

CASE STUDY

Jordan's EdTech response to COVID-19

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List of acronyms

COVID-19	Novel coronavirus disease 2019
CSR	Corporate social responsibility
DFID	UK Department for International Development
EDEP	Education During Emergency Plan
ERFKE	Education Reform for Knowledge Economy
ESP	Education strategic plan
GDP	Gross domestic product
GoJ	Government of Jordan
ICT	Information and communications technology
NCSCM	National Center for Security and Crisis Management
NHRDS	National Human Resources Development Strategy
MoDEE	Ministry of Digital Economy and Entrepreneurship
MoE	Ministry of Education
RAMP	Early Grade Reading and Math Project
UNESCO	United Nations Educational, Scientific, and Cultural Organisation
Unicef	United Nations Children's Fund
USAID	United States Agency for International Development
US	United States

Key messages

1. Jordan has been trying to improve its EdTech readiness and infrastructure since 2003, and COVID-19 played a crucial role in accelerating those plans.
2. The Ministry of Education response was facilitated by two types of strategic partnerships: with the donor community which supported the implementation of the government's response and with local EdTech startups. By tapping into local talent, the government was able to deploy a distant learning platform 'Darsak' in a record time.
3. The activation of the emergency state 'defence law' allowed the Government of Jordan to recognise unconventional learning and assessment modalities including those conducted through distant learning.
4. Jordan's response was guided by the launch of an 'Education During Emergency Plan', a 2-year long plan that coordinated overall response and aligned efforts of all stakeholders.
5. While focusing on EdTech as the primary vehicle for education delivery, a differentiated approach was adopted to ensure access to marginalised groups. In addition to 'Darsak', content was broadcasted on national TV, printed learning material were distributed, and electricity hours were extended in refugee camps.
6. In preparation for the new school year, efforts are underway on an updated and enhanced version of 'Darsak 2' with personalised logins to monitor student performance and updated interactive content.
7. Despite best efforts, ensuring access and equity remains a challenge. A survey found that 20% of enrolled students didn't engage in distant learning for lack of inadequate infrastructure and access to devices.
8. Other key challenges that are not as recognised as access and infrastructure are: the need to provide parental support and adopting a more decentralised approach in terms of devolving responsibilities to schools and empowering teachers to engage students and follow up on their progress.

Overview

Jordan has always prioritised human capital investments, given its relative lack of mineral resources and natural advantages. The government of Jordan committed \$1.6 billion to the education sector in 2019 — equivalent to 13% of the total government expenditure for that year (Unicef, 2019). The Ministry of Education (MoE) in Jordan is tasked with overseeing the educational sector in the country for grades 1–12. It manages coordination through 43 field directorates distributed across the Kingdom and a highly centralised system with minimal autonomy or control for schools. Each field directorate, via a general director, oversees several schools in a region. Their tasks include implementing MoE's administrative and educational instructions and decisions with regards to the educational process. [Table 1](#) includes key statistics about the education sector (Jordan Ministry of Education, 2019).

School type	Schools	Students	Teachers	Administrators
Public schools	3,8765	1,423,488	87,734	17,643
Private schools	3,354	552,530	42,044	13,850
Others	215	138,701	6,284	607
Total	7,434	2,114,719	136,062	32,100

Table 1

Education sector in Jordan

EdTech is a priority area within Jordan's educational policy landscape. National strategies including the National Center for Human Resources Development Strategy (2016–2025) (National Center for Human Resources Development, 2016) and the Education Strategic Plan (ESP) (2018–2022) (Jordan Ministry of Education, 2018) both focus on developing infrastructure and educational content through a number of initiatives. These initiatives include improving the readiness of infrastructure to better operate different IT systems, finalising the programme to connect all schools to the internet (79% of schools had been connected as at 2017) (Jordan Ministry of Education, 2018), developing and updating available digital content and deploying an electronic learning system. Considerable progress has been made since these strategies were introduced. The MoE deployed OpenEMIS, its educational management information system, and NoorSpace, an eLearning management system, and has connected all schools to security, attendance monitoring and internet provider telephony systems.

Jordan's EdTech response to the COVID-19 pandemic seems to have accelerated the country's EdTech plans, which have been in place since 2003. Between 2003 and 2009, the government of Jordan trialled different programmes, including the World Bank's Education Reform for Knowledge Economy (ERFKE I) programme that, among other things, aimed for at least 70% of students in Jordan to use online learning portals (World Bank, 2003). But implementation lagged for a number of reasons — including availability of financial allocations — and plans did not fully materialise. MoE began developing another national information and communications technology (ICT) strategy in 2014, which was later deemed unviable and updated plans were instead included in the ESP.

Jordan has almost achieved universal access to primary education (gross enrolment rate of 97.8%) and has equal enrolment rates for female and male learners in primary education. In secondary education, more female learners than male learners are enrolled (82.9% versus 68.7%) (Jordan Ministry of Education, 2019).

However, challenges remain in terms of equitable access for specific groups. These groups include Jordan's refugee learner population, particularly Syrian refugees, who make up approximately 134,000 registered students. Of these Syrian refugee learners, almost 31,000 are in camps, while the rest live in host communities across the country (mostly concentrated in northern and central regions). The education system also marginalised learners with disabilities, who before COVID-19 had a very low enrolment rate of 5% of school-aged learners with disabilities (Jordan Ministry of Education, 2018).

This case study explores Jordan's EdTech response to COVID-19. It describes Jordan's transition to distant learning and the role of EdTech during the crisis by highlighting the main initiatives that were launched. It analyses the reach and impact of different interventions, focusing in particular on the inclusion of marginalised learner groups in Jordan, specifically those excluded due to gender, nationality, regionality, and disabilities. The findings were identified through review of relevant documents, and interviews conducted with representatives of key groups of stakeholders:

- Government of Jordan: Ministry of Education (Development Coordination Unit).
- Private Sector: [Mawdoo3.com](https://mawdoo3.com) (Arabic content platform).
- Development Partners: United States Agency for International Development (USAID).

It is worth noting that numerous development partners provided support to the Ministry of Education in Jordan including but not limited to: the UK Department of International Development (DFID), the United Nations Children's Fund (Unicef), United Nations Educational, Scientific, and Cultural Organisation (UNESCO), Global Affairs Canada and others. We interviewed USAID to get insight into the different support modalities, which include:

- Direct agreements with the ministry like the cost reimbursable agreement.
- Multi-donor funded projects implemented by a third party like the Early Grade Reading and Math Project (RAMP) which is co-funded by the USAID and DFID.

COVID-19 in Jordan

Jordan confirmed its first case of COVID-19 on 2nd March 2020, prompting the Government of Jordan (GoJ) to deploy a cross-governmental containment and response mechanism, spearheaded by the National Center for Security and Crisis Management (NCSCM). The country enforced one of the strictest lockdowns in the world and declared an official state of emergency through the activation of the Jordan National Defense Law No. 13 of 1992 on 17th March 2020. The GoJ's efforts have mitigated the spread of the pandemic and related deaths. At 1st July, there were 1,132 confirmed cases, 882 recoveries and 9 deaths (Ministry of Health, 2020).

Alongside Jordan's overall response to COVID-19, conventional school instruction stopped a month into the second semester of school year 2019/20. In a press statement issued on 14th March 2020, the government announced that the following day all educational institutions — including kindergartens, nurseries, schools, universities and training institutes — would close (Kayed, 2020). The MoE, with support from other stakeholders like development partners and local tech firms and start-ups, launched a series of interventions to ensure learning continuity for children through distance learning. Those efforts were orchestrated on two levels: first, at the cabinet level through an emergency ministerial committee that was formed on 8th March 2020; and second, at the MoE level through a taskforce that was charged with coordinating the technical implementation of distance learning interventions.

Activation of the Defense Law facilitated Jordan's COVID-19 EdTech response. Through the issuance of a Defense Order on 15th April 2020, the GoJ allowed the MoE to use unconventional learning and assessment modalities including those conducted through distant learning for the school year 2019/20 (Prime Ministry of Jordan, 2020). The activation of the defense law and subsequent defense orders removed the conventional bureaucratic boundaries that would have otherwise slowed down response and simplified coordination between government and private-sector agencies through the formation of the emergency ministerial committee. It also helped to accelerate traditional procurement procedures, allowing MoE to purchase in a timely fashion necessary equipment, including servers and filming equipment. The activation of the Defense Law is usually considered with trepidation because it gives the government the power to curtail basic rights. However, after issuing a Royal Decree to activate the Defense Law, His Majesty King Abdullah II directed the government in his letter dated 17th March 2020 to use the law in its narrowest form (King Abdullah, 2020).

Analysing the response

Jordan's COVID-19 EdTech response was characterised by its long-term view and collaboration with development partners and the private sector. The MoE's response to COVID-19 was guided by the Education During Emergency Plan (EDEP) that it developed in response to the prime minister's decision to close all schools. The EDEP is a two-year plan and was developed based on a desk review of worldwide emergency plans for COVID-19 including the Organisation for Economic Co-operation and Development (OECD) framework (Reimers & Schleicher, 2020). The first draft of the EDEP was developed within two weeks of the school closures announcement. Development partners provided advice and support through the donor group on the plan and the plan was finalised in April 2020.

The EDEP outlines three main phases: a response phase (March to May 2020), a remedial and enrichment phase (May to September 2020) and a sustainability phase (September 2020 to May 2022). The MoE launched several initiatives, but its response can be grouped under five main interventions: (1) distant learning platforms; (2) content development; (3) teacher development and training; (4) assessments; and (5) monitoring and evaluations (Table 2).

1. Distant learning platforms

<i>Description</i>		The MoE transitioned to distant learning using two main platforms. The first was Darsak, a web platform (darsak.gov.jo), and the second was national TV.	
		Mawdoo3, the leading online Arabic content platform based in Jordan, developed Darsak for grades 1–12. Mawdoo3 engineers and developers launched the platform in less than a week.	
<i>Key actors</i>	· MoE. · MoDEE. · Mawdoo3. · TV channels.	<i>Funding</i>	Mawdoo3 developed Darsak as part of its corporate social responsibility (CSR) programme.

2. Content development

Description

The MoE developed content for distant learning in collaboration with partners including EdTech start-ups in the private sector.

The MoE recruited teachers to film lessons. After initially filming at a temporary location, the ministry strengthened its content development efforts. With support from donors, the MoE equipped four studios at its technology centre, the Queen Rania Center for Technology. Lessons were developed and uploaded to Darsak weekly.

Key actors

- MoE.
- Abwaab.
- Jo Academy.
- USAID.
- Unicef.

Funding

Unicef and USAID provided financial and technical support to the MoE to sustain content development, while Abwaab and Jo Academy, two prominent EdTech start-ups in Jordan, supported the development of content for maths, science, English and Arabic for grades 1–11, and all subjects for grade 12.

3. Teachers development and training

Description

The MoE launched a teacher training platform (teachers.gov.jo). The platform included over 100 training hours for teachers on different topics such as blended learning, EdTech principles and applications, and the use of distant learning tools like Microsoft Teams and NoorSpace — the MoE's recently deployed learning management information system.

Key actors

- MoE.
- Mawdoo3.
- Edraak.

Funding

Platform developed by Mawdoo3, and new content provided by Edraak.

4. Assessments

<i>Description</i>	The MoE conducted mid-term and final examinations for the second semester of the 2019/20 school year through Darsak online platform for grades 1–11. The ministry launched standardised exams for those grades through exams.darsak.gov.jo. Additionally, the MoE linked the Darsak platform to its existing education management information and learning management systems (OpenEMIS and NoorSpace respectively) to facilitating processing students' scores and allow teachers to follow up on their students. Grade 12 students will take the Tawjihi exams (national secondary education certificate) in person. The MoE usually manages this process centrally (as opposed to on a school level), allocating specific exam locations for each student and recruiting exam proctors and markers.
<i>Key actors</i> · MoE. · Mawdoo3. · NoorSpace.	<i>Funding</i> Mawdoo3 developed the portal, while the GoJ is financing the cost of the Tawjihi exam as usual.

5. Monitoring and evaluation

<i>Description</i>	The MoE demonstrated the use of a number of feedback loops that supported its monitoring and evaluation (M&E) efforts. The EDEP included a log frame with metrics on participation, completion, interaction, and engagement (Jordan Ministry of Education, 2020). MoE officials reported that regular reporting on those metrics is underway. Telecom providers also did a technological scan to assess the level of devices penetration, based on the results of which the MoE distributed tablets and laptops to learners most in need. Additionally, Unicef conducted a survey to assess access to online learning of students in camps and host communities who are enrolled in non-formal education programmes (Unicef, 2020). Through RAMP, DFID and USAID will also conduct a small early-grade reading and math assessment (EGRA/EGMA) survey at the beginning of the school year. The EGRA/EGMA survey takes place usually every two years, and the next full survey is planned for May 2021. However, this interim survey will be used to assess students learning during school closures, to inform planning for the next school year.
<i>Key actors</i> · MoE. · Telecom providers. · Unicef. · USAID/DFID/RTI.	<i>Funding</i> Respective implementors of the surveys have covered or will be covering funding for those. The USAID/ DFID conducts the EGRA/EGMA through their implementor RTI.

Despite the significant efforts, access and equity remain a central concern. Some of these access issues — primarily providing access to Syrian refugees and learners with disabilities — existed before COVID-19 and have been exacerbated. Other access issues have emerged due to the COVID-19 school closures. For example, students from vulnerable economic backgrounds in remote areas particularly in the south, who used to receive education by attending school, have not been able to engage in distant learning due to lack of adequate infrastructure (Respondent, 2020).

Jordan's COVID-19 EdTech response has faced key challenges in terms of infrastructure, the accessibility of assessments and teachers' capacity development. The different interventions had a targeted population of 1.4 million learners, from grades 1–12 in public schools. A technological survey undertaken by telecoms providers and presented by the MoE found that 20% of enrolled students (approximately 280,000 students) didn't engage in distant learning. This was for various reasons, including inadequate infrastructure and a lack of access to devices. Regarding assessments, learners required national IDs to log in to the exam platform. For non-Jordanian learners who did not have national IDs, the GoJ provided other login options such as using United Nations High Commissioner for Refugees (UNHCR) registration numbers for Syrian refugees and passport numbers for students of other nationalities. Finally, it is not clear exactly how much teachers benefitted from the training material provided. However, it is fair to assume that similar access issues

exist, especially given the fact that the MoE procured and distributed 200 laptops to teachers.

Recognising these barriers, **the MoE and its partners took several actions to mitigate against emerging access issues during the school closures.** First, Unicef (in collaboration with MoE) distributed printed learning material for students and inclusive workbooks to students with disabilities from kindergarten level 2 to grade 6 in camps and host communities (Prime Ministry of Jordan, 2017). Second, the government extended electricity hours in refugee camps to ensure that learners are able to watch televised lessons when they are broadcast. Third, MoE distributed 200 tablets and 120 laptops with hotspots to some of those learners who weren't engaging in distant learning. Fourth, the government equipped 25 caravans with screens and placed these in remote areas where there are high concentrations of children that had been highlighted as not engaged in distance learning. The caravans are also accessible to learners with disabilities. Fifth, the MoE also identified students from vulnerable economic backgrounds (those registered in the database of the Ministry of Social Affairs) and distributed stationery and SIM cards and hotspot devices to them. Sixth, sign language was incorporated into the content that was developed to improve accessibility for hearing impaired learners. Finally, telecom providers provided free internet access to users of the MoE platforms to facilitate learners' access to Darsak.

Conclusion

In the Jordanian case, there appears to be a true desire on the part of the private sector to support government initiatives and reforms. This suggests that there is potential here that has to date gone largely untapped: the private sector has the capability to provide creative solutions and to act as a true partner to the government at little or minimal cost. The co-founder of Abwaab, a local EdTech start-up, said in an interview that all the government had to do was ask (Parasha, 2020). Usually, the private sector is associated with profits and the GoJ has had limited financial capacity to contract private companies. However, the new emerging pattern seems to include tech start-ups wanting to prove the efficacy of their offerings and them being willing to do this through the government at little or no cost. The GoJ has also been actively expanding similar partnerships with local start-ups in other fields, including the health sector, for example the COVID-19 Innovation Hub (2020).

On another front, concepts like blended learning and optimisation of integration between different EdTech systems are now being discussed frequently, and the MoE is close to adopting a blended learning model for the coming school year that combines between in-person and online instruction. In bringing these discussions to the fore, COVID-19 has seemingly expedited some of the ministry's plans for increased adoption of EdTech.

Challenges and future considerations

Challenges that need to be considered in future remote and EdTech learning:

- **Access and inclusion.** Challenges in access and inclusion persist. Some of these challenges existed before the pandemic, others emerged because of the pandemic. For example, prior to the crisis, only 21,859 learners with disabilities were served by the education system (5%) (Prime Ministry of Jordan, 2017). During the school closures, 20% of Jordan's 1.4 million learners didn't engage in distant learning, and close to 7,600 students in non-formal education programmes require more support (King Abdullah, 2020).
- **Infrastructure and connectivity.** Adequate infrastructure in the form of accessible internet with suitable speeds and the availability of internet-enabled devices is a challenge in Jordan. To overcome this, the GoJ will need to identify a clear EdTech learning model (for example, student-centred versus teacher-centred) and develop plans accordingly. Investments would have to be in line with the desired vision. For example, in the case of creating a vision around student-centred learning, investments would have to be geared more towards providing students with individual access and devices, rather than investing in equipping schools with smart boards for example and increasing individual schools' computer labs internet speeds.
- **Parent support.** Almost all stakeholders reiterated challenges around the ability to provide support for parents as they take on additional responsibilities with regards to the learning of those in their care, especially for parents who are illiterate or have few academic qualifications.
- **Decentralisation.** The OECD framework for COVID-19 education response highlights the importance of devolving more autonomy to schools and teachers. Schools and teachers used social media to monitor the progress of their students,

but these were individual efforts; it would be helpful to develop accountability measures that allow schools and teachers to have greater independence in engaging students and following up with them.

- **Developing teachers' capabilities:** Longer term, the MoE will have to consider approaches to teachers' continuous professional development and will need to develop online training courses on blended learning to support teachers. These courses should be certified and count towards promotions and career progression under the new bylaw for licensing teachers.

Sustainability of Jordan's EdTech response

Jordan continues to work on improving response and building on previous

interventions. Mawdoo3 is launching Darsak 2 for the coming school year with upgraded features like personalised log-ins for students, and updated content that includes visual aids. The MoE has already started working on a remedial learning programme that will be provided to all students during the summer to fill in any gaps in learning, and is developing an enrichment programme targeting 21st-century skills like critical thinking, and media literacy. The EDEP identifies interventions that will span the next two years, and the MoE is working with development partners to integrate this into its higher-level education strategic plan.

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