
e-Content	135,892			
e-Assignments	624,37			
Chat Rooms	291,23			
e-Exams	183,16			
Total of Viewers	401,800			
Total of Users	1,008,09,2			
System Access Rate	Students	Teachers	Supervisors	Leaders
	37,83%	46,38%	23,37%	58,08%

Likewise, as shown in Table (4), ten days after transitioning to DE, there were increases in the MOE's resource provision, offering and equipping FG with a majority of virtual classrooms, e-content in the form of co-curricular activities, and e-assignments. More than 400 thousand viewers and 1 million users were able to access the FG.

Table 5. Asynchronous and synchronous learning in iEN satellite TV educational channels to 22/3/2020. https://twitter.com/moe_gov_sa/status/1241729106947047426/photo/1

Asynchronous Learning in iEN	
TV Channels	20
TV Live Stream	187
Lessons	1026
YouTube Viewers	24,000,000
Virtual Classrooms	1,600,000
Users	240,809

Total Users of Asynchronous Learning	25,840,809

The iEN satellite TV educational channels realized their full potential on March 15, 2020. The high number of satellite TV educational channels reflects the direct efforts of the MOE during the pandemic.

Table 6. Synchronous learning in FG to 22/3/2020. https://twitter.com/moe_gov_sa/status/1241729106947047426/photo/1

Synchronous Learning in the Future Gate Portal (FG)	
Co-curricular Activities	34,000
Digital Lessons	15,000
Self-Assessment Questions	100,000
Intermediate & Secondary School Users	1,001,486
Users of all other Grades	2,108,792
Total Users of Synchronous Learning	3,110,278

Table (6) shows the results of the MOE's efforts several weeks after the closure via FG. The number of co-curricular activities, digital lessons, self-assessment questions, and FG total and specific users clarifies the MOE's activities during the pandemic.

Table 7. Statistics for DE in the second semester of the academic year 2020 published 27/7/2020. https://www.okaz.com.sa/news/local/2030407

Teaching Hours	e-content	Virtual Classrooms	iEN Platform Visitors	iEN YouTube Visitors	TV Channels
8,000,000	3,000,000	3,500,000	53,000,000	61,000,000	20

Table (7) summarizes the MOE's determination to engage in best practices during the second online semester for the academic 2020 year, which ended on 14/5/2020. It highlights engagement by learners.

Table 8. MOE educational activities regarding COVID-19 published 8/6/2020. https://www.moe.gov.sa/ar/Pages/default.aspx

The Activity	Virtual classroom management course for teachers	20 simultaneous training courses entitled "Basics of Volunteering"	Learning disabilities course	Corona Challenge Competition	Consecutive virtual student competitions
The beneficiaries	7006	11.281	3200	22.871	11.821

Table (8) shows the direct efforts by the MOE at the beginning of the summer vacation. It provided professional development training courses for teachers and virtual competitions for students to help them practice using the technology.

Table 9. Activities on the social media accounts of the Saudi general directorates of education in large cities and towns published 20/11/2020

Large Cites	Followers	Tweets	Media	Towns	Followers	Tweets	Media
Jeddah	433,500	6,374	3,548	Hafr Albatin	75,900	43,900	4,118
Riyadh	217,600	25,900	4,784	Al-Kharj	42,800	18,000	11,300
Qassim	152,200	20,400	10,900	Unaizah	40,400	25,600	12,500
Mecca	144,300	24,100	13,300	Al-Rass	30,800	25,100	4,457
Eastern region	108,700	19,600	9,934	Al-Ahsa'a	25,300	24,700	5,284
Medina	98,400	31,700	10,000	Al Majma'ah	24,000	26,700	11,000
Tabuk	84,500	14,500	4,125	Yanbu	21,800	7,797	583
Asir	82,900	19,100	11,900	Wadi Al-Dawasir	17,800	10,800	4,260
Najran	65,800	9,555	3,645	Al-Qunfudah	16,700	9,935	4,100
Jizan	47,000	12,100	5,662	Al-Qurayyat	16,500	13,700	2,984
Northern Boarders	39,400	32,200	5,924	Al-Zulfy	15,500	13,300	4,904
AlBahah	25,600	7,102	2,982	Al-Bukayriyah	9,654	14,300	6,960
Aljawf	4300	10,200	3,614	Al-Ula	9,225	7,214	3,010

Table 10. Activities on the social media accounts of Saudi general directorates of education in rural areas published 20/11/2020

Rural Areas	Followers	Tweets	Media
Bisha	38,000	18,400	5,114
Al-Leith	27,300	9,432	6,409
Mehayil Asir	25,400	19,100	11,300
Dawadmi	22,600	21,600	5,485
Al-Aflaj	14,300	11,500	1,763
Shaqra	14,100	12,500	2,623
Al-Qui'ayyah	14,100	12,200	8,659
Rijal Almaa	13,400	12,500	5,936
Al-Mikhwah	11,500	11,800	3,754
Sarat Ubaida	8,796	12,700	3,673
Sharurah	8,384	9,776	3,746
Hotat Bani Tamim	8,367	13,600	11,300
Al-Muthnab	6,954	21,200	4,101
Dhahran Al-Janub	4,814	10,800	4,172
Al-Ghat	4,249	8,614	1,465

Table 11. MOE activities on social media accounts published 20/11/2020

Sector	Followers	Tweets	Media
MOE	3,200,000	19,900	6,730
Spokesperson for MOE	276,900	215	21

Madrasati Competition	39,900	543	80
iEN Videos	2,941	213	23
iEN TV Channels	363,700	27,500	21,000

Table 11 indicates Tweets concerning the MOE actions taken to meet the needs of teachers, students, parents, and other stakeholders, and to resolve any difficulties or challenges associated with transitioning to DE or critical issues concerning the education system. Notably, some small towns and rural areas had limited interaction with the Saudi General Directorates of Education via social media accounts.

Table 12. Madrasati at a glance published 24/10/2020-24/11/2020. https://twitter.com/moe_madrasati/

Category	Week 8	Week 9	Week 10	Week 11	Week 12	Week 13
Students	4,839,221	4,850,332	4,857,817	4,862,118	4,866,010	4,871,620
Teachers	402,694	402,393	402,297	402,468	402,550	402,707
School Leaders	18,107	18,103	18,103	18,105	18,104	18,102

Table 13. Madrasati at a glance published 24/10/2020-24/11/2020. https://twitter.com/moe_madrasati/

Category	Week 8	Week 9	Week 10	Week 11	Week 12	Week 13
Madrasati Visitors	229,000,000	243,000,000	291,000,000	292,000,000	357,000,000	383,000,000
Virtual Lessons	34,047,136	44,538,081	51,091,292	56,525,584	63,003,180	69,042,414
Homework	8,516,587	9,683,035	10,744,174	11,849,926	12,890,945	13,868,737
iEN YouTube Visitors	112,000,000	116,000,000	126,000,000	--	--	--
E-exams	--	--	--	681,844	919,118	1,182,245
FAQ for teachers	--	--	--	8,815,066	9,174,514	9,464,963

Tables (12) and (13) give the statistics for Madrasati users, visitors, virtual lessons, e-exams, and FAQ, among other activities, indicate a steady rise in numbers, starting immediately after the first week. The tables above illustrate ongoing expansion in numbers from weeks 8 to 13, which is considered an indicator of best practice.

Table (13) clarifies e-exams and FAQ received no entries until week 11, when the midterm exams started. Additionally, there were no entries for iEN YouTube visitors because students at primary, intermediate, and secondary school level were occupied with exams.

Table 14. iEN TV Educational Channels at a Glance. https://twitter.com/moe_madrasati/

iEN TV Channels	Week 8	Week 9	Week 10	Week 11	Week 12	Week 13
Working Hours	71,442	74,600	89,880	98,520	107,739	116,958

Virtual Lectures	7,223	8,211	9,238	10,237	11,235	12,232
Viewers	112,100,000	117,200,000	120,000,000	124,400,000	128,200,000	133,000,000
TV Channels	23	23	23	23	23	23
Hours of Live TV	22,080	25,944	37,296	41,160	45,024	48,888
Size of Uploaded Media	4,000GB	4,600GB	5,008GB	5,413GB	5,813GB	6,211GB

Reviewing Table (14), the MOE's direct efforts are apparent through the iEN TV educational channels and the YouTube channel over the 13 weeks of the first semester of the new academic year. Notably, the viewers and visitors to the iEN TV educational channels, YouTube channel, and iEN school level rose sequentially.

Discussions about Saudi MOE Best Practices during the Pandemic

The results set out in Tables (3) to (14) and Figures (12) and (13) document direct action taken by the MOE during the pandemic, confirming data from the MOE (2020). All the facilities provided, including increased platform capacity, iEN TV channels, number of viewers and visitors, follow-up records, and weekly published statistics to reassure parents and the community, reflect MOE best practices.

The MOE has assessed contemporary perspectives on DE adoption as a permanent option after the end of the pandemic for some courses. This option is feasible because Saudi Arabia now has vast network connections covering most regions, and can serve people's needs, even in remote areas. Recent studies (Al-Otaibi, 2020; Al-Thobait, 2020; Yousif, 2020b) have also described how the Saudi MOE employed best practice during the outbreak.

During the pandemic, the Directorates of Education extended their assistance to all families, providing them with essential resources and supporting students to learn at home by answering all questions. The MOE uses official Twitter accounts to participate in virtual communities and support teachers, students, and other practitioners (MOE, 2020). Moreover, Akbulut et al. (2020) pointed out the significant role of increased participation and awareness.

CONCLUSION AND RECOMMENDATIONS

From the beginning of the Coronavirus pandemic, Saudi Arabia achieved qualitative successes, managing the outbreak across different sectors, with education a notable exemplar. Indeed, MOE responses and best practices were accomplished in record time, providing all students with high quality education and equal opportunities. DE success can be attributed to the massive government budget to cover significant expenses in the digital infrastructure, and partnerships and collaboration between the MOE and other government and private sector bodies.

Under the MOE's supervision, stakeholders worked hard to bridge the spatial and virtual school environment gap. The challenges have been tremendous, and the risks multiple; however, iEN, FG, UES, and finally Madrasati, have efficiently supported the DE journey in Saudi Arabia. The Saudi DL journey's success relied variously upon educational leaders, teachers, students, parents, and the entire community's engagement.

The recommendations arising from this study's quantitative and qualitative analyses suggest some actions to permit the Saudi DE system to continuously improve the MOE's general online education capacity, quality, and effectiveness. First, it is recommended to

provide frequent mandatory orientation to teachers, students, and parents to ensure successful online learning and technology implementation. Second, developing ongoing professional development programs (PDP) and training sessions to assist educational leaders and teachers to blend pedagogy and technology to expand students' knowledge, skills, and abilities to learn via online classes. Third, evaluating students' support needs, to develop appropriate solutions to digital problems and offer e-services such as tutoring services, digital libraries, and databases. Fourth, increased feedback should be invited from all stakeholders, including educational leaders, teachers, students, and parents, to inform future developments. Fifth, stakeholders must be continuously updated regarding processes, procedures, via booklets, brochures, flyers, and infographics.

This study recommends exploring stakeholders' perspectives at more granular levels, e.g. school type (government or private) and grade levels (e.g., primary, intermediate, or secondary). Moreover, it is essential to conduct a follow-up study to identify further opportunities for DE in Saudi Arabia.

ACKNOWLEDGMENT

The researchers would like to express their thanks and sincere gratitude to the Saudi MOE for facilitating the data collection journey. This has proven an excellent opportunity to highlight efforts, responses, and best practices regarding DE. Thanks are also extended to the Agency for Research and Innovation, MOE as without the remarkable cooperation it offered, this work could not have been accomplished.

REFERENCES

Akbulut, M., Şahin, U., & Esen, A. C. (2020). More than a virus: How COVID 19 infected education in Turkey? Journal of Social Science Education, 19(Special Issue 1), 30–42. https://doi.org/10.4119/jsse-3490

Al-Khalidi, A. H. (2019). (The Future Gate) Shift towards digital education in light of Vision 2030. Retrieved from https://cutt.us/IkBC6

Al-Melbi, A. S. (2020). iEN, the National Education Portal in Saudi Arabia. Retrieved from https://cutt.us/gXqUA

Al-Omayan, K. (2020). How the Middle East education sector will change after Corona? Retrieved from https://cutt.us/TpEaS

Al-Otaibi, R. H. (2020). The challenges that face Saudi families in educating their childeren during COVID-19 pandemic. Arab Journal for Scientific Publishing (AJSP), 22, 152–175.

Al-Qahtani, S. (2020). Registration and entry into iEN the national education portal and activation of the services of students, teachers, and parents. Retrieved from https://cutt.us/iHbC4

Al-Thamiri, A. (2020). After five weeks, Madrasati "My School" platform and distance education go beyond danger. Retrieved from https://www.aleqt.com/2020/10/05/article_1937111.html

Al-Thobait, L. M. (2020). How Saudi Arabia faced the challenges of education under the Corona pandemic. Reading and Knowledge Journal, 228, 91–113.

Alabdulaziz, M. (2019). Overview of the education system in the Kingdom of Saudi Arabia. International Journal of Information Technology (IJIT), 5(2), 1–12.

AlAteeq, D. A., Aljhani, S., & AlEesa, D. (2020). Perceived stress among students in virtual classrooms

during the COVID-19 outbreak in KSA. Journal of Taibah University Medical Sciences (in Press), (August). https://doi.org/10.1016/j.jtumed.2020.07.004

Aldarhami, A., Bazaid, A. S., Althomali, O. W., & Binsaleh, N. K. (2020). Public perceptions and commitment to social distancing during COVID-19 pandemic: A national survey in Saudi Arabia. International Journal of General Medicine, 13, 677–686. Retrieved from www.preprints.org

AlHumaid, J., Ali, S., & Farooq, I. (2020). The psychological effects of the COVID-19 pandemic and coping with them in Saudi Arabia. Psychological Trauma: Theory, Research, Practice, and Policy, 12(5), 505–507. https://doi.org/10.1037/tra0000623

Ali, T., & Herrera, M. (2020). Distance learning during COVID-19: 7 equity considerations for schools and districts. Retrieved from https://files.eric.ed.gov/fulltext/ED605744.pdf

Almaghaslah, D., & Alsayari, A. (2020). The effects of the 2019 novel coronavirus disease (COVID-19) outbreak on academic staff members: A case study of a pharmacy school in Saudi Arabia. Risk Management and Healthcare Policy, 13, 795–802. https://doi.org/10.2147/RMHP.S260918

Encinas-Martin, M. (2020). Spain: Aprendo en casa (Learn at home). Education continuity stories series, OECD Publishing, Paris. Retrieved from https://cutt.us/EPbHs

Filali, M. (2020). Analytical readings for virtual education in times of crisis - Covid – 19 models. Dirasat: Human and Social Sciences, 3(4), 58–98. Retrieved from http://search.mandumah.com/Record/1065569

Hassounah, M., Raheel, H., & Alhefzi, M. (2020). Digital Response During the COVID-19 Pandemic in Saudi Arabia. Journal of Medical Internet Research, 22(9), e19338. https://doi.org/10.2196/19338

Hedger, B. J. (2020). Continued learning during COVID-19. National Association of State Boards of Education (NASBE), 27(3), 1–3. Retrieved from https://files.eric.ed.gov/fulltext/ED605553.pdf

Kaden, U. (2020). Covid-19 school closure-related changes to the professional life of a k–12 teacher. Education Sciences, 10(6), 1–13. https://doi.org/10.3390/educsci10060165

Kuhfeld, M., Soland, J., Tarasawa, B., Johnson, A., Ruzek, E., & Liu, J. (2020). Projecting the potential impacts of COVID-19 school closures on academic achievement Executive Vice President of Research , NWEA. https://doi.org/https://doi.org/10.26300/cdrv-yw05

Ministry of Education. (2020). The Saudi MOE: Leading efforts to combat Coronavirus pandemic (COVID-19). Retrieved from https://cutt.us/AfNV6

National eLearning Center (NELC). (2020a). About the NELC. Retrieved from https://nelc.gov.sa/en/nelc

National eLearning Center (NELC). (2020b). E-Learning Standards for Public Education in Saudi Arabia 2020. Retrieved from https://cutt.us/aMxh1

Rasmitadila, R., Aliyyah, R., Rachmadtullah, R., Samsudin, A., Syaodih, E., Nurtanto, M., & Tambunan, A. (2020). The perceptions of primary school teachers of online learning during the COVID-19 pandemic period: A case study in Indonesia. Journal of Ethnic and Cultural Studies, 7(2), 90–109. https://doi.org/http://dx.doi.org/10.29333/ejecs/388

Sá, M., & Serpa, S. (2020). The global crisis brought about by SARS-CoV-2 and its impacts on education: An overview of the Portuguese panorama. Science Insights Education Frontiers, 5(2), 525–530. https://doi.org/10.15354/sief.20.ar039

Samarkandy, M., & Abou Abbas, Q. (2020). Reducing the psychological impact of quarantine due to the

COVID-19 pandemic on children in Saudi Arabia. Diversity and Equality in Health and Care (2020), 17(4), 153–157. https://doi.org/DOI: 10.36648/206 9-5471.17.4.206

SHMS. (2020). SHMS-Saudi OER Network. Retrieved from https://shms.sa/

Tanveer, M., Bhaumik, A., Hassan, S., & Ui-Haq, I. (2020a). Covid-19 pandemic, outbreak educational sector and students online learning in Saudi Arabia. Journal of Entrepreneurship Education, 23(3), 1–14.

Tanveer, M., Hassan, S., & Bhaumik, A. (2020b). Covid-19 quarantine and consumer Behavior that change the trends of business. Academy of Strategic Management Journal, 19(4), 1–11.

Van der Berg, S., & Spaull, N. (2020). Counting the cost: COVID-19 school closures in South Africa & its impact on children. https://doi.org/10.31219/osf.io/yq9kn

Yao, J., Rao, J., Jiang, T., & Xiong, C. (2020). What role should teachers play in online teaching during the COVID-19 pandemic? Evidence from China. Science Insights Education Frontiers, 5(2), 517–524. https://doi.org/10.15354/sief.20.ar035

Young, J., & Donovan, W. (2020). Shifting to Online Learning in the COVID-19 Spring. Retrieved from https://pioneerinstitute.org/pioneer-research/covid-pioneer-research/shifting-to-online-learning-in-the-covid-19-spring/

Yousif, A. (2020a). iEN, the National Education Portal. Retrieved from https://faharas.net/ien-national-education-gateway

Yousif, A. (2020b). Madrasati Platform. Retrieved from https://faharas.net/madrasati/