

مزارة التعليم Ministry of Education

The Saudi MOE

Leading Efforts to Combat Coronavirus Pandemic

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(COVID-19)



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Spring Semester 2020

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وزارق التعليص Ministry of Education



Executive Summary

Background

The Ministry of Education (MOE) announced and took precautionary actions on February 1, 2020. On February 3, 2020, urgent complementary measures with regards to the outbreak of the coronavirus (COVID-19) were issued. The first confirmed case of coronavirus was reported in Saudi Arabia on March 2, 2020. On March 6, 2020, MOE officials were empowered to suspend schools in any affected province in the Kingdom as required with the coronavirus viral progression. Right after that, distance education for all K–12 schools and university education was enforced on March 8, 2020. Attendance suspension in all public and private educational facilities in the Kingdom was effective Monday, March 9, 2020.

The Kingdom of Saudi Arabia (KSA) responded to the novel pandemic to mitigate the adverse effects on health, economic, social, and educational levels. The government's efforts sought to ensure the balance between all government bodies at all levels. Plans and solutions were in effect to guarantee the safety of citizens and residents and reduce the impact of the pandemic.

Limitations

Despite the alternative e-learning solutions that have been adopted, several limitations associated with closing schools have emerged. These are some of them:

- Digital divide where teachers and students lacked computers and computing literacy
- Lack of internet service among teachers and students
- Readiness to adopt distance learning
- Infrastructure capacity
- Student academic achievement

This unprecedented challenge requires the MOE decision and policymakers to evaluate the possible options cautiously. These efforts stemmed from the principle of preserving the health and well-being of individuals by prioritizing people's lives, which the Royal Address of the Custodian of the Two Holy Mosques King Salman bin Abdulaziz has made clear. The Ministry aimed to steer all efforts with full compliance with the directives and instructions of the Ministry of Health (MOH) and the National Crises and Disasters Control Center (NCDCC). Data were collected in collaboration with other national and international organizations. These measures are:

• All employees undergo screening before entering the workplace.



- Anyone who appears to show symptoms is immediately referred for medical examination.
- Trace all contacts of infected people with or without symptoms.
- Provide safe quarantine facilities to prevent further transmission.
- Put forth backup plans for the support in case of emergency.

The Three Phases:

To turn the pandemic into an opportunity, the MOE went through three phases:

First Phase: Coping

This coronavirus took the world by surprise. First, the MOE managed to cope with the sudden school closure, and then to exert all possible efforts to limit the learning losses. The school stipends kept flowing to listed students. The MOE's Distance Education technologies and systems were provided with support and technical enhancement to ensure efficacy for the new multiplying demand. Other initiatives (Donorship Training, Takaful, and 141 additional initiatives) were applied to prevent learning loss and ensure that more than seven million students in KSA continued their equal-access learning until the end of the academic year. During this time, Directorates of Education extended their helping hands to all families to provide them with needed resources and support their students to learn at home.

Second Phase: Mitigation

The MOE placed its utmost effort to mitigate all adverse effects of COVID-19, such as health costs, loss of workforce and jobs, and effects on potential output. Also, when social distancing rules are eased, the MOE made sure that schools are to open safely. School reopening after a high-degree outbreak is a complex process, with many staggered overtures, which requires all aspects to be considered. The MOE is equipped with a raft of measures targeting reversing education losses, including healthy schools, improved classrooms, and, most importantly, developed curriculum with a high level of technology usage, utilizing the help of focused programs prepared by the National Center for Professional Educational Development (NCEPD) targeting teachers.

Third Phase: Aftermath

This unprecedented crisis has offered unparalleled opportunities to develop curricula. It is a real opportunity to rebuild the educational system to ensure its strength, productivity, and quality. Everybody's perspective is now changed after this historical incident. Cooperation with families has reached an unprecedented level where everybody has developed an improved level of understanding of everybody's roles and identifying the gaps.



Introduction



The Kingdom of Saudi Arabia's regional and global prominent role has been reiterated in the run-up to and during the period of COVID-19. The Kingdom made exceptional efforts to mitigate the effects on the health, economic, social, and educational levels. Also, to ensure a balance between all government bodies at all levels. The Kingdom's efforts to combat the coronavirus stemmed from the principles that the King has laid out and reiterated in his address to the nation prioritizing the protection of lives and the well-being of citizens and residents alike.

All sectors in the Kingdom have responded with great harmony. They have put plans and solutions to come out with results that guarantee the safety of the citizens and residents and reduce the effects of this crisis.

The MOE took precautionary action on February 1, 2020, updating and implementing emergency plans and crisis management protocols. Besides, efforts were intensified to execute rapid awareness campaigns, review contingency plans, and prepare for every emergency, including how to deal with the pandemic. These endeavor synergies with forming specialized committees and work teams ensure the effectiveness and readiness of the education and training system.

The Royal Decree No. 35700 was released on February 3, 2020, on urgent complementary measures with regards to the outbreak of COVID-19 in China. It upheld commitments to protect citizens and residents in the Kingdom against the coronavirus outbreaks and took several urgent measures and procedures, including the formation of a committee headed by the MOH and high- level representatives, including the MOE.

The Royal Decree called for urgent procedures to deal with any case of infection that may emerge in our educational facilities, the swift and effective dealing with them, the isolation of the infected, and the school closure of all educational facilities if affected by the coronavirus.

The MOE was on the watch for the developments of the pandemic. This follow-up has helped set the stage for all possible scenarios, including emergency phases. Also, joint proactive efforts were undertaken at the beginning of the crisis, which relied on the survey and analysis of facts in the field, representing an important proactive step that enabled the entire education system to deal flexibly and smoothly with the pandemic. Right after that, a Ministerial Resolution No. 79305 was issued March 8, 2020, to enforce distance education for all public and university education stages, both governmental and private.

This anticipatory step of the MOE constituted a significant impetus to crisis management's success by providing, implementing solutions, and producing the desired results.

With the issuance of the ministerial decision, the MOE has started the implementation phase. This phase included activating the plans, launching work teams in all education sectors. It also involved making essential efforts on which all components of the education sector rest. These efforts were executed in great harmony, under a unified framework based on specific cornerstones.

Among the most prominent of these cornerstones that the Ministry was keen to achieve to attain the desired results:

- Attain a robust technical infrastructure and the effectiveness of the communication networks and logistics services.
- Enhance integration and interdependence with all parties within the education and training system.
- Achieve dynamic and immediate response to emergencies, data, and government measures.
- Demonstrate the state's great support for the education and training sector and its importance and impact on sustainable development.
- Provide support and assistance to the government, private, and charitable sectors.

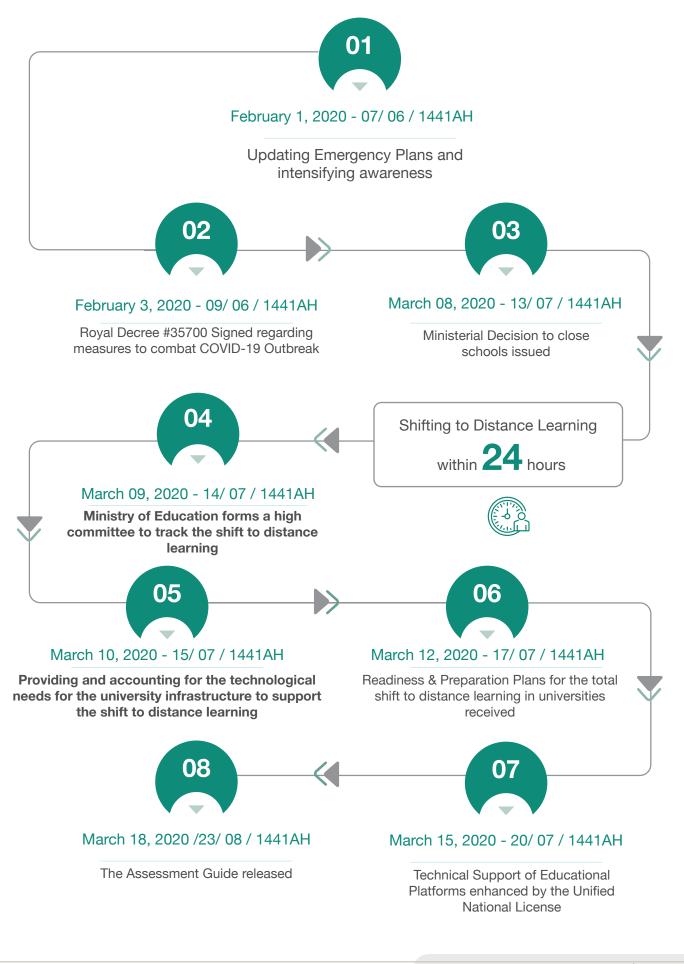
These points are reviewed in the next pages of the report, which lists all the efforts made by the various bodies of the education, training, and research sectors. These significant moves resulted in a homogeneous, reliable, and integrated fabric with the rest of the governing-bodies. The goal is to get the Kingdom of Saudi Arabia out of this crisis with efficiency, distinction, and the least possible damages.

The Kingdom is one of the leading countries taking precautionary measures and procedures to suspend education, launch distance education, and complete the school year with flexibility and high efficiency. These critical steps ensured that more than seven million students in the Saudi education system continued their learning until the end of the academic year.









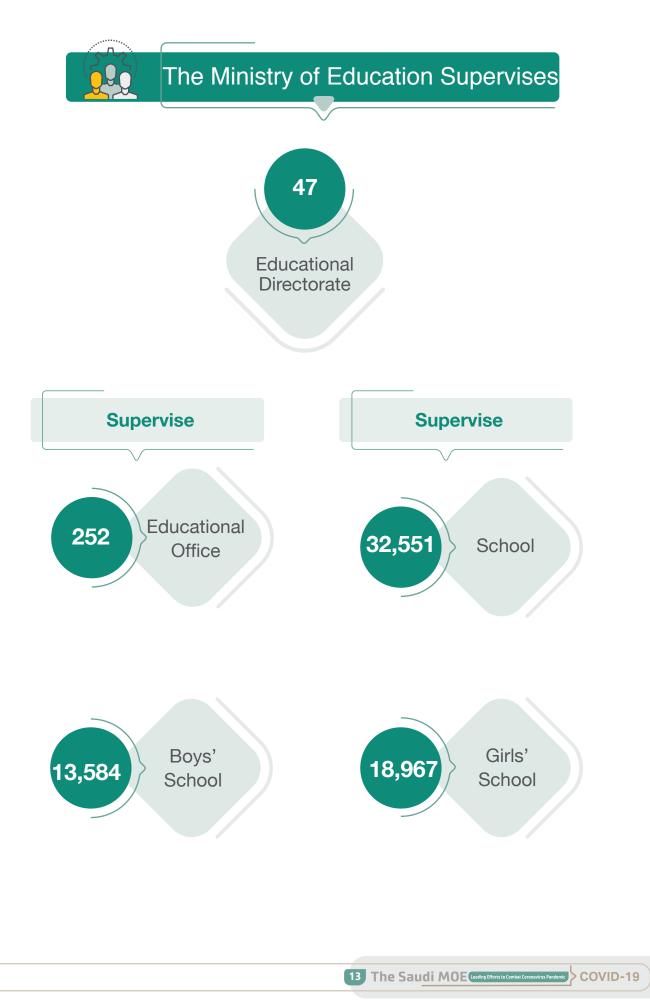
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The decision to close schools due to COVID-19 was a true manifestation of the continued care of the leadership of Saudi Arabia for the well-being and safety of its citizens. The Royal Decree No. 42874 dated March 6, 2020, empowered officials to close schools in any affected province in the Kingdom as required with the coronavirus viral progression. The Ministry's decision #78607 dated March 7, 2020, led to school closure in public education, starting with the governorate of Qatif on Sunday, March 8, 2020, which was extended to cover all other provinces and governorates in the Kingdom, based on the ministerial decision #79305 valid Monday, March 9, 2020.



The MOE sought to prevent any stoppage of education, not even for a single day. However, distance education had to be adopted as an alternative for face-to-face education. The beginning of distance education was implemented first in the Qatif Governorate, where alternative options were applied. These initiatives give students adequate access to educational curricula and enriching materials through various methods and means. Because the MOE oversees all Directorates of Education that supervise public and private schools within their respective jurisdiction, it caters to all students with a total number that exceeds six million in all governorates and provinces of the Kingdom.





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The MOE aspires to continue the educational journey according to a particular plan identifying the critical dates for the second term in full. It seeks to achieve this for all grades in the public education stages for K–12 education. Plans cover both systems, the class and course systems, to ensure students' adequate educational outcomes. The measures taken coincided with the Royal Decree's issuance to suspend attendance in Qatif governorate schools to ensure the continuity of learning. Educational subjects that required focus were identified and marked for further concentration. Such subjects were given more attention as they may cause significant learning loss to students in such circumstances. Accordingly, the focused learning content was allocated in educational subjects that included 180 subjects distributed throughout the K-12 years based on the core concepts, knowledge, and skills. They excluded the enrichment content and activities that students have previously acquired or may acquire in the future.



Implementation

On March 9, 2020, the first day of the school closure—iEN Satellite educational channels started broadcasting lessons to all students around the Kingdom from iEN Satellite TV's temporary headquarters located at Prince Sultan bin Abdulaziz Educational Complex in Riyadh. Within 10 hours after the decision to suspend attendance to schools was made, lessons began broadcasting to students in their homes. Lessons aired according to a specific time plan consistent with the educational plan. They started from 8 a.m. until 12 noon. Broadcasting repeated lessons around the clock until the lessons for the next day start broadcasting at 8 a.m. on the next day. Weekends were also dedicated to rebroadcasts of the lessons presented during the whole week.

According to the educational level and grade, all broadcasts were presented to student viewers between lessons. They were also announced in the media and on iEN's Twitter account. Teachers and educational supervisors were nominated and selected carefully to provide iEN with the best possible instructors. Recording lessons were carried out with state-of-the-art equipment/facilities/ technology to broadcast high-quality TV recordings provided to viewers in Full HD quality. All Education Directorates contributed to this effort in which 276 teachers and 73 educational supervisors were intensively and urgently trained to work effectively with the filming and recording crews. The lessons were televised to students live from the studios covering all educational levels and courses. It was a real technical challenge that the iEN technical crews and teachers met successfully.

The iEN TV virtual classrooms were the breakthrough of the activation of the distance learning process in Saudi Arabia in response to COVID-19. Around the clock, iEN met that challenge through 12 satellite channels broadcasting live from the iEN Satellite TV studios marked on satellite listings under (DOROS -1- DOROS -12). Then, it was determined on March 9, 2020, to add three more channels pushing the total to 15 educational channels. On March 10, 2020, the number increased to 17 educational channels. Two more channels started broadcasting on March 12, 2020. The iEN Satellite TV educational channels reached their potential on March 15, 2020, when they jumped to 20 educational TV channels providing live and recorded broadcasts of classes to all educational grades and covering all subjects. The iEN Satellite TV educational channels allocated a channel for each grade and track of the secondary stage. The distinctive role played by the technical and administrative personnel was the main factor in the operation and implementation of the project.







The building was prepared entirely for recording and broadcasting lessons live to student viewers. Since the building was designed and equipped to be used as a school, the iEN channels turned the building into a broadcasting location provided with all logistic and technical requirements. They were faced with challenges and difficulties, especially as the Ministry desired to provide an adequate number of channels necessary to cover the entire educational stage. The operation of 20 satellite TV channels required a lot of equipment, staff, tools, and expertise that was not available before the pandemic. However, there is a genuine determination to continue the educational process of high quality and with an unwavering will to keep learning within reach to all students. The filming and recording of lessons were completed on March 28, 2020. At that point, all lessons needed for all students were stored in the servers on the iEN Satellite Educational Channels for broadcasting regularly around the hour for all student viewers. The daily rate of broadcasting was 125 TV lessons.







To ensure the reduction of educational losses by changing the method of the educational process from the direct method face-to-face to the indirect method through distance education, and in anticipation of the complete curfew, the Ministry adopted the intensive training program for the educational staff on Sunday, April 5, 2020, for five days. The Ministry has provided them with all the necessary equipment, such as tablet PCs and technical tools. The SmartSheet educational platform was activated to store completed lessons. According to this strategy, the service on SmartSheet began on April 12, 2020. Of these lessons, 459 lessons were filmed in sign language in catering to students with special needs. The rebroadcasting of lessons continued after the Eid Al-Fitr vacation and until the beginning of the next academic year.



For the MOE to assess the students' educational achievement in the second term of the year 2020, teams were assembled to build the questions bank for distance testing for middle and high school subjects. Specific questions and answer templates were prepared.





Distance Education Platforms for the Education System

In the first week of the school closure, the Ministry presented other alternative technologies for students, which could be more appropriate to the circumstances surrounding different students. It was an attempt to diversify the solutions provided to students regardless of their geographical location and the technical capabilities. That exercise was a true manifestation of how individual needs affect the delivery of education to students of different backgrounds and access to technology. So, in addition to the iEN Satellite TV Educational Channels, there were alternatives.



The technical solutions the Ministry has made available included multiple options for students of different and extremely diverse learning styles and strategies. Among the most critical solutions was the **iEN** Satellite TV Lessons on **YouTube**, which allowed more than **six million** pupils to have full access to lessons using their favorite medium. The **YouTube Channel** experienced tremendous growth in viewership and a rapid increase in the number of subscribers due to the pandemic.



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Unified Education System (vschool.sa)

This platform is one of the solutions provided by the MOE as another option for distance education. It was launched a week after school closure. Also, the families were informed to help and encourage their students to continue their education. For that reason, efforts were aimed at providing more options to accommodate six million students.

▶ The Ministry has also sent advisory messages to students, parents, and teachers to enroll in this system and benefit from its educational resources. These and other products are part of a series of applications and measures the Ministry put forward to ensure the continuity of the educational process and that students are not affected by the temporary discontinuation in attendance.

▶ The launching of the unified education system in record speed is considered an instant effective solution during COVID-19 and a future supportive solution for integrated education. It is also a promising integral component the entire educational process shall benefit from in the future. It represents a reflection of the Ministry's plans to keep pace with the leading global experiences and adopt effective learning technologies so that distance education keeps pushing forward. The widespread use of the unified education system was the best evidence of the interest students and teachers have in distance learning and the successful use of technology in facilitating the educational process. It has allowed Saudi educators to conduct remote meetings between educational personnel to exchange experiences in more than **3,600 meetings**.



▶ The Future Gate Platform provided users with CMC tools for teachers and students using synchronous interactive lessons as an option available at any time and serving the intermediate and secondary schools that are distributed to more than **33 educational directorates** across the provinces and governorates of the Kingdom.





(https://ien.edu.sa/Home/Dashbord)

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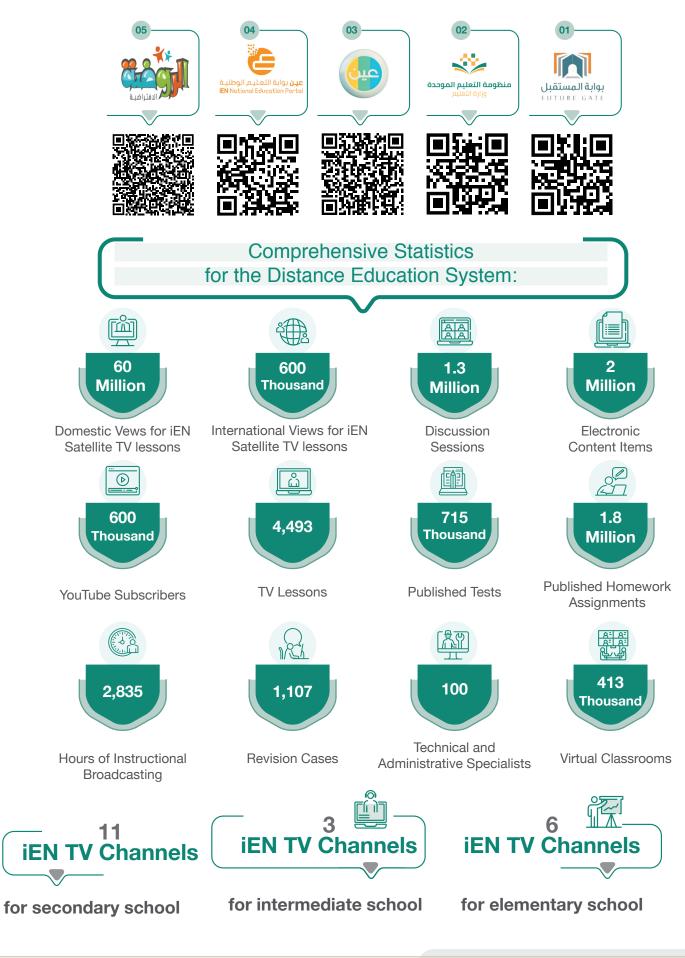
▶ The National iEN Portal Platform for learning enrichment provided reliable and authentic electronic educational services. It serves as a digital incubator for interactive lessons, curricula, assignments, assessment batteries, and quarterly and final exams. All government and private school students have benefited from this portal. Besides, private schools had the freedom to add additional resources to enhance their students' learning. Technical educational environments, such as Classera, Zoom, Microsoft Teams, among others, were the most common CMC tools among learners and instructors.



Virtual Kindergarten

► The MOE also provided a virtual kindergarten platform for distance education children from 3- to 7-years old under the supervision of their parents, offering a variety of educational elements, guidelines, and educational content through 11 units according to a timeline that monitors progress and achievement. In the end, there is an evaluation of children's skills.





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To ensure full technical support and facilitate the learners' journey in distance education, the Ministry established a communication center named "Tawasul," providing support to learners. The center started operation on March 15, 2020, receiving inquiries, requests, and technical support issues from users of the Ministry's Distance Education different platforms.



During this educational journey, the distance learning platforms faced some challenges and difficulties that the Ministry overcame. These are the most critical issues.



Students' Lack of Computers This challenge was resolved by providing more creative options for education that does not require computers. Besides, the Ministry worked with the Takaful Foundation to provide students in need with computers, which provided 14,000 students with new computers to use for their online learning.



Students' Lack of Computers and Internet Service: The Ministry exerted all the possible effort to facilitate equal access to education to help students overcome technical hitches and obstacles that may hinder their learning. The Ministry of Communications and Information Technology worked in conjunction with the MOE to provide free access to educational sites hosting distance education platforms by listing those domains under the free access listings. This complimentary service was available on all devices.

Readiness to Adopt Distance Learning: The families and practitioners in the educational field initially were not entirely ready to adopt the culture of distance education. This challenge was addressed by providing introductory training sessions and materials. Usage guides, educational messages, and video clips helped to educate and prepare all stakeholders to accept and use distance education platforms and other available options positively. In addition to that, the Ministry held many distance training sessions for some teachers, educational supervisors, and school leaders to use distance learning platforms.



The Infrastructure Capacity: The infrastructure was, factually, not ready to accommodate this sudden and unprecedented demand on its networks. It had to receive a large number of users simultaneously, reaching more than six million students. This challenge was dealt with by utilizing the cloud services to host the Unified Education System, to ensure the quality of the performance of its services, and absorb its infrastructure and network loads to serve the significant number of new users with high quality.



In cooperation with "Takaful Foundation" the MOE provided:





Decision to End the 2nd Term

Based on the principles that the King has reiterated in his address to the nation with regards to the protection of lives and the well-being of citizens and residents alike, the Ministry double-checked and reviewed all scenarios for educational grade and level in pursuit of the best solutions leading to the improvement of learning outcomes. So, after completing coverage for all educational subjects provided through the Distance Education System with the least predictable learning loss that could be achieved, the decision was made to end the second term on Thursday, **May 14, 2020**. The decision was based on the status of COVID-19 around the globe, especially those countries similar to KSA. When all prerequisites were exhausted, students were then promoted to their next grade level.





Due to COVID-19, the MOE worked with all universities to reduce the impact, adopt needed measures, and make necessary decisions to combat the pandemic. Plans were developed to control the spread of the coronavirus. Also, steps were taken in case of an outbreak in our schools. On March 9, 2020, the Minister signed a decision to form a senior task force in the Ministry responsible for following up on the execution of distance learning education during the school closure. Several committees have been initiated to serve this taskforce.



Deans of Distance & E-learning in all Saudi universities were assembled to cooperate and coordinate university efforts, exchange expertise and resources, and exchange support as needed among universities. The same measure was taken with the deans of Medicine and Health colleges, who worked together to exchange views and ideas on the different measures and procedures to control the instructional challenges medical and health education may face in different universities as a result of the pandemic.

The Saudi Electronic University (SEU) and the National Center for E-Learning put together plans to prepare for the total transformation to distance learning around Saudi universities. Those plans were adopted after rigorous reviews by specialized committees. On March 3, 2020, some technical challenges started to emerge after the launching of distance learning platforms in all government-funded universities and private universities and colleges. Those challenges were eliminated effectively after enhancing technical support teams in universities due to the Unified National License program.

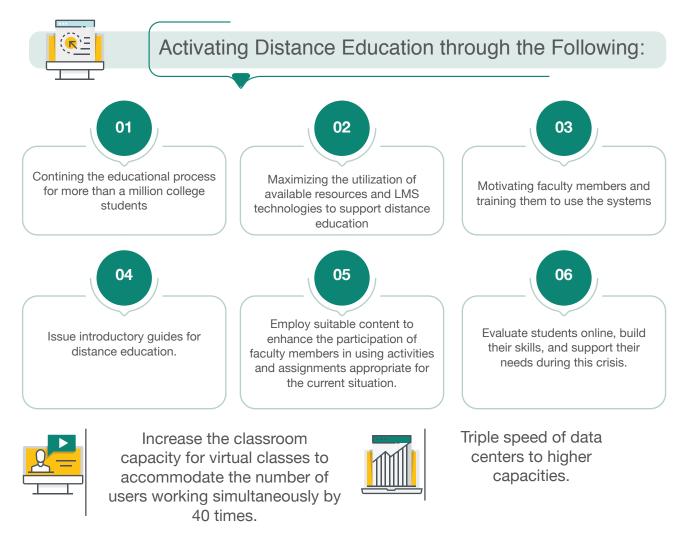
On April 4, 2020, the Minister of Education presided over an online meeting with university presidents to discuss evaluative mechanisms for final examinations in universities during the period of attendance suspension in the course of coronavirus, **which ended with several recommendations that included:**

- Continuing the educational process in universities in quality and efficiency through e-learning and distance education contributes to motivating students to continue their educational journey successfully.
- That the final exams for all types of education (Full-time, Distance Education, Affiliation) were held at the scheduled time, April 28, 2020.

According to Article 22 of the "Regulations for Study and Examinations for the Undergraduate Level," the Ministry agreed with governmental universities, private universities, and colleges to change the allocation of grades for exams, assignments, and projects for courses to become

- **80** points for midterm, assignments, projects, and other tasks
- **20** points for the final exams

The meeting allowed some courses to be given some flexibility due to their special status.





The MOE joined resources and efforts with the Saudi Electronic University to provide training to more than **500** individuals to operate this system. There were **400** servers added to the system's Information Center after the attendance suspension and the complete transformation in public and private universities and colleges to distance education. This brought the total number of servers to more than **750** servers to use the system efficiently.

Perhaps, these are the most prominent challenges that the Ministry faced in activating distance education and the mechanisms for dealing with it in universities.



Lack of Access to Computers and Access Devices Some students did not have adequate resources to own a computer or online access services through hand-held or tablet devices. Such students were identified and approached with the needs they had to continue learning with all other students.

Internet Difficulties Some students lacked access to internet service, so the MOE and the Ministry of Communications cooperated to ensure the continuation of education for all students around the Kingdom. The ministries also worked to provide enhanced support for the internet and to provide completely free access to educational sites.

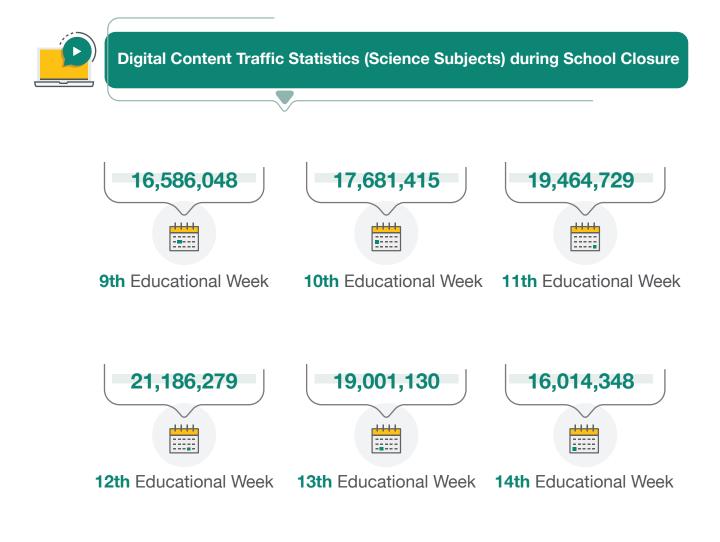


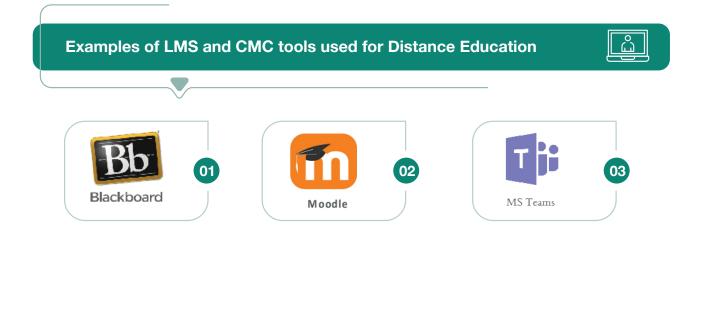
Training Issues Some students and instructors did not have the necessary and adequate training that would qualify them to deal skillfully with the virtual classroom technologies and distance education platforms. Training programs and guides were made available for such users.

LMS Setbacks Blackboard was the primary LMS technology used during the crisis. It had issues of technical glitches and failures that required technical solutions by the provider to avoid the repetition of this problem. Other CMC solutions were adopted to make up for any shortage or failure, such as Microsoft Teams, Zoom, among others, to provide synchronous communications between instructors and learners.



System Change Anxiety: Many students were worried because of the change in the pattern of education. Also, they were bothered by the shortage of communication with their instructors. The Virtual Advising & Office Hours initiative was introduced and launched around Saudi universities to address these issues.



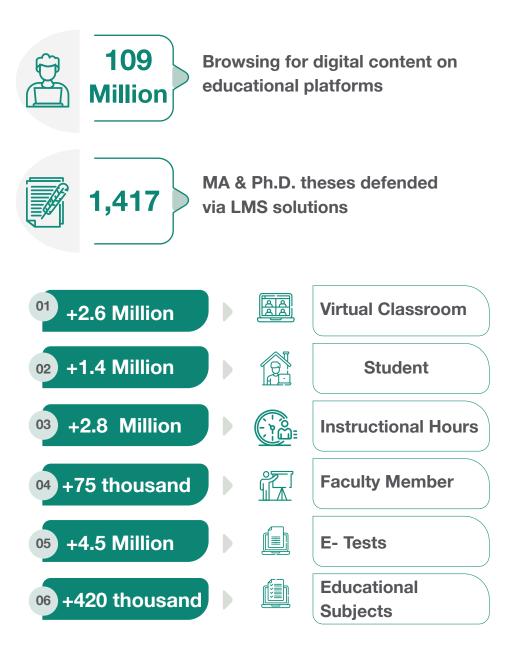


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Higher Education Statistics







On Saturday, March 7, 2020, a Crisis Management Team is created to meet the critical needs and achieve the targeted objectives, such as providing support to the TVTC staff, trainees, and apprentices to reduce the volume, downsize the influence of COVID-19 impact, and achieve the highest possible results.

To this end, a three-angled strategy was adopted to deal with the pandemic.

Preparation (before training suspension)

Precautionary measures have been applied against the spread of the coronavirus.

Response (pandemic stage)

Cope with the consequences of the pandemic by applying the National Contingency Plan.

Mitigation (after the pandemic)

Seize all the opportunities to mitigate adverse effects related to health costs, loss of workforce, and potential outcomes. We draw from past experiences to deal with future challenges by implementing sustainable solutions that would help TVTC withstand challenges from a COVID-19 surge.



The TVTC infrastructure already established and prepared in advance for online distance-training. All of these efforts contributed to maintaining the progress of the training program during the pandemic by the use of the LMS platform (Blackboard).

Several courses, seminars, and publishing guides have been implemented to assist trainers and trainees as follows:
Conducting more than 20 training courses targeting trainers and trainees to raise awareness using distance training
Holding specialized webinars via the TVTC LMS platform with up to 10,000 participants
Designing and implementing more than 32 how-to videos to introduce the LMS platform

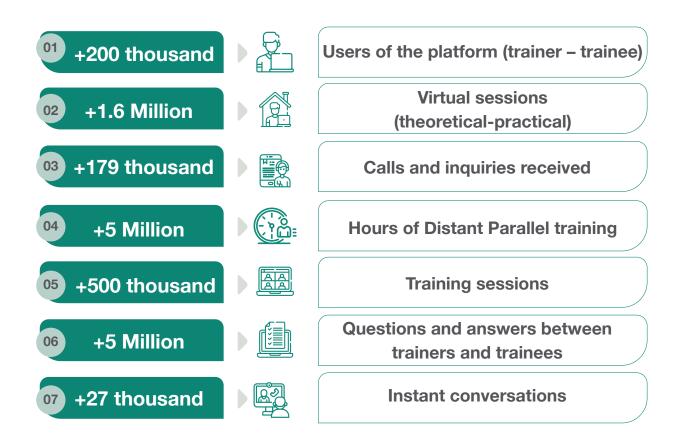
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Creating training guides and manuals for the distance training platform and upload them to the TVTC website

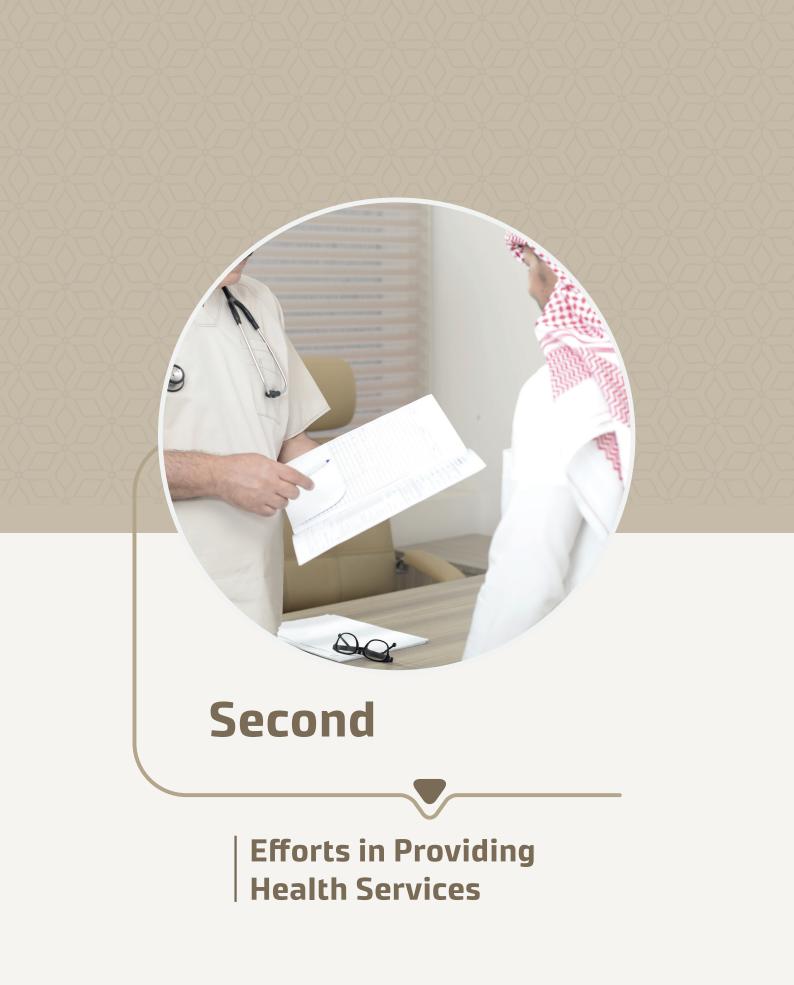
As for private training facilities, approval has been given to **622 facilities** to provide online training and switch to electronic licenses. Besides, private training institutions were exempted from online training courses certification fees. An exemption was also applied for developmental courses request fees. Also, the Donorship Training Initiative was launched in conjunction with different private training institutions to offer 400 free online training courses, which reached and benefited thousands of interested individuals across the Kingdom.













Introduction

University Hospitals and Health Centers affiliated to TVTC have kept pace with the precautionary measures that the Kingdom has applied to combat the new coronavirus by harnessing all of its human and material resources and applying many internal procedures, and the formation of executive committees for emerging situations and scenario-building related to the health situation. We are also preparing contingency plans to combat the pandemic.

The efforts made by University Hospitals and Health Centers under the auspices of the MOE included:

- Conducting simulation exercises on procedures to deal with potential COVID-19 outbreaks
- Raising awareness through health education to combat the spread of COVID-19 by using social media and daily e-mails
- Designing and printing brochures, flyers, posters, and banners to promote awareness of the coronavirus and prevention methods
- Organizing virtual training seminars on the coronavirus in cooperation with the Saudi Commission for Health Specialties (SCFHS)

Occupational Safety and Health Administration (OSHA) at TVTC has made efforts to raise awareness to protect employees against the coronavirus. In addition, OSHA provided personal protective equipment requirements for its employees, monitored the application of health precautions within its facilities, and prepared a training session on basic safety requirements. Also, **72 medical practitioners** from various provinces of the Kingdom have participated in the efforts to mitigate the effects of the coronavirus. Also, TVTC participated actively in its competent departments with the National Campaign of Health Volunteering Society **(Health Volunteering)**.



University Hospitals

University hospitals play an essential role in treating patients, qualifying medical personnel, and participating actively in providing health care and research studies. Since the emergence of COVID-19 and the issuance of the Royal Decree announced the promulgation of allowing all the country's sectors to take the necessary measures and procedures to deal with the pandemic.

Universities have taken various measures when detecting any case of COVID-19 infection among students, university employees, citizens, and residents.

Despite the multiplicity of university procedures and their different plans, they are involved in specific procedures and followed measures:

- All universities should be in full compliance with the directives and instructions of the MOH.
- All employees undergo initial screening tests for fever before entering a workplace.
- All workers who appear to show COVID-19 symptoms are immediately separated from the rest of workers and sent for medical examination in the University Medical Service Center following the precautionary procedures and instructions set by the MOH.
- Trace contacts of infected people, monitor them under the MOH's instructions, and clean and disinfect the building.
- Support the infected contacts and provide safe and effective quarantine facilities to prevent further transmission.
- Pursue private emergency plans to define field hospital sites during large-scale pandemic outbreaks given that air-conditioned buildings may contribute to the spread of the infection.
- Layout backup plans for the support that universities have provided to the health sector if there is an infected area nearby the universities or its facilities.



Implementing Public Awareness Campaigns

Such public awareness campaigns about coronavirus identify it, provide health and educational information about the disease and its symptoms, and offer ways to deal with suspected cases. These public awareness campaigns were conducted weekly. They were started locally at the beginning of the pandemic in February 2020. They continue the present time. Overly-dramatized awareness messages and media over-exaggeration was not allowed. The policy has made that clear and demanded all media follow it. At the same time, reaffirming and reiterating the importance of receiving information from trustworthy resources, i.e., the MOH or other reliable and credible scientific sources.

- Adopting the procedures previously adopted by the MOH in dealing with suspected cases
- Promoting infection control in health care facilities
- Providing a mobile laboratory for the genetic analysis of COVID-19 in airports to deal with new cases from abroad
- Providing teams of volunteers from health personnel at universities and students of health colleges to contribute to providing health services in case of COVID-19 outbreak
- Providing mobile teams with different plans and scenarios for crowd management and crowd control within quarantine facilities, while training them to protect themselves by taking the necessary precautions to avoid infection
- Providing medical supplies and sterilizers if requested by the MOH
- Provide the service of RT-PCR laboratory testing at university hospitals
- All patients tested positive for coronavirus are isolated from those who test negative, especially those at-risk where outstanding medical service is provided to them with medical teams that are utterly independent of the coronavirus patient crews while discontinuing to accept new cases
- Admitting positive patients for COVID-19 to the hospitals and providing them with full medical service by the university hospital crews and health personnel, with the full compliance to all preventive precautions
- Complying with self-quarantine at home in case one is waiting for test results, or when hospitals are full and unable to admit new cases, and the emergency isolation places in the university are full while providing services for the infected ones at home
- Submitting a daily ICU bed availability report at the university hospital

The MOE also issued exceptional directives and decisions to address the conditions of students abroad and their families due to COVID-19. There are 79,000 Saudis studying abroad; with their families and dependents that number exceeds 45,000. The total number of all Saudis outside Saudi Arabia amount to 124,000. There are more than 31 cultural attachés worldwide to serve such a massive number of students and provide all services to our students. There are more than 6,000 Saudi doctors and practitioners, who work and train outside of the Kingdom, mitigating the effects of COVID-19.





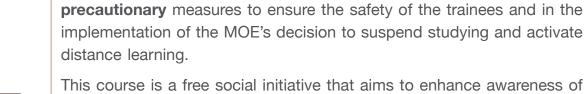
University Hospitals have also made many additional efforts, and work was broad enough to list them all.

The efforts done by the Simulation and Skills Development Center and the implementation of a medical hypothesis for a patient with COVID-19 patients are worth mentioning.

On Thursday, April 16, 2020, the Center of Simulation and Clinical Skills Development at Princess Nourah Bint Abdulrahman University (PNU) has simulated the medical case of a patient infected with the coronavirus to launch an online training course targeting health practitioners and others in the field dealing with COVID-19 patients.

The course, Assessment and Management of COVID-19 Patient, includes medically prescribed plans and instructions. Several consultants, nurses, paramedics, and a respiratory therapist from King Abdullah University Hospital also participated.

The simulation is based on real scenarios using the most recent dolls that mimic the patient's condition and how medical personnel usually deal with the case. The patient is transferred to the emergency department at the center to deal with the condition medically and preventively. The case is then transferred to the intensive care department (ICU). This scenario was based on the mechanism of dealing with such cases in the light of precautions to avoid infection and to have them evaluated by consultants participating in the scenario.

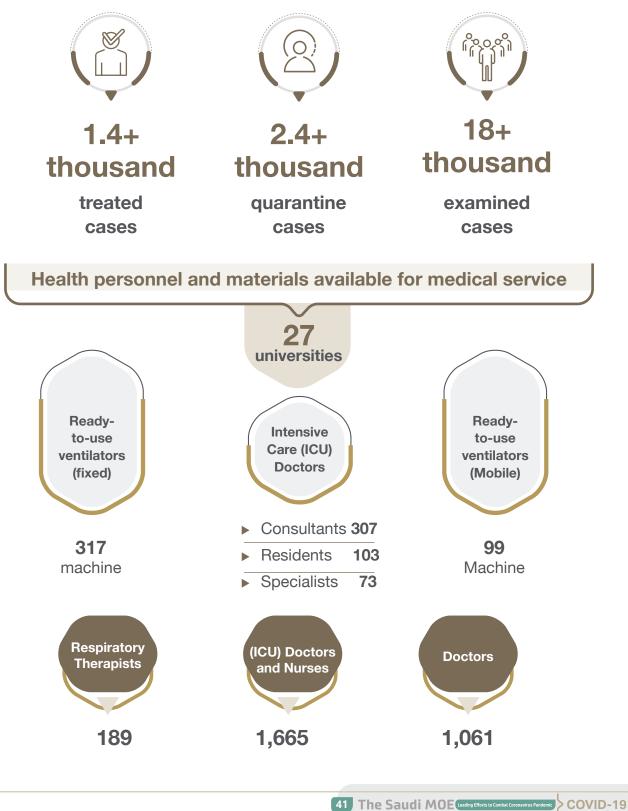




This course is a free social initiative that aims to enhance awareness of health practitioners and those on the front line of COVID-19. The course is available on the Virtual Medical Academy website, an accredited medical e-learning platform by the SCFHS.

This course was prepared and executed in line with the government's

The Center for Simulation and Clinical Skills Development at PNU is one of the world's largest simulation centers, equipped with the latest devices and techniques available for medical simulation and virtual reality. Using simulation technology is a modern medical, pedagogical style that enhances the interactivity through practical application and critical thinking of trainees. As a result, it contributes to developing competence and reducing medical errors. It also contributes to the training and development of health college students' clinical skills at PNU, along with the employees of King Abdullah University Hospital. The center recently received full accreditation from the American Medical Simulation Association, a nonprofit association.







To enhance integration between the MOE and the rest of the government sectors to combat the COVID-19, the MOE has continuously coordinated with several government agencies to collaborate in implementing several essential services in various health and logistical areas aimed at the following:

••••





A. Buildings and Facilities Provided by Public Education

The MOE took the initiative through its 47 General Directorates of Education across the Kingdom's governorates and provinces handed over their educational buildings and facilities in addition to all scout sites to the MOH, the Ministry of Municipal and Rural Affairs, and the district secretariats being at their disposal.



B. Buildings and Facilities Provided by Higher Education

These buildings are equipped with all safety facilities, emergency exits, and evacuation plans. Furthermore, integrated medical clinics attached to these buildings are prepared with all equipment and medical staff. These facilities are ready to provide



C. Technical and Vocational Training Corporation

Technical and Vocational Training Corporation exerted great efforts to combat the pandemic by providing other sectors with its facilities, cadres, and services.



It provides staff inside quarantine locations to ensure the comfort of the hotel-quarantine guests and achieve their highest health standards during their stay at the quarantine. An integrated team works throughout the 24 hours for this goal:

Administrative Staff

Supervise the reception and management of housing of the new guests. The Deanship of Student Affairs at the universities fund and sponsor these activities.

Medical Team

Screen all guests and administer their state of health during their stay in the quarantine.

Security Crew

Oversee the safety and security of guests inside and outside the buildings.

Service Crew

Supervise the general janitorial services and apply proper sanitation and hygiene services around-the-clock. The Public Works Administration administers this at universities.

Universities trained all workers on the necessary health measures for their safety and that of guests, in cooperation with infection control programs at the University Hospital to ensure that all health procedures and requirements are implemented.

Third: Providing Services in Quarantine Buildings

1. Room Accommodations

The rooms are furnished with all the necessary equipment to meet the guests' basic needs, in line with the highest levels of public health, professionalism, occupational safety, and guest comfort.

2. Meals

The self-isolated guests in the university quarantine buildings are provided daily with three meals, taking into account all health considerations including hygiene, quality and nutritional value of food delivered in disposable boxes.

3. Hygiene

There are prerequisite conditions for any quarantine buildings that must meet. These conditions are mandatory for any quarantine facility, fearing the risk of coronavirus infection, thus applying the necessary precautions. Among the available services are:

- Adequate number of the janitorial staff
- Training workers in cleaning, sanitation, and medical waste disposal procedures, daily, while achieving appropriate sanitary and sterile standards
- Provide tools, equipment, and disinfectants
- Provide personal protection tools for the staff
- Discarding quarantine waste as toxic waste
- Treating bedspreads, towels, and linens as highly polluting materials and washing according to infection control policies and procedures











4. Security

Considering the nature of the quarantines, the buildings are monitored by security officers and surveillance cameras to avoid any security violations. The officers apply all necessary procedures, including contingency evacuation plans and restriction of movement in and out of the building except for authorized personnel. Therefore, entry permits were enforced and to be presented with the individual registration of personal information. Furthermore, preventing quarantined people from leaving the building only after the lapse of 14 days and obtaining a medical report stating that they are free of the virus.

5. Medical Care

Quarantine in Saudi facilities is built to restrict all proven positive cases to monitor their symptoms and immediate finding of cases. Infected groups must be contained from the rest to prevent the spread of infections. This plan was put in place to ensure the pursuit of health policies even though it limits some individuals' movement.

These rules are applied in compliance with individuals' consent to lower their anxiety and cooperate with the authorities. To achieve this goal, the officials provide these facilities with communication means to provide guests with the most up-to-date info with the highest levels of transparency and accountability.

These steps have been applied to consider the importance of providing guests with all necessities they need, such as quality food, water, and recreation centers. These centers are also connected with the main hospital to provide a 24-hour basis with the needed health, mental and psychological services, and care. Lastly, cultural accommodations were also provided.

Health care is provided to everyone in quarantine facilities, where informative medical pamphlets, brochures are distributed to all guests. Also, hot communication lines (phone, cellphones, and contacts) were distributed in case of an emergency. Periodic checkups are scheduled for everyone to monitor their health status. In emergencies, an ambulance is called where patients are transferred immediately to the hospitals.

The Saudi MOE Leading Efforts to Combat Coronavirus Pandemic COVID-19 48

6. Washing Clothes

To ensure the guests' safety, the housing department and the university hospital supervise the washing of guest clothes. The clothes of each guest are washed independently and in accordance with health procedures.

7. Electronic Communication

Electronic means are activated to connect with the guests using the visual communication systems to ensure the safety of all guests and those in the accommodation headquarters. These services are allocated to everyone by the administrative and medical staff.

8. Daily Report

A daily report is prepared to inform and update the supervisors of the work, including building details, workforce details, equipment details, and service details.









Fourth: Implementing Quarantine Policies and Procedures

Commitment to applying quarantine instructions received from the MOH:

a. Guest Reception and Initial Screening Plan

Quarantine cases are received in coordination with the MOH for the headquarters designated for the initial screening, according to the following procedures:

- The health staff performs initial checks to ensure the safety of the guest from the initial symptoms such as fever, cough, difficulty breathing, and runny nose, sore throat, vomiting, and diarrhea.
- In the case of acute respiratory infection symptoms, the case should be referred to the relevant university hospital.
- Fill out the forms and information related to this case.
- Fill out the guest examination form for the first time in the health clinic for the health practitioner's initial screening.
- Laboratory examination (nasal smear) will ensure that the result is negative for the continuation of the quarantine, and if the result appears positive, then the case is transferred to the university hospital.
- Fill out the housing application form by the on-duty housing supervisor.
- Accompany the guest to the designated room and provide him with a copy of the health manual.

B. During the Quarantine Period

During the quarantining period, which requires shelter in-place of 14 days, guests are provided with general guidelines for quarantine, and they include:

- Guests are obligated to stay in their designated places inside the quarantine facility and not move out to another place.
- Staff must ensure that common areas (kitchens, bathrooms) are well ventilated, and all are wearing masks all the time.



- Patients must cover their nose and mouth while sneezing or coughing with a tissue. Proper disposal in garbage should be maintained.
- All should keep washing hands frequently with soap and water for at least 40 seconds or massaging the hands with an alcohol cleanser.
- All should be sure to rest, eat meals separately from quarantined people, and drink warm water instead of cold drinks.
- No one should share personal household items, such as dishes, cups, or towels.
- Everyone should keep a distance of two meters or more in dealing with any person in the quarantine building.
- All should adhere to control measures, wash hands frequently, and avoid touching the nose, mouth, and eyes.
- Take antibiotics or any other medicine only when prescribed by a physician.
- Patients should have their temperatures taken on an 8-hour basis. The patient should contact the medical staff directly in the building if symptoms indicate difficulty breathing or shortness of breath, suffocation, chest tightness, diarrhea, high body temperature, and awareness disorders.
- All surfaces that are frequently touched, such as computers, door handles, home phones, bathroom fixtures, bedside tables, should be disinfected regularly.

C. Leaving the Quarantine

According to the established health procedures, after the guest is quarantined for 13 days, the medical swabs are sent to the MOH laboratories to verify results. The guest is allowed to leave on the 14th day if his/her results appear negative.



Fifth: Providing Transportation Services

The MOE provided the actors involved with transportation, such as buses and minibuses. Such means are to be utilized in the service of transporting citizens returning from outside the Kingdom to health guesthouses in Riyadh, Jeddah, and Dammam. Through Tatweer Educational Transport Services Company, the Ministry provided 167 buses, with a capacity exceeding 6,500 passengers per trip, including 119 buses for passengers, 30 buses for people with disabilities, and 18 buses for luggage.

Four mobile maintenance workshop accompanied the fleet in addition to backup buses ready to use when needed. This fleet is monitored by real-time tracking via GPS satellites, where 220 employees, drivers, monitors, supervisors, and technicians are hired to execute the task. Bodily and social distance considerations are all maintained. Also, all bus drivers underwent intensive training by representatives of the MOH on taking adequate precautions during the transport process.

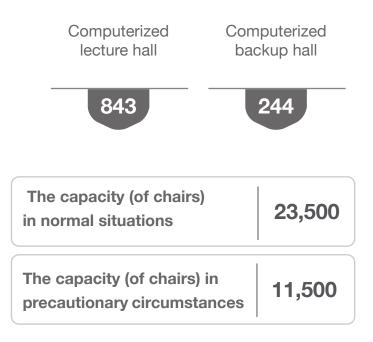






Sixth: Preparing Computerized Testing Centers for Aptitude Test (GAT) and Academic Achievement Test

The Ministry provided its support to the Education and Training Evaluation Commission (ETEC) by providing centers for conducting Aptitude Test and Academic achievement test for high school students distributed in all provinces and governorates of the Kingdom:











First: Voluntary Efforts

A. Public Education

It is a central moral virtue in times of crises and difficulties that all citizens are alarmed about the resurgence of the pandemic. It is also the MOE that fosters voluntary work and seeks to lay out strategic plans.

Because of the MOE's essential role, it develops a strategic plan to promote voluntary health work that stems from the Royal Decree No. 48311 dated April 8, 2020, which approved the Health Volunteering plan in the health sector.

Accordingly, the MOE formed the national project for voluntary on April 20, 2020. The Undersecretary for General Education chaired this committee with many members representing the MOE's various sectors in public and higher education.

The main task was to contribute to the implementation of the volunteer plan in the health sector and support national efforts with the voluntary participation of education personnel to activate preventive plans to combat COVID-19, where tasks are defined as follows:

- To determine the existing efforts in the field of volunteering
- To identify the requirements for establishing a national volunteer portal at the MOE
- **To communicate** with relevant government agencies and institutions regarding volunteering
- To raise awareness of the importance of volunteering among employees of education and social groups
- To supervise and accredit programs and training packages regarding volunteering
- **To keep track** of statistics and maintain periodic reports from educational authorities regarding voluntary efforts
- **To submit periodic reports** specifying achievement states, challenges, and risks and making the necessary recommendations

▶ The ministerial committee has held several anticipatory meetings before the issuance of the ministerial decision to create a committee for the national project for volunteer work. On March 24, 2020, the committee held its first meeting. Every department of the MOE was represented. The main task was to discuss the national project for volunteer work, efforts, needs, and future plans.

► Also, its second meeting was held on March 25, 2020 to follow up on the committee's work to review the efforts limited to volunteering and discuss the requirements for forming teams and the tasks required to be implemented.



► The MOE has circulated for all of its sectors to implement the broad framework regulation participation in the health volunteering plan for the employees of the MOE No. 88066 dated April 27, 2020 to support national efforts with voluntary participation and activate preventive plans to combat the coronavirus, in line with the general framework specified in the Ministerial Circular for MOE employees.

► MOE efforts were distributed involuntarily in three areas:



The ministerial circular also identified more than 17 areas of volunteering, which included:

- Planning, management of work teams
- Crowd management
- Supply, guards
- Mobility service
- Awareness and education
- Dealing with special groups
- Training and education
- Management and leadership

- Aid distribution
- Languages and Translation
- Security and safety, relief
- Nutrition services
- Psychological counseling, support
- Technical and vocational
- Administrative services
- Media

▶ The volunteer coordinators were tasked to follow up and organize the voluntary efforts in 47 Education Directorates where men and women participated effectively in raising awareness to mitigate the impact of COVID-19 through:

Public Education Initiatives and Personnel



Volunteers 31.8 thousand



Scouts +3.3 thousand

Initiative 141

▶ The MOE took the initiative to provide the MOH with data for volunteer coordinators in all Education Directorates in the governorates and provinces to contribute to activate preventive plans to combat the coronavirus, and the formation of organizational and supervisory committees on volunteering efforts in Educational Directorates and universities, within the framework of activating the volunteer work project plan at the local level.

Public Education has also devoted its efforts to training more than 30,000 volunteers in cooperation with the NCEPD and through the Sama Online Training (samaaedu.tetco. sa) platform for activating training and providing appropriate training content remotely for general education volunteers. The NCEPD mandated to prepare and approve training packages for volunteer trainees in education. With this in mind, the platform of the NCEPD was launched with the participation of the departments' Professional Education Development across the Kingdom to provide and administer training program packages in light of the precautionary measures to limit the spread of the coronavirus. It included many courses, such as crisis management and risk management in the work environment and technology in crisis and disaster management. It also included courses on how to deal with the emerging coronavirus to keep pace with the current situation. The participants of such activities exceed 2,000 educators. Moreover, some of the courses presented are:

- Coronavirus Pandemic (COVID-19) Awareness and Prevention Campaign
- School Safety in Light of the Spread of the Coronavirus
- Crisis Management During Coronavirus Pandemic (COVID-19)
- Psychological Intervention Programs
- Caregiving for the Elderly
- Coronavirus Prevention and Home-Quarantine



▶ It is worth mentioning that the efforts of the MOE in volunteer work are integrated with the other sectors to ensure consistency and harmony to achieve the desired benefit from harnessing volunteer personnel and initiatives, and the most prominent sectors of the state with which the efforts of the MOE in volunteer work are integrated with are:

The Ministry of Interior: Participation in the initiatives of Regional Principalities

The Ministry of Health: Cooperation with health affairs in all provinces

The Ministry of Islamic Affairs: Volunteering in the preparation of mosques

The Ministry of Municipal and Rural Affairs: Scout Camps and participation at schools and in quarantines

The Ministry of Commerce: Organizing and distributing sanitary for markets and malls.

The MOE has experienced significant challenges and has managed to attain many achievements thanks to its officials' solidarity since the challenges are changing, which requires a new set of roles. We know that we are confident of achieving all the goals our officials entrusted us with to achieve the highest goals possible.





Social and Psychological Support



▶ Based on the strategic goal of the General Administration for Student Counseling Services, services were provided to help students and the educational community to cope with persistent issues that may affect their psychological and educational well-being, achieve social belonging, and enhance their mental health to remain to be active members of their society.

Student Counseling Services has had an essential role in preparing students and their parents to adapt to the current situation imposed by the **coronavirus**, during which some counseling sessions carried out by the General Administration for Student Counseling or directed by the Education Directorates in the provinces. The following covers some of them:

First: The Organizational and Administrative Aspects

Several committees have been formed to develop a plan addressing the pandemic. The student psychological committee is responsible for activating counseling programs. It is also responsible for setting up all procedures to monitor student achievement.

► Also, many virtual conference rooms were equipped to hold distance meetings. All educationrelated transactions were electronically transferred to public administrators as well as the activation of Remote Counseling Centers.

Second: Awareness and Education

▶ To issue a psychological and educational guide to address the needs of parents.

▶ To prepare a set of educational messages in infographics to address students and their parents' needs for a safer and highly successful study.

► To direct the students counseling professionals in the provinces and governorates to intensify the guiding messages for students and parents, with broadcasting several messages through the account of the MOE or retweeting them from the Ministry's account. This amounted to 144 educational video clips and 1,200 awareness messages, providing 70 lectures and educational seminars and 220 training programs for student counseling employees.



Third: Consultations

The psychological, educational, and social counseling provided exceeds 750,000 consultations through many electronic media, including:

- A communication system through several specialists in the General Administration of Student Counseling (GASC) throughout the year with the formation of a team of counselors receiving daily communications during the current period
- The phone through the counseling services unit (psychological support centers) in the provinces and governorates and under the supervision of the GASC
- Various social media platforms
- Many specialists in accredited bodies to provide psychological and educational consultations

Fourth: Professional Development

- Launching some training programs specialized in counseling during times of crisis, where more than 500,000 students took advantage of such activities and the educational community
- Organizing 164 educational and vocational counseling courses were more than 86,000 students participated





B. University Education

Health volunteering

The volunteer work at universities was attended by many participants: students and employees. These efforts motivated faculty, staff, and students to volunteer even more.

▶ These activities reached its peak since the beginning of the pandemic, where universities have urged their students and employees to volunteer in community service and official bodies. For example, 400 health colleges' student volunteers from PNU have been registered in the health volunteer platform, the national window for empowering volunteers in the health sector. Also, many universities have prompted voluntary initiatives to serve the community related to the pandemic, in which large numbers of students participated. For example, but not limited to, the initiative of Jazan University's "Protect Yourself" campaign, where many faculty members and students of the university participated. It is an outreach plan for spreading the "Awareness of and Concerns About Coronavirus Pandemic (COVID-19)."

On the other hand, several voluntary initiatives invested the opportunity to stimulate creativity. Imam Muhammad bin Saud Islamic University launched the "Invite for Your Country" initiative that opens the door to volunteering for university employees to present innovative ideas in technology and science to reduce pandemics and viruses, including the coronavirus.

▶ Universities launched initiatives to serve the community and support health sectors and related institutions to address the needs of COVID-19. These initiatives have had a significant impact on examining the effectiveness of the country's actions and plans to confront this pandemic.





Voluntary Work in Psychological and Social Counseling

▶ Voluntary work in psychological counseling counseling is one of the models that have demonstrated the efficiency of the role and contribution of universities in serving society during this crisis. Like other societies around the world, the coronavirus cast a shadow over our society, which affected a lifestyle, including families, individuals, and especially children. It has become necessary to find appropriate methods that enable social and psychological specialists to perform their counseling and treatment roles in a contributive way.

The role of universities in this field is summarized as follow:

- More than 20 virtual clinics specialized in psychosocial counseling provided more than 52,000 psychological and social consultations.
- Many educational and counseling programs and events in the field of mental health and social relations support children's mental health and care for the elderly and mothers.
- There are specific programs aimed at enhancing the confidence of university students during the exam period.
- Also, there is a cooperation with associations and centers specializing in psychological counseling to provide psychosocial counseling services according to programs that are compatible with the crisis and stage.





C. The Technical and Vocational Training Corporation

The Technical and Vocational Training Corporation also contributed to voluntary efforts of COVID-19



Technical and Vocational Training Corporation

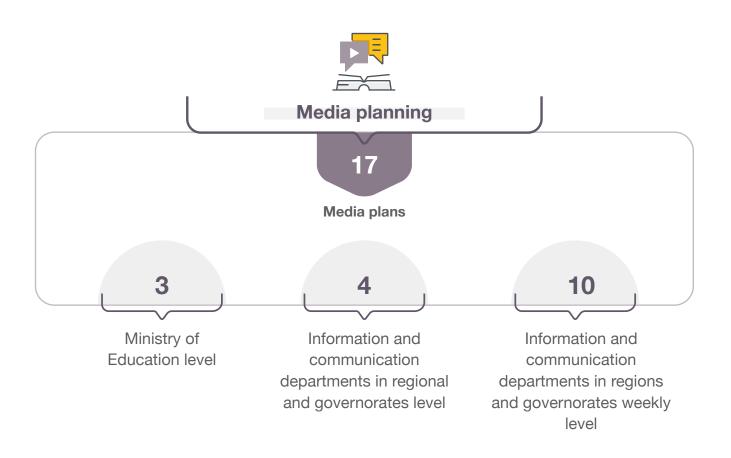


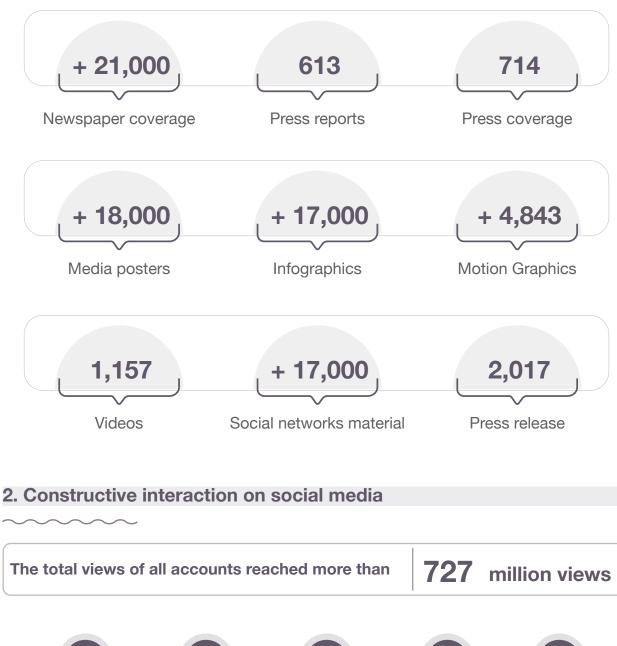




A. Public Education

Due to the critical role of the media and its direct impact on promoting social awareness of the risks of COVID-19, the MOE made extensive media campaigns that started on March 1, 2020, directed to the public education sector to combat the coronavirus. These media efforts continued and are presented to the educational community in particular and the Saudi community in general so far, and the media efforts of the Ministry in the public education sector are highlighted through the following:





+ 6.4

Million Views

0

+ **12** Million Views

+220K Views

0

+ 4

Million Views

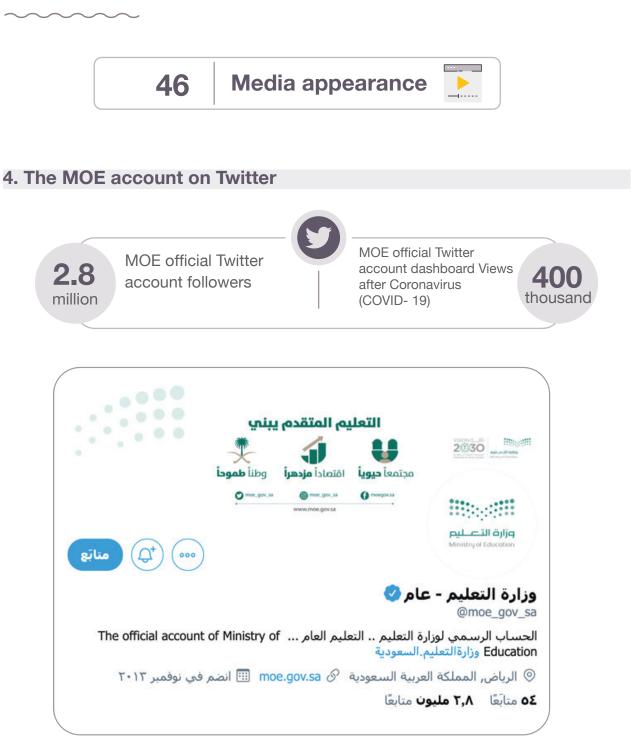


+ 700 Million Views

65 The Saudi MOE Leading Efforts to Combat Coronavirus Pandemic COVID-19



3. Constructive interaction on TV/Radio Broadcasts



B. Higher Education

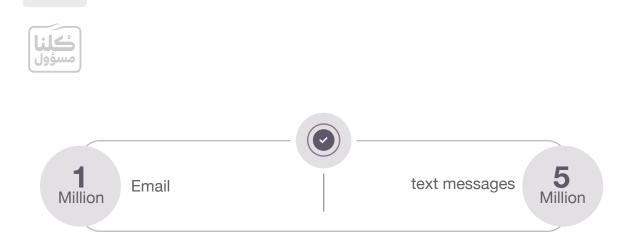
Public and private universities and colleges have demonstrated excellence in media engagement during the COVID-19 since the onset of illness among the first confirmed cases appeared in a small number of countries in the world. Universities have demonstrated mastery efforts in both small communities (university students and associates) and broad communities (society) in general. The University of Hail represents an example of proactive efforts in the middle of February 2020, where they launched "Awareness Campaigns About Coronavirus Pandemic (COVID-19)," a voluntary work targeting students of various educational entities in different stages. The process was conducted three weeks before the appearance of any positive case of COVID-19 in the Kingdom of Saudi Arabia. Approximately, 30 days before the suspension of education. Methods used and measures taken varied in dealing with the coronavirus depending on the different pandemic phases, which is characterized by community-level outbreaks. Especially in bordering states of KSA based on WHO standards, such as the human-to-human spread of the virus.

At the initial stages of the pandemic, all methods were available and were productively invested in their diversity, as there were seminars and educational workshops across university campuses that were not limited in attendance, but were open. There were also educational flyers and posters printed inside and outside the universities, in various languages. For example, King Abdulaziz University has published 7,000 awareness bulletins related to COVID-19 in eight different languages.

Simultaneously with the development of pandemic phases, maximum precautionary decisions were issued. Universities suspended entirely in-person learning. It was part of the effort contributing to slow the spread of the coronavirus. The decision was also extended to university staff, officers, and workers. The universities redoubled their efforts in raising awareness and media electronically to include seminars and awareness workshops related to spreading pandemic awareness. Nevertheless, the measure of the other angle was intensified to reload the awareness again by activating social media.

On the other hand, the universities have been active in the new media, through social media, in raising awareness of the emerging coronavirus, and the activity has increased dramatically with the development of the pandemic stages.

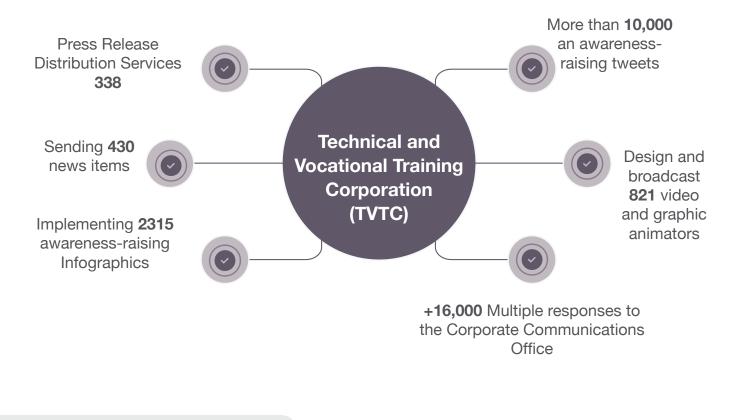
There had been and still is a distinct investment by universities in utilizing social media (new media) in awareness regarding the emerging coronavirus, as it was the ideal way to reach out to the most significant number of community members. The university's use of modern media varied widely; Twitter, YouTube, Instagram, and Snapchat were among the platforms that universities used extensively. The platform with the most substantial weight was Twitter.



Universities have spared no effort in connecting with their students. They utilized media outlets to keep students up with the latest developments. Approximately 5 million text messages were sent to all students and a similar number of e-mail updates. Here it can be emphasized that the work of universities is based on accurate plans and continuous follow-up by university presidents and the development of coincidence with the development of the reality of the coronavirus to date.

C. Technical and Vocational Training Corporation

TVTC showed a distinction in media awareness dealing with the coronavirus. Among the media efforts of the institution during the pandemic







Scientific Research and Strategies for Combating Coronavirus





Introduction

Significant national and global challenges have demonstrated the importance of scientific research. It is vital to analyze, understand, and cope with such a pandemic. Initial steps have been conducted to fathom the characteristics of the coronavirus and its source.

Also, to screen the number of infected and expected and studying ways to reduce infection risks and the best practices of prevention and treatment methods. Universities and research centers around the world playing a lead role during this crisis.

The most important goal that the MOE sought to achieve during the pandemic in the field of scientific research to combat the coronavirus is building two task forces that comprised professional experts and specialized researchers.

They were tasked to reach urgent solutions that can be invested to combat the pandemic and provide long-term precautionary strategic solutions for similar cases. The task force focused on two essential dimensions:

- Data Analysis of Epidemiological Studies and Modeling serves as informed and better policy decisions for public health to help make decisions.
- Analysis of the coronavirus interaction with the host and its spread to control the current situation and limit the spread.

► **Conducting a survey** on all the actual work and efforts in the field of public health and resistance to the spread of the virus in our Saudi universities, the affiliated hospitals, and research centers. The survey will provide necessary support to look at work that is about to reach the level of a product.

▶ **Finding common research platforms** that allow cooperation between researchers in all universities and educational sectors to unify efforts, direct attention, and focus it towards one common national goal to fight the pandemic.

Organizing specialized workshops and forums for researchers

▶ Providing scientific opinion and appropriate advice to researchers and accelerate their access to practical results. They are not intended at this stage for publishing, but rather to obtain products that can be used as part of the health and preventive efforts made in all sectors of the state.



The Ministry's Efforts Related to the Formation of Committees and Scientific Teams to Confront the Pandemic

First

The committee of vice-chancellors for research at outstanding universities for the pandemic:

Vice-chancellors serve as a point of contact between researchers in those universities and the Ministry to harmonize, coordinate, and unify their efforts in all research universities.

Second

► The scientific committee:

This committee includes a group of scientists and researchers from the four the most widely published universities that are influential in the disciplines related to the pandemic. This committee is responsible for following up on the scientific efforts made in Saudi universities. This committee is responsible for providing technical support and advice.

Third

Specialized scientific teams:

The scientific committee set precise criteria for selecting research teams that should help mitigate the effects of the coronavirus and other epidemics. The main criteria are as follows:

- Providing the infrastructure for scientific research support
- Managing research projects
- Attaining research cooperation between the candidate and international researchers
- Participating previously in committees and related projects
- Obtaining a previous research grant



Fourth

► The Technical Committee:

This committee includes a group of specialists in the medical and applied medical fields. This committee is formed to find accreditation mechanisms for research products. The committee tasks include the arbitration, evaluation, and evaluation processes required. This committee comprises members specializing in manufacturing, rapid modeling, reverse engineering, and product development.



Research-Based Groups

The Ministry has identified the essential elements on which research projects are supposed to be built and based on which national teams are formed to address the current and any future pandemic. This information is according to a scientific methodology approved by the World Health Organization and scientific centers specializing in epidemiology and epidemiology outbreaks.

These elements were as follows:

- Data models and potential prospects that guide public health policies and decisionmaking
- Virus-host interactions
- Diagnostic tests and their accuracy
- Clinical trials of therapeutic interventions

Manufacturing prototypes in biomedical engineering, studying their viability (ex. ventilators and personal protective equipment), and developing vaccines





Prioritizing Research on COVID-19

Priorities have been identified with this new coronavirus, after conducting studies and codifying lessons learned from workshops, scientific meetings, and university initiatives in scientific research related to the pandemic, they were as follows:

- **Establish** a National Epidemics and Outbreaks Center to coordinate the efforts of researchers in Saudi universities.
- **Build bridges** of communication and cooperation at Saudi universities with related parties to facilitate researchers' work, whether in obtaining samples or conducting experiments, or other applied research procedures.
- **Create** a national platform that brings together researchers' efforts in all Saudi universities and a central control panel for them to facilitate the exchange of ideas, build research teams, and invest in infrastructure with all its available capabilities in Saudi universities.
- **Build** national (emergency) teams according to approved specifications to coordinate all research efforts in case of pandemic or disasters, and these teams have an advisory board.
- **Create** a national (technical) committee linked to the national center, referred to in the first recommendation, to find accreditation mechanisms for research products and all the arbitration or evaluation processes required.
- **Create** essential support tracks in coordination with the relevant authorities, such as the Ministry of Finance, to provide rapid support consistent with the nature of prevention and preventive research in the field of epidemics.



Scientific production Analysis of Saudi Universities Over the Pandemic

Nineteen universities were active in designing initiatives and building teams to study ways of mitigating the effects of the pandemic. The most productive universities and researchers were identified to receive individual grants and academic research support based on a study conducted to reach all the Saudi scientific research contributions at the global databases in the field of "Infectious Diseases" and "Lung and Respiratory Diseases Research" in the past five years.



COVID-19 Research Workshops

The Ministry organized two remote workshops that brought together specialists from all Saudi universities to meet COVID-19.

First: It reviews the role of Saudi universities in developing diagnostic tools and therapeutic means to counter the coronavirus, and the opportunity was given to **560** researchers to attend the opening of the workshop, where **19** experienced researchers participated in the first workshop, and they presented eight different topics.

The second: 32 researchers and scientists participated in this event, where they reviewed six essential topics.

The topics in the two workshops were dealt with according to a focused methodology built on two main pillars:

- **First:** It is related to the pandemic.
- Second: It was about building national teams according to the first fulcrum to ensure efficiency and ability to face the existing problem in the short term and prepare for any similar future event in the long term.

Efforts Made to Support Scientific Research

- A team of specialists was formed where five experienced doctors and researchers in Genetic Engineering were brought together to identify groups that are more vulnerable to coronavirus infection. Furthermore, identifying the genetic susceptibility to the infection to control the spread of the virus among the vulnerable groups.
- A focus group of three specialists was assembled to study the most recent developments, and then make the necessary predictive studies. Moreover, to submit future preparedness proposals to beneficiaries and support decision-making.
- A team of eight specialists was tasked to study the latest developments and to consider their suitability for clinical procedures, screening procedures, and diagnostic tests. These results can be invested widely during the efforts made by the health sectors during the detection and diagnosis of the pandemic.
- A group of digital solutions researchers, artificial intelligence, and applications was assembled to provide assistive solutions to combat the coronavirus.



- A team of experts specialized in isolating COVID-19 was tasked to work under one umbrella and come up with a competitive national achievement at the regional and global levels.
- An integrated research team from a variety of schools was given a mission to consider current evidence-based medical developments in preparation for clinical trials.

Supporting Scientific Research

During the past two years, the MOE has supported nine projects in these areas to Saudi Researchers at Saudi universities and research centers in cooperation with advanced international research centers with a budget exceeding 58 million Saudi riyals. The MOE provided an opportunity for some projects to change course to focus on the pandemic, according to the following:



Several universities have also launched special initiatives and projects that support their researchers in implementing research related to the emerging COVID-19 virus.

	COVID-19 D O Naf blood
ected	Result ?
Lab Test COVID-19	

The following table shows the universities that have submitted new initiatives for combating COVID-19.

جا معة البمام عبدالرحمن بن فيصل IMAM ABDULRAHMAN BIN FAISAL UNIVERSITY	2011 1432 augustalliläradall Saudi Electronic University	ماتقد المراجع	جامعة أنتقراء Shaqra University	Contraction of the second	قی میں میں الملك سعود King Saud University
جامعة الأميرة نورة بنت عبدالردمن Princess Nourah bink Abdulrahman University		المعالم المعالم University of Tabuk			

	University	Title of initiative
1	King Saud University	Coronavirus Research (COVID-19) Initiative
2	King Abdulaziz University	Pandemiologic Assistance (Epi-Aids) (COVID-19) Initiative
3	Shaqra University	Shaqra University COVID-19 Research Initiative
4	Najran University	COVID-19 Research Initiative
5	The Electronic University	COVID-19 Research and Initiative
6	Imam Abdul Rahman bin Faisal University	Research projects in the medical/humanitarian/social fields
7	Bisha University	Promoting Scientific Research
8	Umm Al-Qura University	Projects presented in multiple specialties
9	Al-Jouf University	Coronavirus Research Initiative
10	University of Tabuk	Coronavirus Research Initiative COVID-19 Form
11	Al-Baha University	Research teams to activate the role of scientific research in responding to the outbreak of the Pandemic
12	Princess Nourah Bint Abdul- rahman University	Coronavirus Pandemic 19-COVID Research Initiative

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Leading Efforts to Combat Coronavirus Pandemic



