



الهيئة الاتحادية
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POLICY IN ACTION

MADRASA

UAE's global
classroom initiative

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FCSA aims at improving the UAE's global competitiveness performance by working with stakeholders on defining and implementing reforms and policies across sectors.



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FOREWORD

For the past 48 years, the UAE government has worked tirelessly to ensure the successful implementation of economic and structural reforms towards achieving sustainable economic growth. Being the most diversified economy in the Gulf Cooperation Council (GCC), the UAE can lead by example with innovations that accelerate human development in the region.

The Federal Competitiveness and Statistics Authority (FCSA) is the authority responsible for increasing the UAE's competitiveness. Working together, we have seen the UAE make tremendous progress in its performance after carrying out many reforms. For example, the country's rank in the "Ease of Doing Business" increased dramatically from 77th place in 2006 to 11th place in 2018.



In October 2018, the World Bank launched the "Human Capital Index", which focuses on education and health as primary determinants of citizens to be able to realise their maximum potential. The Index measures the future productivity of an individual reaching the age of 18 years. The UAE was one of the first countries to adopt the World Bank's Human Capital Project.

Education is vital for the development of countries, especially, with the creation of new ways of delivering education and changing employment patterns. The 21st century is the time of the gig economy – young people move frequently from one job to another, and knowledge obtained at a traditional educational institution may become obsolete by the time students graduate. As noted in the World Development Report 2019, the nature of work is changing, and the world needs lifelong learners to be able to stay competitive during this time of rapid technological change.

One of the factors that signifies the development of a state is when a non-state actor is able to provide services contributing to the work of the government. In this issue of Policy in Action, FCSA presents the example of *Madrassa*, an online platform developed by Mohammed bin Rashid Al Maktoum Global Initiatives (MBRGI). The World Bank team has been working together with FCSA and MBRGI to develop a toolkit – a step-by-step manual - that gives potential users access to the UAE's online educational platform for Arabic-speaking children and youth.

Madrassa: UAE's global classroom initiative is a resource not only for organisations in the Middle East and North African region, but for the whole world to learn how to make high quality educational materials available for people speaking regional languages, in a very cost effective and participatory manner. It is a flexible instrument that can be tailored to specific local circumstances and needs. I also find the initiative timely as it serves those without internet access and can effectively target disadvantaged populations who are at the highest risk of being left behind.

The World Bank continues to support the UAE, as well as other countries in the region, to improve employment opportunities, and enhance women's contribution to social and economic development. Such efforts, along with better education and skills, are key steps along their path to become knowledge-driven economies.

Issam Abousleiman

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INTRODUCTION

Education is fundamental for any country's competitiveness as it contributes to numerous positive social outcomes, including poverty reduction, improved health, and a boost in overall economic productivity (Global Partnership for Education, 2019). In this fast-changing world, defined as the Fourth Industrial Revolution¹, access to quality education is even more crucial if countries are to keep up with these changes. The UAE government is proactively addressing these megatrends through its UAE Vision 2021 and UAE Centennial 2071 strategies.



Source: Ministry of Foreign Affairs and International Cooperation, 2018

Two key sectors - Competitive Knowledge Economy and First-rate Education System - contribute to a human capital development component as the country stresses the value of a talented workforce. Currently, according to the UAE Ministry of Finance, the country invests almost 17% of its 2019 federal budget in education, and is among the leading countries in terms of per cent of GDP spent on education. The UAE aims not only to strengthen its own human capital by creating EdTech² solutions, but also to raise literacy levels for Arabic-speakers in any country.

Innovation, research, science and technology will form the pillars of a knowledge-based, highly productive, and competitive economy.

UAE Vision 2021



UAE Centennial 2071 is based on four aspects: education, economy, government development, and community cohesion. The goal is for the UAE to be the best country in the world by 2071. The vision's objectives also include the development of education, with a focus on advanced technology and engineering, and instilling an Emirati moral values system in future generations.

His Highness Sheikh Mohammed bin Rashid Al Maktoum,
Vice-President and Prime Minister of the UAE and Ruler of Dubai

¹ Fourth Industrial Revolution – defined by Prof. Klaus Schwab, is “a range of new technologies that are fusing the physical, digital and biological worlds, impacting all disciplines, economies and industries, and even challenging ideas about what it means to be human” (World Economic Forum, 2016).
² EdTech - educational technology is “the study and ethical practice of facilitating learning and improving performance by creating, using and managing appropriate technological processes and resources” (Association for Educational Communications and Technology, 2008).

EXECUTIVE SUMMARY

EdTech is a recent trend in education that allows the spread of new knowledge through delivery methods that increase reach to both young learners and adults. This policy paper draws on the case study of *Madrasa*³ – a flagship EdTech initiative developed by the Mohammed bin Rashid Al Maktoum Global Initiatives (MBRGI), a foundation based in the United Arab Emirates (UAE) (Figure 1). By fostering science and math skills among Arabic speakers across the world, *Madrasa* demonstrates UAE's commitment to advancing human capital development nationally, and globally.

Madrasa is a free online education platform that provides high quality science and math content in the form of videos in Arabic. This addresses an important gap in science and math training among Arabic speakers. Through an agreement with the online educational platform Khan Academy, their English language content has been translated and contextualised to address the lack of available quality educational materials in Arabic. By March 2019, more than 1.5 million students from at least 20 countries are using *Madrasa* for educational purposes.

What distinguishes *Madrasa* from other online platforms is its extensive public engagement approach. Thousands of educational videos have been translated by volunteers from around the world. The motivation of these volunteers is amplified as they see their work contribute to the increase in literacy and improvement of education



among other Arabic speakers.

Additionally, the 1,000 villages initiative of *Madrasa* uniquely resolves issues of access as it brings quality education materials in Arabic to those who do not have Internet access, including children and youth living in refugee camps. The materials are provided on a tablet, USB stick, or a broadcast device, which are then delivered to remote areas by partner organisations.

This case study aims to share the journey of creating the first and the largest Arabic educational platform *Madrasa*. First, the rationale behind creating this platform is provided which involves an existing literacy gap among Arabic speakers. Next, global trends in education and the link to the global competitiveness reports are discussed. After this, the case study dives deeper into the specifics of creating the *Madrasa* platform, including the 1,000 villages project. The paper concludes by providing success factors and key lessons learned that can be used by other countries.

Figure 1



³ *Madrasa* means 'school' or a 'learning platform' in the Arabic language.

ACCESS TO QUALITY EDUCATION IN THE ARAB STATES⁴

While literacy rates among men and women are on the rise globally, 750 million adults are illiterate, including 102 million young people aged 15-24 years (UNESCO, 2017). While variations exist from country to country, on average, literacy rates for young people in the Arab States⁵ are lower than the global average (Figure 2). The four countries with the lowest rates are Iraq (52.3%, 2013), Mauritania (56.1%, 2007), Sudan (65.8%, 2008), and Yemen (77.0%, 2004).

Figure 2 shows that the literacy rate for the UAE (95.0%) is higher than the rates for both the global average (91.4%) and the Arab States (86.8%). The goal of the MBRGI is to decrease this literacy gap by exporting *Madrassa* globally.

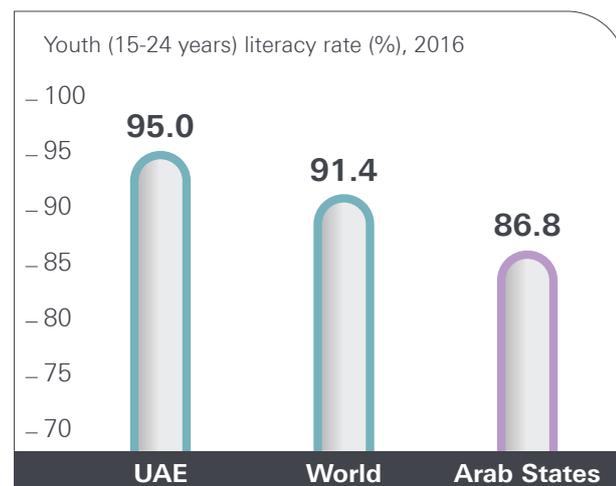
Technological advancements have the potential to improve literacy and education among these populations; however, limitations in accessing the Internet are a reality for almost 50% of the world (International Telecommunication Union, 2018). As the rate of knowledge production accelerates, learners are more dependent on connecting to the Internet to stay current. Four billion people will be missing out on the most up-to-date information, services, and skills delivered through education technology (World Bank, 2018). The 1,000 villages project of *Madrassa* ensures that even those without Internet access are able to learn and contribute to a community.

Madrassa also addresses the challenge of accessing quality education in the Arabic language among refugee populations. Arabic speaking countries host more than a third of the global amount of refugees, about nine million people (UNHCR, 2019). Numerous studies address the problem of refugee access to education, the lack of which not only deprives them of a basic human right, but also

makes refugee children more vulnerable to being recruited into “armed groups, child labour, sexual exploitation and child marriage” (UNHCR, 2019).

Another gap that the initiative addressing is the lack of availability of online content in Arabic language. Despite the thousands of languages spoken in the world, 80% of online content is available in just 10 languages, of which only three billion people speak as their first language (World Economic Forum, 2016). While the number of Arabic speakers is more than 600 million people, available content in Arabic amounts to a mere three per cent of the total, signifying a large gap between supply and demand (Al Arabiya, 2013). While those privileged to learn additional languages in the Arab States can gain access to a wide range of content and knowledge, those more vulnerable and marginalised do not have this opportunity. For these reasons, the *Madrassa* initiative, using both online and offline solutions, is well suited to address existing gaps.

Figure 2



Source: UNESCO Institute for Statistics, 2016

⁴ List of the Arab States, according to the UN: Algeria, Bahrain, Egypt, Iraq, Jordan, Kuwait, Lebanon, Libya, Mauritania, Morocco, Oman, Palestine, Qatar, Saudi Arabia, Sudan, Syrian Arab Republic, Tunisia, United Arab Emirates, Yemen.

⁵ As the target population for *Madrassa* initiative is Arabic speaking population, which is spread around the world, literacy rates for the Arab States are used as a proxy to reflect the rates for the Arabic speaking population. The author acknowledges that this proxy does not fully reflect the rate for the Arabic speakers around the world, however, is the closest approximation available.

EDUCATION AND COMPETITIVENESS

Education is a key determinant of a country's competitiveness, perhaps even the single most important one in effectively meeting development goals (World Economic Forum, 2015). A general consensus in economics is that the way to increase output or generate economic growth is through increasing total factor productivity which can be achieved by focusing on human capital. The UAE aims not only to strengthen its own human capital by investing more than 40 per cent of its 2019 government spending on social development, but also contributing to the increase in these standards for all Arabic-speaking countries (UAE Ministry of Finance, 2019). By providing high quality educational resources to Arabic speaking communities, the goal is to increase the level of regional competitiveness, which will improve the outcomes for all.

Educational standards are measured across many international competitiveness reports because of their positive spillover effects on a country's



The evidence that the quality of a nation's education system is a key determinant of the future growth of its economy is increasingly strong.

Hanushek and Woessmann, 2011
as cited in Hassett, 2012.



economy (Figure 3). A growing number of international organisations, including the World Bank, have started focusing on quality rather than quantity of education provided, measuring Learning-Adjusted Years of School captured in the inaugural 2018 Human Capital Index (Kraay, 2018). Greater access to quality education increases decent job opportunities and participation of more educated individuals in the job market. This in turn strengthens the overall state of the economy and contributes to a more prosperous society.

Figure 3. Relevant international competitiveness reports:



Global Innovation Index

Year: 2019
Publisher: Cornell University, INSEAD, the WIPO
UAE's Position: 36
Relevant pillar: Human Capital & Research



Human Development Index

Year: 2018
Publisher: United Nations
UAE's Position: 34
Relevant pillar: Knowledge dimension



Global Talent Competitiveness Index

Year: 2019
Publisher: INSEAD
UAE's Position: 19
Relevant pillar: Grow and Global Knowledge Skills pillars



Sustainable Development Report

Year: 2019
Publisher: SDSN, Bertelsmann Stiftung
UAE's Position: 65
Relevant pillar: SDG4 - Inclusive and Equitable Quality Education



Human Capital Index

Year: 2018
Publisher: World Bank
UAE's Position: 49
Relevant pillar: Indicators on education



World Competitiveness Yearbook

Year: 2019
Publisher: IMD
UAE's Position: 5
Relevant pillar: Indicators on education

UTILISING THE GLOBAL EDTECH TREND

Shortages in resources create barriers in access to quality education, and traditional curriculums and methods of learning become more obsolete and inadequate over time. However, technological advancements can fill the gaps in education for millions worldwide. The World Economic Forum's 'New Vision for Education: Unlocking the Potential of Technology' report (2015) says that education technology has the "potential to lower the cost and improve the quality of education." Key features of successful online learning platforms, such as Khan Academy, include extensive reach (over 60 million users) and flexibility - allowing students to learn at their own pace, while accessing high quality materials that improve school performance and propel them into higher education (Khan Academy, 2017). By collaborating with Khan Academy, *Madrasa* is bringing these world-class materials to the Arabic-speaking world with the expectation of similar positive results.



His Highness Sheikh Mohammed bin Rashid Al Maktoum during the launch of Madrasa, 2018

Madrasa specifics



Launched in 2018, *Madrasa* is a free online educational platform that has more than 5,000 videos in the Arabic language covering K-12 science subjects. It is the largest educational platform in the Arab world, and is being used today in more than 20 countries. The platform is available on its own website, mobile application, and YouTube. By extending *Madrasa*, MBRGI's mission is to "equip youth with technology skills, empowering them to contribute to building diversified and sustainable economies on the foundations of knowledge, innovation, and future foresight" (MBRGI Annual Report, 2018).

Key steps of development

The most labor-intensive stage in the platform development was re-creating educational videos. This included English-Arabic translation, recording voice-overs, creating explanations using various technological tools, and adapting examples used in the videos to the regional context. The team behind *Madrasa* recruited volunteers to complete these tasks with the goal of engaging communities and reducing labor costs.

To facilitate the volunteer efforts, His Highness Sheikh Mohammed bin Rashid Al Maktoum launched the Translation Challenge in September 2017, which was a call for Arabic-speaking volunteers to contribute to the e-platform. The Translation Challenge received more than 52,000 applications from volunteers in 55 countries. After the applications and qualifications review by the *Madrasa* team, 300 volunteers were selected for various roles: translators, proofreaders, designers,

and voiceover artists. The youngest volunteer was a 22-year old Emirati, Amal Nasser Al Mulla, who is passionate about volunteering and seeing the impact of her work. The *Madrasa* team worked with 300 volunteers on content for approximately one year. Volunteers contributed hundreds of thousands of hours of labour resulting in the translation of 11 million words of educational content.

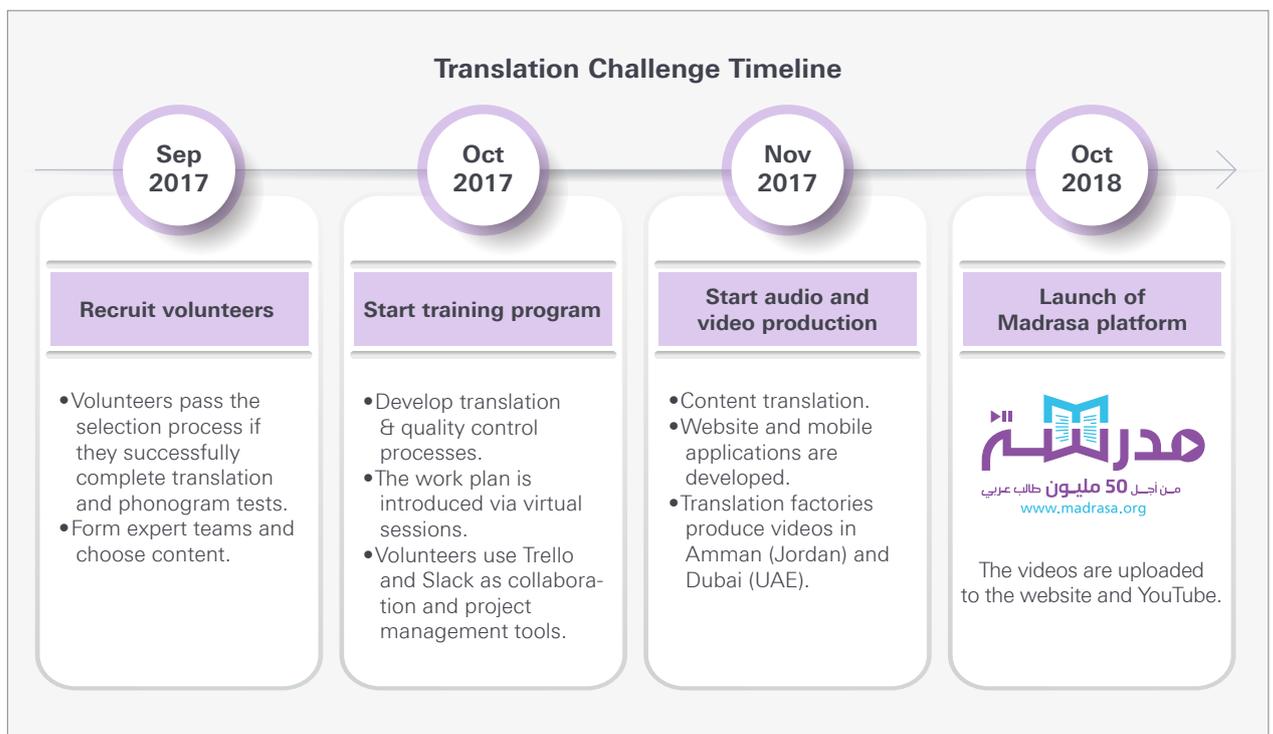


I do a lot of volunteering and it gives me happiness and fulfilment because you can see the impact you have on people's lives.

Amal Nasser Al Mulla
UAE Volunteer



Translation Challenge Timeline



The outcome of the Translation Challenge was the official launch of the *Madrasa* platform in October 2018. The portal has videos on general education (secondary school curricula), and the team is planning to introduce courses on continuing education, stressing the importance of adult learning. General education videos are in five areas: Physics, Biology, Chemistry, General Science, and Math. Within each area, students can choose specific subjects they wish to learn.

The website content is highly curated by education specialists not only from the UAE, but other Arab countries to ensure that the videos are aligned with international school curricula and regional standards. During the first six months of the portal operation, the number of registered users was 1.5 million, with the highest number of users from Egypt, Saudi Arabia, Algeria, Morocco, and the UAE (Figure 4).

Figure 4

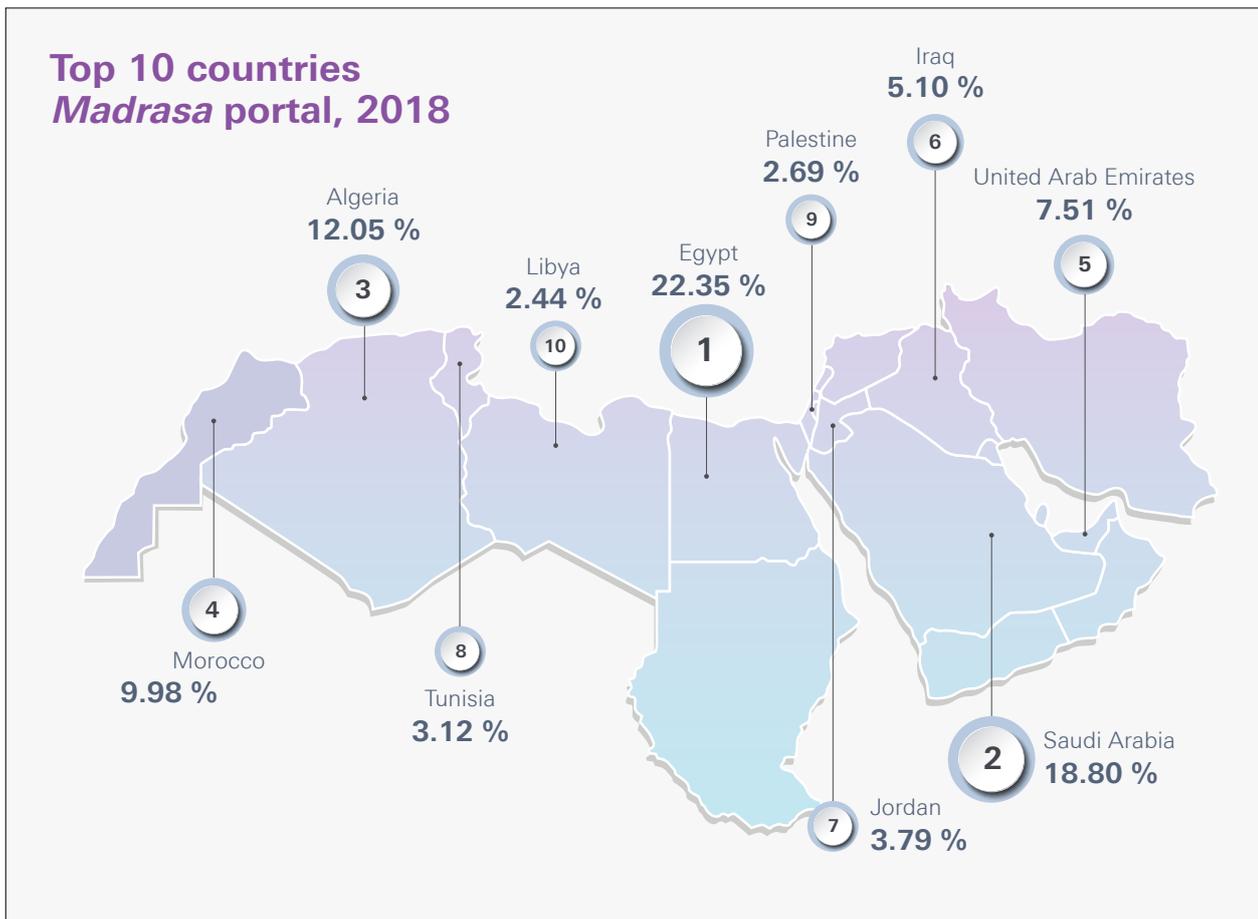
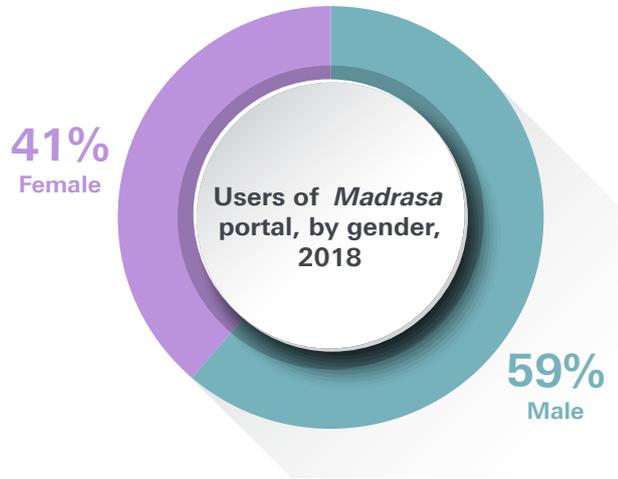


Figure 5



Source: MBRGI, 2018

By 2019, the total number of viewers reached four million. The videos can be viewed on the portal and YouTube channel. To encourage feedback, after watching a video, a student is able to submit comments and suggestions on potential improvements to the platform.

1,000 VILLAGES

Madrasa is a unique platform where Arabic-speakers can access quality educational content, but students need a laptop and Internet connection in order to watch the videos. According to the International Telecommunication Union (Figure 6), almost half (48.3%) of all households in the Arab States do not have Internet access, which is higher than the global average (40.7%). The Middle East is also a region that hosts a large number of refugees, many of whom are in refugee camps without Internet connection, let alone educational facilities and resources. Children's rights group KidsRights reports that "43 per cent of Syrian children in Lebanon, Jordan, Egypt, Turkey, and Iraq still don't have access to an education" (VoaNews, 2018). This is a crisis in itself and the 1,000 villages project is a step towards bringing education to refugee camps.

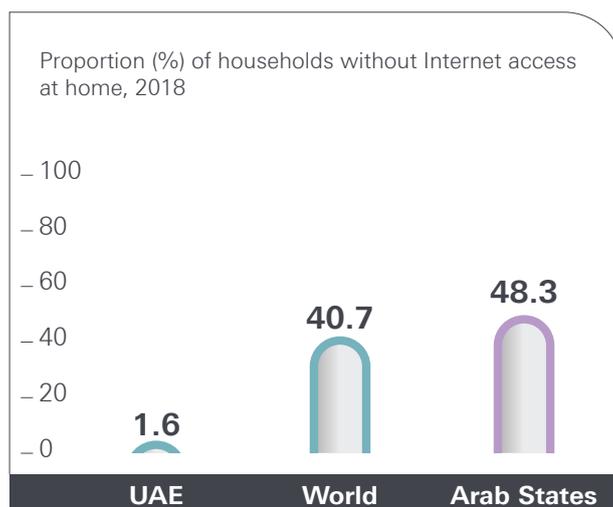
The lack of Internet access would prohibit the platform from reaching those who need education the most. To address this challenge, the *Madrasa* team created 1,000 villages: a project which aims to make quality videos available to children in remote, low-income settings without an Internet connection. 1,000 villages targets villages in 14 Arab countries⁶, including three refugee camps in Lebanon, Jordan, and Iraq. The videos are made available in schools via:

- Low cost tablets with compressed videos
- Memory stick with compressed videos that can be shared widely
- Hotspot: a broadcast device that creates a Wi-Fi network
- Madrasa-in-a-bag: a mobile classroom with 20 tablets, a broadcast device, a range extender, a projector, and speakers.



Once the portal became functional in 2018, the *Madrasa* team launched the "1,000X1,000" competition, where a student is able to win USD 1,000 during 1,000 days by answering questions after watching the videos. With prize money totalling USD 1 million, the fund provided by MBRGI aims to attract more students across the Arab world to join the platform, learn, and receive tangible support for themselves and their families.

Figure 6



Source: International Telecommunication Union, 2018

Future plans: The *Madrasa* team envisions their platform as being accessible and available to any student in the Arab world. The team understands it is vital to adapt to the pace of educational change and make sure future generations are equipped with the knowledge and skills necessary to be active citizens. While the platform currently provides videos mainly on general education, the vision is to expand the number of topics including Arabic language, computer science, artificial intelligence, and space science. From a technology standpoint, features, such as gamification and personalisation, are to be added to the website and mobile application to ensure the best user experience.

⁶ Algeria, Egypt, Iraq, Jordan, Lebanon, Libya, Mauritania, Morocco, Palestine, Somalia, Syria, Sudan, Tunisia, Yemen.

SUCCESS FACTORS



Madrasa is a model of participatory processes for improving the outcomes of vulnerable populations. Various stakeholders, including students, curriculum experts, Ministries of Education in different countries, and volunteers, were consulted in order to make this initiative relevant, flexible, and affordable for its target population. The opinions and insights of participants informed best processes of how educational videos could be best modified to their current form. The team continues working on improving the feedback process to provide users with customised and relevant content.

Platforms such as *Madrasa* can serve as models for providing learning beyond primary and secondary education by including courses for working professionals to improve their knowledge and skills in areas such as health, technology, and environment. For example, instructional and entertaining videos and activities on nutrition and hygiene, can be shared on the platform to improve public health. Doctors and nurses needing further training and knowledge could benefit from these platforms when access to traditional training materials and medical education is difficult. The audience that

stands to benefit from these initiatives includes not only students, but also the broader community. As the translation of these materials has been performed by community volunteers, the public is being engaged to create and identify other topics of interest. This way, low cost information relevant to communities can reach even more people.

The *Madrasa* platform is also an example of how education can be decentralised, reducing the strain off central governments and nonprofits. The *Madrasa* team showed that educational resources can and should be available regardless of geography or income levels, and the limited resources of a

The key takeaway from this initiative is how to create a low-cost, participatory product that has large-scale reach. *Madrasa* is not only extending quality education in schools, it also aims to reach those who are in most need - vulnerable populations in low income contexts, including refugee camps.

country. Increasing education and improving literacy has tremendous social implications, including the many benefits of lower unemployment. When children and young people are equipped with knowledge and skills, they are more prepared to enter the workforce. Exposing children and young people through technology to additional knowledge and innovation gives them tools that can inspire new ideas. By knowing what tools are available, a new generation of entrepreneurs can be cultivated. These new EdTech tools are crucial in achieving higher learning outcomes and ensuring

the continuation of children's interest in education. The UAE and MBRGI are committed to creating changes in education that can close the literacy gap in the Arab world. The UAE, through its *Madrasa* example, urges other countries to develop similar initiatives involving the public, allowing them to customise and contribute to content development. The MBRGI team is ready to work with other organisations and share their experience and expertise gained through the *Madrasa* project.

International recognition:
the World Bank's Human Capital Project



Madrasa has been recognised by the World Bank's Human Capital Project team for creating quality educational tools for Arabic-speaking students. *Madrasa* is especially noteworthy as the bulk of the work has been carried out by volunteers, increasing the affordability of the effort, and the output has been made publicly available for all Arabic-speaking students (i.e. global public good). A toolkit has been prepared by a joint *Madrasa*, FCSA, and World Bank team in case other countries or entities would like to embark on similar efforts to translate education materials into minority languages.

KEY LESSONS LEARNED



1. Public involvement

Community engagement during *Madrasa's* development has been the key component in its success. Not only did the *Madrasa* team empower volunteers to collaborate on the videos, they visited different Arab countries to meet with education specialists, government officials, and the public to promote the platform and seek feedback. This time spent in communities allowed the team to better understand the different contexts within Arab countries. It also showed countries and volunteers that they can be both users and contributors to the *Madrasa* platform. Openness in sharing with other countries and community engagement in the early stages contributed significantly to the subsequent high number of volunteer applicants and users.

2. Marketing: media outreach

To promote the project, the *Madrasa* team used creative marketing tools: short funny videos about the "1,000X1,000" initiative, an original song by

popular Egyptian singer Donia Samir Ghanem during the *Madrasa* launch, and social media posts by 'key influencers.' Being up-to-date with media trends helped expose *Madrasa* to community members.

3. Collaborating with public and private organisations

The *Madrasa* team collaborated with public and private organisations to involve their staff in volunteering. For example, 36 active volunteers represented Dubai Police, while 10 people volunteered from Etisalat. Senior management from these and other organisations supported *Madrasa* and promoted the culture of volunteering among their staff. Volunteers were highlighted and supported by managers, which is an example of how external organisations can get involved in government projects.

4. Contextualisation

The core value of the *Madrasa* platform is its content quality. The coordination team ensured that the videos reflect relevant curriculum topics, have context-specific examples, and meet global quality standards. This has been achieved by working with the curriculum experts from the Ministries of Education in the UAE and Egypt. The team wants to ensure an alignment between national educational plans and *Madrasa* videos.

5. Effective project management

The *Madrasa* team fostered effective teamwork and completion of tasks through project management tools and mechanisms. For example, tools were

developed to track the translation of materials, such as process flowcharts, Excel-based trackers, and quality assessment matrices. Communication between team members and the coordination team was done via online platforms: Slack, Facebook, or WhatsApp, depending on what tools were relevant and popular in a certain country / region.

6. Feedback mechanism

Madrasa coordinators understand the importance of user-friendly content so that educational material can reach any and every student. Videos on the *Madrasa* portal allow viewers to leave feedback and suggestions.

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