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Realising the potential of technology in education

EdTech in Jordan: A Rapid Scan

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Country Scan

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1. About this scan

EdTech Hub country scans explore factors that enable and hinder the use of technology in education. This includes policies, government leadership, private-sector partnerships, and digital infrastructure for education. The scans are intended to be comprehensive but are by no means exhaustive; nonetheless, we hope they will serve as a useful starting point for more in-depth discussions about opportunities and barriers in EdTech in specific countries, in this case, in Jordan.

This report was originally written in June 2020. It is based primarily on desk research, with quality assurance provided by a country expert. Given how rapidly the educational technology landscape is evolving, the Hub plans to provide periodic updates. Table 1 provides a summary of the situation regarding EdTech in Jordan.

Table 1. EdTech in Jordan

Policies	<ul style="list-style-type: none"> • Jordan Education Strategic Plan (ESP) 2018–2022¹
Infrastructure	<ul style="list-style-type: none"> • National access to technology is relatively high as 90% of families have smartphones and 89% have access to the internet (Telecommunications Regulatory Commission, 2018). The quality of access is unclear, however. Family members may be sharing a limited number of devices with limited data. • School infrastructure data could be similarly misleading. 80% of schools are connected to the internet, but that does not mean that this connection is made accessible to students or teachers (Ministry of Education, Jordan, 2018). Even if it were accessible, low internet speeds and old devices often make it unusable.
Partners and initiatives	<ul style="list-style-type: none"> • While there is no overarching EdTech policy, Activating EdTech, a project within the MoE, is designed to develop the research and implementation experience to guide the ministry's educational technology initiatives. These initiatives, however, are not always coordinated within the MoE. • Funding for EdTech is limited, although some of the MoE's annual budget is dedicated to providing technological infrastructure in schools. Most major EdTech investments have been by donors.
Covid-19	<p>Schools were closed and the country was put on lockdown on March 14. The MoE has launched two websites in response to school closures:</p> <ul style="list-style-type: none"> • Darsak.gov.jo² — A website that compiles lectures from different sources (including Edraak.org and Joacademy.com and Abwaab.me). The lectures are uploaded daily for the core subjects, for years 1–12.

¹ Ministry of Education, Jordan (2018), as available at http://www.moe.gov.jo/sites/default/files/english_esp_clean_version_1.pdf

² Ministry of Education, Jordan (2020c), as available at <https://darsak.gov.jo/>

- **Teachers.gov.jo**³ — Which compiles online courses for teachers. These include general pedagogy courses as well as courses on the use of certain remote learning tools (MS teams and the MoE's Learning Management System (LMS), Noorspace).

In addition to these websites, the Ministry is broadcasting TV lectures (the same as those on the Darsak platform).

2. Country overview

Jordan is a constitutional monarchy with a centralised government. It is a country with a population of 10.6 million, 3 million of which are non-Jordanian. The country has seen a rapid increase in its population over the past few decades due to the influx of refugees. The Syrian crisis has precipitated the most recent influx, during which approximately 1.4 million Syrians have come into Jordan (Ministry of Planning and International Cooperation, Jordan, 2016), 656,000 of whom are registered refugees (UNHCR, 2020).

Jordan's HDI value for 2018 was 0.723, placing it in the high human development category. When disaggregated by gender, Jordan's female HDI shows to be only 0.654 compared to the male HDI value of 0.754. This gap is due mostly to the difference in female and male GNI per capita, which are 2,734 and 13,688 respectively (UNDP, 2019). At 14.4%, Jordan has one of the lowest female labour-force participation rates in the world (World Bank, 2020). This number is a sharp contrast to demonstrated learning outcomes, where girls consistently outperform boys in national assessments. For example, Jordan showed the largest reverse gender gap in favour of girls among all countries participating in the reading component of the 2015 PISA (Queen Rania Foundation, 2018).

Sixty-eight per cent of Jordan's 2.1 million student population are enrolled in public schools that are managed by Jordan's Ministry of Education. Twenty-six per cent of students attend private school, and the remaining six per cent are enrolled in schools managed by the United Nations Relief and Works Agency for Palestinian Refugees (Ministry of Education, Jordan, 2019b).

3. Education system overview

The pre-tertiary education system in Jordan is made up of three levels (Ministry of Education, Jordan, 2020b):

1. Pre-school: 2 years of education (KG1 and KG2). While KG1 is non-compulsory, universal access to KG2 has recently been announced, and mandatory enrolment will start in the 2020 / 2021 academic year (Roya News, 2020).
2. Basic education: 10 years of compulsory basic education.
3. Secondary education: 2 years of non-compulsory secondary education, during which students specialise in the Scientific, Literary or Vocational streams.

³ Ministry of Education, Jordan (2020d), as available at <https://teachers.gov.jo/>

Pre-tertiary education is managed by the Ministry of Education, while the Ministry of Higher Education manages all tertiary education, including universities and colleges. Jordan is divided into 12 governorates, often categorised into North, Middle and South regions. Across these governorates, policies are implemented via the MoE's 47 Field Directorates.

In 2016, the education sector received 13.4% of government expenditure, which amounts to 4% of the GDP. About 83% of this is dedicated to salaries, 62% of which is for teachers, and 21% for other staff, leaving little room for other types of expenditure. Approximately JOD 720 (USD 1,015) is the average spending per child, of which JOD 645 is on staff expenditure, JOD 40 is for operating expenditure and JOD 35 is on capital expenditure (Ministry of Education, Jordan, 2018).

3.1. Education sector progress and challenges

Basic school enrollment rates are relatively high at 97.8% for both boys and girls in 2018–19 (Ministry of Education, Jordan, 2019). This is fairly consistent but drops after year 10 to 69.3% and 80.7% respectively when school is no longer mandatory. In 2015–16, the enrollment of Syrian refugees was low, 36.7% for basic education and 13.5% for secondary (Ministry of Education, Jordan, 2018). Efforts have been put in place to address this, as enrolment now stands close to 57.8%⁴. Around 400 schools have been turned into double-shift schools to double their capacity. Exceptions have been made to a policy that prohibited the re-entry of students into the education system after being out of school for more than three years. Several initiatives by NGOs were established to re-enrol refugee students in school, the most prominent of which are the Makani centres, managed by UNICEF, which provide a “catch-up” programme for younger students who have been out of school.

While PISA 2018 results have shown an increase since 2015, the average Jordanian student is still performing well below grade level (OECD, 2019). The Early Grade Reading and Math Assessments (EGRA and EGMA) have also shown low learning levels among second graders. Similarly, only half of secondary students passed Tawjihi, Jordan's Secondary School Leaving exams (Ministry of Education, Jordan, 2019a).

3.2. Education Sector Plan

Jordan's Education Strategy Plan 2018–2022 (ESP) provides a roadmap for Jordan's MoE activities. The ESP has six priority domains:

1. Early Childhood and Development (ECED)
2. Access and Equity
3. System Strengthening
4. Quality

⁴Formal number of enrolled Syrians in public school 134,000 until Feb 2020 (Ministry of Education, Jordan, 2019b) and 2) Number of school-aged registered refugees 232,022 (Hamarneh, 2020)

5. Human Resources
6. TVET

The ESP is aligned with Jordan's broader National Human Resources Development (HRD) Strategy 2016-2025⁵. The HRD Strategy has aims to achieve four objectives by 2025:

1. Ensure that all children have access to quality early childhood learning and development experiences that promote primary school readiness, ensure healthy lives and promote their future wellbeing.
2. Ensure that all children complete equitable and quality primary and secondary education, leading to relevant and effective learning outcomes.
3. Substantially increase the number of youth and adults who have relevant technical and vocational skills for employment, decent jobs and entrepreneurship.
4. Ensure fair access to affordable, relevant and quality university education opportunities.

4. EdTech policy and strategy

In this section, we describe Jordan's national ICT policy and include a brief look at the ICT in education policy.

4.1. National policy

Launched in 2016, Jordan's REACH 2025⁶ is a national strategy that aims to develop Jordan's digital economy through developing a conducive business environment, promoting entrepreneurship, developing human resources, and promoting open access to data, technology, and information. REACH 2025 is not explicitly referenced in MoE activities, nor does it seem to guide much of their work. However, there are national initiatives that are aligned with REACH 2025 that have large educational components. This includes the creation of the Ministry of Digital Economy and Entrepreneurship (MoDEE), which is leading on a large-scale World Bank programme that has a significant component on digital skilling in schools.

4.2. ICT in education policy

There is no official EdTech strategy for the Ministry of Education. However, there is a technology component within the ESP, and the Activating EdTech (AET) project (see below) aims to develop an agile decision-making process for EdTech that will consistently feed into and inform the ESP.

In 2014, a committee was formed to develop a National ICT in Education Strategy. The strategy was revised multiple times over the following five years, but failed to gain

⁵ National Committee for Human Resources Development (2016), as available at <https://www.hrd.jo/nationalstrategy>

⁶ REACH2025 (n.d.), as available at <http://www.reach2025.net/>

traction due to the high costs involved and changing ministers (five over the last four years). In an effort to revise the strategy and align the ministry's EdTech initiatives, AET was formed in partnership with the Queen Rania Foundation and with funding from DFID. In 2019, the AET team, made up of members from several MoE departments, determined that the strategy was not suitable for Jordan's needs. However, the draft strategy had already informed areas of the ESP relating to technology. Below are some of the key EdTech-related activities / themes included in the ESP:

- connecting schools to the internet;
- updating computer equipment;
- establishing 'SMART' classrooms;
- developing digital content;
- continuing the development of national content and learning and assessment management systems.

Due to their link with the ICT in Education Strategy, the progress in these areas has varied, some seeing no progress at all.

Activating EdTech has taken an adaptive approach to implementing educational technology in the MoE and in the classroom. The project proposes a needs-based approach to EdTech, based on needs and priorities determined by the ESP and the Minister and prioritisation exercises conducted by the team.

Since its inception, the team has begun working on the first two of the following priority areas, and will soon turn to the next two priority areas :

- Decision making (current)
- Teacher professional development (current)
- Digital content (upcoming)
- Digital assessment (upcoming)

Within each of the first two areas, the team has conducted a needs analysis, and has implemented small-scale experiments (Alphas) to address some of these needs. The analysis of these Alphas has been put on hold due to the new priorities brought up by Covid-19.

While the intention has been to guide all MoE EdTech initiatives, this goal has thus far been unattainable. Difficulties in stakeholder coordination, changing ministers, Covid-19 and legacy EdTech projects and plans have slowed the process's institutionalisation. This means that a number of technology-related projects have moved at an independent pace to AET. The AET team is taking steps to realign these different strands back into the process and return to its regular pace of work by July 2020.

These coordination challenges are enhanced by the lack of a unified vision for the purpose that EdTech is meant to serve, and the low level of public sector capacity, particularly with regard to basic digital literacy and programme management.

5. ICT infrastructure

The state of Jordan's ICT infrastructure is varied. In the home, there is fairly ubiquitous access to technology. A 2017 survey indicates that 95% of ninth graders have access to some kind of technology at home (smartphone, laptop, computer, tablet) (Queen Rania Foundation, 2017). Similarly, as of 2018, 80% of schools were connected to the MoE intranet (Ministry of Education, Jordan, 2018).

These numbers, however, stand in stark contrast to the usage data and anecdotal evidence, and do not describe the varying levels of access. Thirty-eight per cent of students reported not using the Darsak (see Box 1) platform that was created for remote learning during Covid-19 (Tayseer & Shouman Foundation, 2020). Social media posts circulating via Whatsapp and Facebook illustrate numerous cases of families complaining about having to share a single smartphone with limited data with a family of at least five individuals, making online learning impossible. Within the Ministry, there were several examples of employees who were forced to work in the evenings while their children used the internet and devices for school in the mornings.

Connectivity in schools does not necessarily mean usable internet. While all secondary schools are reported to have computer labs, 50% of the 90,000 computers in schools need replacement (Ministry of Education, Jordan, 2018). Eighty per cent of schools are connected to the internet, but the internet within the school itself is inconsistent, inaccessible or too slow to be usable. There are also large inequities among schools with regard to technology. School visits conducted by the AET team have shown examples of completely functioning computer labs, labs that are completely untouched, or labs that only have one or two working computers or even none at all. These differences between schools are even wider for those in rural areas. Lastly, while the MoE boasts a relatively large number of devices in schools, there isn't enough budget to sustain this level of infrastructure, causing many of these devices to fall into disrepair without maintenance.

Table 2. ICT access at home. (Source: Telecommunications Regulatory Commission, 2018)

Information and Communication Technology Usage and Access	Percentage
Families that have mobile phones	98%
Families that have smartphones	90%
Families that have internet services	89%
General internet usage	65%
Children over the age of 5 using internet	65%

Table 3. ICT access in schools.(Source: Ministry of Education, Jordan, 2018)

Information and Communication Technology Usage and Access in Schools	Percentage / Number
Schools connected to the internet	80%
Secondary schools with computer labs	100%
Schools computers that need repair / replacement	50%
General internet usage	65.0%
Children over the age of 5 using internet	65.0%

6. Key partners and initiatives in EdTech

This section looks at the work and roles and responsibilities of key partners with regard to EdTech in Jordan, including government and non-governmental agencies, as well as EdTech initiatives.

6.1. Government agencies

Table 4. Key government partners in EdTech

Ministry / Agency	Roles and responsibilities in EdTech
Queen Rania Center for Education and Information Technology⁷	The QRC is a department within the MoE and is responsible for implementing technology-based teaching and learning programmes for basic and secondary education. It also manages school and ministry technological infrastructure.
National Center for Curriculum Development	The NCCD was established in 2017 to develop curricula aligned with international best practice for Jordan. Financially and administratively independent from the MoE, the NCCD falls under Jordan's Prime Ministry. Previously, the task of curriculum development was the responsibility of the curriculum department within the MoE, which has contracted significantly since the formation of the NCCD.
Ministry of Digital Economy and Entrepreneurship⁸	Previously the Ministry of ICT, the MDEE supports Jordan's transformation towards a digital economy, including digital entrepreneurship, digital skills, digital financial services, digital infrastructure and digital platforms.

6.2. Non-government agencies

The MoE has been implementing EdTech initiatives since 2003, with the launch of the first World Bank-funded Education Reform for the Knowledge Economy (ERfKE). In

⁷ Ministry of Education, Jordan (2020a), as available at <http://www.moe.gov.jo/ar/node/61>

⁸ Ministry of Digital Economy and Entrepreneurship (2020), as available at <https://www.modee.gov.jo/>

In addition to this, several INGOs have supported these initiatives, including DFID, UNICEF, and USAID.

Table 5. Key non-governmental partners in EdTech

Organisation	Roles and responsibilities in EdTech
Queen Rania Foundation⁹	QRF conducts research and programme development with the aim to support the Jordanian public education system. As part of the DFID-funded Evidence Driven Results in Learning (EDRiL) project, the QRF works closely with the MoE to incorporate evidence into the MoE decision-making. Some of QRF's key programmes include Activating EdTech, Karim and Jana ¹⁰ and Edraak (see below).
Queen Rania Teachers Academy¹¹	An affiliate of QRF, QRTA manages several teacher-training programmes across Jordan, including the Pre-Service Teacher Education Program Diploma and the Teachers Network Program (see Table 5).
Edraak¹²	Another affiliate of QRF, Edraak is one of the first Arabic MOOC platforms and was launched in 2014. It has since expanded into K-12 education as well, developing online material for maths and English, funded by Google.org and the Jack Ma Foundation.
Abwaab¹³ and Joacademy¹⁴	Two startups that aim to provide supplementary learning materials for students sitting for the secondary school leaving exams (Tawjihi). Both companies played a large role in Jordan's Covid-19 education response, providing both online materials as well as training to the MoE to develop their own educational videos.
Mawdoo3¹⁵	Mawdoo3 was commissioned by the MoE to create the Darsak and teachers.gov.jo platforms, which was key to the government's Covid-19 education response. The MoE is currently in discussion with Mawdoo3 to expand the functionality and use of these platforms.

6.3. EdTech initiatives

Table 5 highlights recent relevant educational and EdTech initiatives taking place in Jordan. In addition to the initiatives listed below, there are several smaller-scale initiatives that involve technology, typically overseen by the QRC. Box 1 briefly describes

⁹ Queen Rania Foundation (n.d.), as available at <http://qrf.org/en>

¹⁰ Queen Rania Foundation (2020b), as available at <https://karimandjana.com/site/>

¹¹ Queen Rania Foundation (2020d), as available at <https://qrta.edu.jo/>

¹² Queen Rania Foundation (2020a), as available at <https://www.edraak.org/en/>

¹³ Abwaab (n.d.), as available at <https://abwaab.me/>

¹⁴ Joacademy (2020), as available at <https://joacademy.com/>

¹⁵ Mawdoo3 (2020), as available at <https://mawdoo3.com/>

how the MoE is responding to Covid-19-related school closures through several EdTech initiatives.

Table 6. Recent education and EdTech initiatives in Jordan

Initiative	Details
<p>Activating EdTech</p>	<p>Overview: Launched in January 2019, Activating EdTech Jordan is a project that aims to introduce agile development practices to educational technology policymaking. This project is led by the Jordanian Ministry of Education in partnership with the Queen Rania Foundation and Open Development & Education with funding from the UK Department for International Development (DFID).</p> <p>Target group: Ministry of Education staff</p> <p>Reach / scale: Developing a cross-departmental team to guide the MoE's EdTech decision making.</p> <p>Implementing organisations: Queen Rania Foundation, Open Development and Education</p> <p>Government partners: QRC</p> <p>Status of implementation: Ongoing</p>
<p>Can't Wait to Learn¹⁶</p>	<p>Overview: War Child has developed a collection of educational games that are delivered on tablets to students of grades 1–6. The project provides teacher professional development and tablets to 75 schools.</p> <p>Target group: Grades 1–6, Arabic and maths</p> <p>Reach / scale: 75 Schools</p> <p>Implementing organisations: WarChild</p> <p>Government partners: QRC</p> <p>Status of implementation: Ongoing</p>
<p>USAID and DFID Reading and Mathematics Program (RAMP)¹⁷</p>	<p>Overview: Improving and introducing reading and mathematics learning and teaching practices, policies and mechanisms in all public schools in Jordan.</p> <p>Target group: Grades K2–G3, reading and maths</p> <p>Reach / scale: 14,000 teachers, 400,000 students</p> <p>Implementing organisations: RTI, USAID, DFID</p>

¹⁶ War Child (n.d.), as available at <https://www.warchildholland.org/projects/cwtl/>

¹⁷ USAID (2017), as available at <https://www.usaid.gov/jordan/fact-sheets/early-grade-reading-and-mathematics-project-ramp>

	<p>Government partners: Ministry of Education</p> <p>Status of implementation: Ongoing, ending 2021</p>
<p>Several 'digital content' initiatives</p>	<p>Overview: Over the last few years, there have been several initiatives to develop digital content to supplement the Jordanian curriculum. Most of this development took place outside of schools and was not supplemented by teacher professional development. These include:</p> <ul style="list-style-type: none"> ● ERfKE I e-content: The MoE has realigned and revamped digital material (including videos and simulations) to the new curriculum framework. These materials were created in the early-mid 2000s on Flash but have since been updated to a more up-to-date format. ● Edraak-Tawjihi: Edraak has worked alongside the QRC to develop MOOCs for Tawjihi, Jordan's high-stakes secondary school exams. ● Edraak K-12¹⁸: Funded by Google.org and the Jack Ma Foundation, Edraak has developed an online curriculum for K-12 maths and English. The content is aligned to the curricula of three countries, including Jordan. Edraak has already developed the maths content and is working to develop its K-12 English language curricula. ● Abwaab¹⁹, Joacademy²⁰: Typically for-profit test-prep websites, the MoE partnered with these two companies during Covid-19 to a) provide their content for free on Darsak.jo (see Box 1) and b) to train a cohort of teachers on creating educational videos for Covid-19.
<p>Noorspace</p>	<p>Overview: Having its launch accelerated by Covid-19, Noorspace is a learning management system developed by Al Manaseer Group, who provided a 10-year license to the MoE.</p> <p>Target group: Public school students</p> <p>Reach/scale: Intended for all public school students and teachers</p> <p>Implementing organisations: Al Manaseer Group</p> <p>Government partners: Ministry of Education, QRC</p> <p>Status of implementation: Ongoing, accelerated due to Covid-19</p>

¹⁸ Queen Rania Foundation (2020c), as available at <https://www.edraak.org/k12/>

¹⁹ Abwaab (n.d.), as available at <https://abwaab.me/>

²⁰ Joacademy (2020), as available at <https://joacademy.com/>

<p>Miyamiya²¹</p>	<p>Overview: Pedago, an American EdTech company, is creating an online curriculum to support out-of-school Jordanians and Syrian refugees to complete Tawjihi and earn a high school degree.</p> <p>Target group: Out-of-school Jordanian and Syrian children aged 14+.</p> <p>Reach / scale: The pilot phase is targeting approximately 500 students in the first year.</p> <p>Implementing organisations: Pedago, Questscope</p> <p>Government partners: Ministry of Education</p> <p>Status of implementation: Ongoing, the material has been developed and is ready for piloting.</p>
<p>Pre-Service Teacher Education Professional Diploma</p>	<p>Overview: A 24-credit hour, nine-month accredited diploma offered by the Queen Rania Teacher Academy QRTA and awarded by the University of Jordan.</p> <p>Target group: Prospective teachers</p> <p>Reach/scale: The programme has reached fewer than 1,000 teachers, but aims to increase capacity to 3,000 teachers annually.</p> <p>Implementing organisations: University of Jordan, QRTA</p> <p>Government partners: Ministry of Education</p> <p>Status of implementation: Ongoing</p>

Box 1. The Government of Jordan education sector response to Covid-19

Schools were closed and the country was put on lockdown on March 14, 2020. Since then, the MoE has launched three EdTech initiatives to support remote learning:

- **Darsak.gov.jo²²** — Developed in partnership with Mawdoo3.com, Darsak is a website that compiles lectures from different sources (including Edraak.org and Joacademy.com and Abwaab.me). The lectures are uploaded daily for the core subjects, for years 1–12. These were also broadcast on two TV channels with the same name (Darsak 1 and 2).
- **Teachers.gov.jo²³** — Compiles online courses for teachers. These include general pedagogy courses as well as courses on the use of certain remote learning tools (MS teams and the MoE’s LMS, Noorspace).

²¹ Pedago (no date), as available at <https://miyamiya.org/>

²² Ministry of Education, Jordan (2020c), as available at <https://darsak.gov.jo/>

²³ Ministry of Education, Jordan (2020d), as available at <https://teachers.gov.jo/>

- **Microsoft Teams and Noorspace** — These two platforms were proposed to connect teachers with students to engage remotely, with MS Teams for grades 8–12, and Noorspace (the MoE’s recently launched LMS) for younger children. Both of these platforms, however, were not always appropriate for the tech infrastructure available to students and teachers, who often had to share their limited devices and data with family members.

7. Conclusion

On the surface, Jordan boasts a robust physical and institutional EdTech infrastructure. It has a long history of both national and small-scale EdTech pilots and initiatives and has high rates of internet and device penetration both at home and in schools. Upon deeper inspection, however, challenges regarding the usability of available technology in schools and quality of access to the technology at home become apparent.

Furthermore, the MoE faces several other challenges in terms of successful EdTech implementation, namely:

- a lack of coordination among internal and external stakeholders;
- poor public sector capacity, particularly with regards to digital literacy and pedagogical knowledge of EdTech;
- no clear vision for what EdTech aims to achieve;
- no funding to support existing levels of infrastructure.

Moving forward, efforts are in place to align and embed research and pedagogical rigour into these initiatives.

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