

GOLA!

GLOBAL ONLINE LEARNING ALLIANCE



MENA REGIONAL ONLINE MEETING – 1st December 2021

TRUSTED ONLINE & BLENDED LEARNING: ROBUST POLICY,
QUALITY PEDAGOGY AND DIGITAL SKILLS DEVELOPMENT

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FORMAT AND PARTICIPANTS

SECTION 1.

Format and participants

1.1 Introduction

The purpose of this private video meeting of government officials, organised in partnership with Coursera, was to discuss the need to develop policies for blended learning and digital skills development. Officials from the MENA region speak of the need to ensure that learners and data are protected and that students can develop their skills through online learning. Participants were encouraged to discuss the actions and policies of their institutions and ministries, and to make recommendations where appropriate.

This special online meeting of university and government from 14 Middle Eastern & North African Countries to discuss online learning policy and digital skills was designed as an interactive video meeting whereby all participants took part in moderated small break-out groups. This allowed everyone to converse in private, have good time to express their own thoughts and to discuss recommendations for improving outcomes and competencies in the hybrid learning landscape.

During the private break-out sessions of the meeting, officials were encouraged to address the following issues:

Policy: What recommendations would you make in producing a comprehensive online learning policy giving a robust framework that covers the important technological and pedagogical requirements for successful learning?

Entrepreneurship: To better embed skills and innovation that promote entrepreneurship and create future jobs, do we now need to ensure that students have a wider range of soft and emerging digital skills by giving them additional learning options other than their main curriculum?

Skills: How are you meeting the challenge of reducing the discrepancy between the changing world of work and the teaching of 21st century skills for success among youth?

Assessment: With more remote learning, what are the challenges regarding online assessment and practical, hands-on learning? Have you decided any new evaluation strategies for students in the coming academic year?



Industry: What resources should the university provide in giving students a range of skills that match the needs of employers?

Student Engagement: Completion rates for students studying online in many countries are considerably lower than face-to-face. Hence, what training and upskilling of faculty members is required to deliver online courses that is engaging and up to date with industry requirements, so students do not disengage, and we avoid high drop-out rates?

1.2 Executive Summary

This executive summary is based on the major points raised by the opening speakers, all officials participating in the break out groups and the closing statement.

Opening Statements

In Egypt, their response to a nationwide survey in higher education found that 45% of Egyptian students disagreed with online education being an overall positive experience. So the government has implemented an action plan with the blueprint "Leading Out of Adversities: Policies for Post-Covid Pandemic." Given the variety of online courses it is critical to ensure national accreditation as a pre-requisite. The Ministry of Higher Education has defined key principles to achieve strategic goals that include updating university programs and course specifications, developing an online education framework, issuing guidelines to redesign degrees and establish assessment guidelines for online learning. The acceleration of digital transformation has six main principles: developing a digital transformation strategy for universities; assessing the maturity of transformation and digital readiness; developing enterprise architecture; business application data technology; defining operational models; and developing the digital governance framework.

In Jordan they have learnt that engagement with the private sector is essential to reposition education policy that incorporates blended learning. Post-pandemic we must not relapse into “business as usual” and use the opportunity that technology affords us to remodel assessment that captures authentic learning. The shift of education to using more technology, applications and online resources has not been seamless and improved partnership with industry is necessary. Transformation needs to be systematic with teachers at the heart of the process. This will better deliver a blended learning framework that produces the desired skills and competencies in learners.

In Saudi Arabia, the Ministry of Education takes responsibility for determining the Learning Management Systems (LMSs) within the country. This includes the “Quality Matters” rubrics and standards when creating online learning materials and content. It remains the responsibility of the college to select and maintain the quality of learning content. The King Saud University (KSU) has a “Computer Centre for Skills Development” ensuring that most students have the digital, leadership, soft and emerging skills as required in the global knowledge economy. In alignment with Vision 2030, the Saudi Ministry of Education has a range of key initiatives that include: transforming towards digital education; transforming to a more learner-centred approach; and improving the educational environment to stimulate creativity and innovation.

The Arab League Educational, Cultural and Scientific Organisation (ALECSO) launched *Arab Code Week*, during the pandemic, with the second edition taking place in February 2022. The ALECSO mandate includes promoting scientific and technological awareness among young people in the Arab world and to enhance their abilities to understand scientific concepts. Coding is the literacy of the digital age and if embedded at a young age can help develop crucial skills like problem-solving, analytical thinking, creativity, collaboration, and communications. Children who learn code can set themselves up for a lifetime of opportunities. According to the World Economic Forum, up to 75 million jobs may be displaced by the shift in the division of labour between humans and machines in 2022.

Regional Policy Initiatives

The Qatari government has been developing a new national strategy for electronic learning, to incorporate more adaptive learning, using

artificial intelligence (AI) in teaching, and more flipped classrooms to increase student engagement. In Bahrain teachers have been upskilled to have more of the competencies required for online learning and new modes of assessment. In Saudi Arabia, they have the National E-Learning Centre (NELC) which defines the standards for all blended and online learning in K12 education, higher education and technical and vocational education and training. These standards form the basis of the quality accreditation system from schools to universities, who require a licence to operate.

Morocco has its Education Strategic Vision, which includes a substantial focus on the best ways to use ICTs in education. The Higher Council for Education, Training and Scientific Research has recently released a report which concludes that there is not enough ICT equipment across the education sector and that families have found it challenging to provide their children with the necessary devices. In Egypt, the Ministry is now working on developing specific content for technical education and determining what can be done in a blended way along with aligning soft skills that can be digitised effectively, such as language and communications. In Iraq, over one million tertiary students are registered on the national e-learning platform. A big challenge has been how to verify the safety and quality of digital learning and how to successfully accomplish fulfilment of the academic year according to their national standards.

In the MENA region we are witnessing many concrete initiatives to ensure that the growing demand for tertiary education is met with a blended approach. These include the fitting of new technologies in the classroom as well as investment into learning management systems, e-learning software, and quality educational content providers like *Coursera*. The University of Fujairah started experimenting with blended learning and an important policy consideration has been to introduce measures that make sure students have hands-on experience, so the University engaged with local industry leaders and employers to ascertain how to best generate the skills required to satisfy recruiters.

In Jordan, the Ministry of Higher Education has implemented a transformative policy for degree courses to have newly designed online content over the next three years. The UAE has a mature ICT infrastructure and several strands of government policy already in place regarding remote and e-learning. Within the UAE

curriculum they started 'Fab Labs' several years ago, with the purpose of introducing new digital technologies from 3D printing to coding software design.

Online Pedagogy and Assessment

Students need to be taught the ability to self-assess and curricula should have greater emphasis on critical thinking and problem solving. Learning outcomes in the future will need to address more qualitative proficiencies including communications, social and life skills and any such reforms must be connected to classroom methodologies. Developing online assessment, needs the regulatory bodies to play a strong leadership role in working with universities and centres of teaching and learning to set appropriate standards such that any online exam can be certified compliant. When it comes to examinations, the students still sit these on the university campus.

The growth in online education has brought into the focus the need to reform models of assessment, particularly the traditional summative examinations. Participants in the meeting spoke of several benefits of formative and continuous assessment that include better monitoring of student progress; teachers being able to quickly identify where students may have gone off track; an increase in the classroom engagement: the learning experience becomes much more personalised.

Designing online courses to achieve the best outcomes and support faculties requires the right professional development to suit the needs of teaching staff. Courses need to be accessible and ensure the full engagement of students and lessons need to be specifically constructed for the virtual environment. Further training of teachers and lecturers should also focus on the design of online lessons and the curation of content. The other critical ingredient of online learning is interactivity. The big policy question is how do we create a culture of active learning and encourage students to actively engage, particularly through the new media, video, and e-learning platforms?

Blended Learning and Edtech

There was a variation of answers from participants concerning the question of what percentage the mix of online and face-to-face should be in a blended learning model. There is no definable fixed split in the blend, but a general sentiment is that there should be limits to what is delivered online because of the importance of the school or the university as a place of more

than just learning but of pastoral care, social interaction, and human growth. The conclusion of many professors is that blended learning is situational, i.e. it depends on the practical implementation in a local context.

Globally STEM graduates are in short supply and virtual laboratories allow STEM students to experiment in simulated labs at a fraction of the cost of a normal institutional laboratory. The use of virtual labs requires cloud services and as this technology expands and is used more, especially in universities, governments will need to keep a close eye on the regulations and guidelines around the use of simulations in STEM education. Equally, there needs to be in-built capacity to ensure that technical and vocational students still obtain the hands-on experience to develop the necessary motor skills required in the practical courses.

The development of digital and e-learning skills amongst teachers is a major component of the governance of blended and online learning. Apart from the design of courses, curation of content and methods of evaluation, online teaching brings into play new factors such as the consideration of the difference between synchronous and asynchronous learning. We now see countries in the MENA region committing to coding for youngsters, how to use web-based learning resources, how to develop mobile applications and the application of artificial intelligence software.

As national online and blended learning policies are developed and implemented then a growing emphasis will be on the private sector and education companies to meet and ensure that their technologies are effectively enforcing national policies. With a greater policy emphasis on digital literacy and ICT skills, it will be necessary for policy makers to be cognisant of the pitfalls of technology. As online learning



evolves it is important not to have just off-the-shelf solutions that are driven by technology. Good governance and oversight is required to ensure that big tech does not drive the education agenda.

Policy Touchpoints

A critical component of blended learning is the professional development of faculty staff and the specific standards and norms that need to be practiced in a virtual learning environment. It is also critical to consider the role of parents who need to be supportive of such changes. Parents will always wish to address quality and question whether the new modes of blended learning are giving their children a quality education.

As new online learning policies are being developed, it remains that the biggest challenges are in the technical and vocational education and training (TVET) sector. TVET curricula are based on specialised skills depending on the needs of the labour market and policy makers have found it difficult to implement blended learning when faced with the required mixture of theoretical and practical course content.

What we have witnessed during the Covid pandemic has mainly been remote emergency education and not true online learning. Proper online education requires the infrastructure to be in place in advance of implementing new pedagogies and curricula needed in the virtual learning environment. Hence, what has been offered during the pandemic has really been about crisis management. As well as the need to have legislation that supports and accredits online courses, there is the matter of the culture of the institution. Leadership of the institution plays a key role in determining a long-term coherent strategy that builds-in a resilience against future shocks. This leadership needs to be supported at the governmental policy level, it needs e-learning champions and mentors, training and support of the faculty members and the ICT infrastructure as the bedrock for a robust technological environment.

A successful online learning strategy requires proper planning at the government level for policy and at the school/institution level for implementation. Proper training should incorporate lesson design, online activities, learning objectives, how to align assessment and which tools to use in the evaluation process. When discussing blended learning and digital we also need to look at quality of life, particularly at university. The three to five years at college are

an important phase in a young person's life, part of growing up to build ones character. Another consideration when formulating online learning policy is the enormous cultural diversity that affects teaching and learning methods along with the nature of student interaction. Learning platforms and tools should be friendly, intuitive, and safe from discrimination and prejudice.

Closing Statement

A country's level of skills proficiency is strongly correlated with several macro-level indicators. We see that there is much higher labour force participation, higher wages with higher economic output and we see greater social equity. Opportunities are firmly within the digital jobs sector: software development, cloud and data roles, data analysis and cybersecurity. Future digital skills are going to be crucial around data and artificial intelligence (AI), cloud computing, engineering, marketing, and product development. There are also a range of skillsets in high demand around the world, such as soft skills, emotional intelligence and being able to work with teams.

There is an opportunity in the MENA region to focus on skills development. One of the most significant problems is high youth unemployment. This is not just a concern for those without professional qualifications but also for students who have successfully completed degrees, with about 30% of MENA graduates being effectively unemployed. Needs to be a strong connection between the education system and the world of work. *Coursera* notes that there are clear gaps between the output of traditional education and the skillsets that companies are looking for such that a graduate can be effective and productive, where we see there is a 40% under-utilisation rate today in the MENA region.

Coursera has mapped 80,000 different skills across a database of 92 million learners on the platform. The skillsets in which we see the highest demand are data science and technology. There is a lot of focus around foundational skills such as machine learning, programming, English language capabilities and learning how to learn as part of professional development. Here is a great opportunity for the education sector to respond and develop the necessary skillsets in young people. *Coursera* seeks to work with educational institutions to address three broad themes. Firstly, ensuring better access to quality education across all communities by creating programs that work online and are flexible to engage anywhere. Secondly, there

is the improvement of student employability. This involves building skills around digital transformation across the education system from students to teachers to faculty staff and leadership to ensure they are empowered to deliver the best possible outcomes. This is exemplified in Morocco with a consortium of 15 universities, working collectively to build a cost effective program that will improve the country's overall educational outcomes.

1.3 Format of Video Conference and this Report

In section 1.4 we list the one hundred and ten (110) participants of this video meeting on blended learning policy, pedagogy, and digital skills development. The most immediate lesson of online video conferencing is to ensure that every participant has a voice. Small groups are essential. So, after opening statements the event was broken into small groups each with a moderator to take notes and support the conversation.

Prior to the break-out rooms there were four opening statements from: HE Mohammad Ayman Ashour, Deputy Minister for Higher Education, Scientific Research and University Affairs, Egypt, supported by Prof Abeer Elshater, Advisor to the Deputy Minister; HE Tayseer Al-Noaimi, Former Jordanian Minister of Education & Higher Education; Dr Hamdan Alamri, Professor of Learning Design and Technology, College of Education, King Saud University; and Prof Mohamed Jemni, Director of Information and Communication Technologies, The Arab League Educational, Cultural and Scientific Organisation (ALECSO), Tunisia. The closing statement was made by Anthony Tattersall, Vice President of EMEA, Coursera. Although all discussions were recorded and transcribed for the purpose of this report, none of the quotes or what was said during the private break-out rooms is made

attributable to any one person.

The following was the video conference format:

Part A: Opening statements from: HE Mohammad Ayman Ashour, Deputy Minister for Higher Education, Scientific Research and University Affairs & Prof Abeer Elshater, Advisor to the Deputy Minister, Egypt; HE Tayseer Al-Noaimi, Former Jordanian Minister of Education & Higher Education; Dr Hamdan Alamri, Professor of Learning Design and Technology, College of Education, King Saud University; and Prof Mohamed Jemni, Director of Information and Communication Technologies, ALECSO, Tunisia

Part B: Eleven break-out groups were formed, each with a moderator to record discussions and take note of the key points raised.

Part C: All participants returned from their break-out groups. The closing statement was given by Anthony Tattersall, Vice President of EMEA, Coursera

The total time of the video conference was 105 minutes.

After introducing the participants in 1.4, the format of this report is structured around the opening statements, policy issues and non-attributable quotations. The participants hold senior positions in government and universities from multiple countries and expressed what they are experiencing on-the-ground as well as their own recommendations. In this report we have done our best to identify the main issues addressed by participants to provide a disseminated report the flows according to the following main sections:

Regional Learning Policy Initiatives

Online Pedagogy and Assessment

Blended Learning and Approaches to Edtech

Policy Touchpoints and Collaboration



1.4 Participants

We would like to thank all those for participating and providing such outstanding contributions. The opportunity for them to openly converse in small break-out groups provides us with a discerning judgement on the key issues and immediate policy recommendations. It is an honour for the organisers to host such a distinguished gathering of educators and policy makers. Everyone committing their time during this ongoing period of uncertainty is a true testament to their desire to ensure strong decision making around the future of education. Participants are listed by country, alphabetically:

BAHRAIN: Ahlam Alamer, Assistant Undersecretary for Curricula and Educational Supervision, Ministry of Education

BAHRAIN: Dr Gurmullah Alghamdi, Rector, Arab Open University

DJIBOUTI: Abdi Dirir, General Manager of Teaching, Ministry of National Education & Professional Training

DJIBOUTI: Aicha Farah, General Manager of the CFEEF (Training Centre), Ministry of National Education & Professional Training

DJIBOUTI: Mouna Ismael Abdou, Head of Inspectors, Ministry of National Education & Professional Training

DJIBOUTI: Abdoukader Daher Aden, Dean of Inspectors, Ministry of National Education & Professional Training

DJIBOUTI: Moukaled Abdelaziz, Executive Secretary of the Observatory for the Quality of Teaching and Learning, Ministry of National Education & Professional Training

DJIBOUTI: Ayane Osman, Executive Secretary, Ministry of National Education & Professional Training

EGYPT: HE Mohammad Ayman Ashour, Deputy Minister for Higher Education, Scientific Research and University Affairs, Ministry of Higher Education and Scientific Research. *Opening Speaker*

EGYPT: Prof Abeer Elshater, Advisor to the Deputy Minister of Higher Education, Ministry of Higher Education and Scientific Research. *Opening Speaker*

EGYPT: Prof Maged Ghoneima, Advisor to the Deputy Minister of Higher Education for Innovation and Entrepreneurship, Ministry of Higher Education and Scientific Research

EGYPT: Dr Hesham Farouk, Assistant to Minister for Digital Transformation, Ministry of Higher Education and Scientific Research

EGYPT: Ahmed El-Ashmawi, Member of the Advisory Committee for the Reform of Technical Education, Ministry of Education

EGYPT: Dr Aziza Ellozy, Professor of Practice and Associate Provost for Transformative Learning and Teaching, The American University in Cairo

EGYPT: Moamen Ghanem, Deputy Executive Director, Centre for Sustainable Development, Heliopolis University

EGYPT: Dr Lamis Ragab, Vice President, New Giza University

EGYPT: Dr Ossama El Sayed Mahrous, Chief Information Officer, Damanhour University

EGYPT: Dr Yousreya El Hamshary, Director, Damanhour University

EGYPT: Prof Yosri Abouelenein, Professor of Educational Technology, Damietta University

EGYPT: Dr Inas Sobhy, E-learning Consultant, Badr University

IRAQ: Dr Alaa Abdulhasan Atiyah Alzwghaibi, Counsellor to the Minister, Ministry of Higher Education and Scientific Research

IRAQ: Dr Hazim Baqir Tahir, Director General of Scholarships and Cultural Relations, Ministry of Higher Education and Scientific Research

IRAQ: Hind Hassan, Head of English Curriculum, Ministry of Education

IRAQ: Prof Ahmed M H Al-Ghaban, President, University of Technology

IRAQ: Prof Dr Kahtan Hadi Hussein, President, University of Anbar

IRAQ: Prof Mushtaq Talib Salih Al-Neda, President, University of Baghdad

IRAQ KRG: Shilan Khalil, Director General - Basic Education, Ministry of Education

IRAQ KRG: Dr Dawood Atrushi, President, University of Duhok

IRAQ KRG: Dr Nadhim Jakhsi, President, University of Zakho

IRAQ KRG: Dr Jawhar Saeed, Vice President for Administration and Financial Affairs, Salahaddin University

IRAQ KRG: Dr Aree Adel, Assistant Professor, University of Duhok

JORDAN: HE Tayseer Al-Noaimi, Former Jordanian Minister of Education & Higher Education. *Opening Speaker*

JORDAN: Dr Nouh Alhindawi, Director of Information Technology and E-Transformation Directorate, Ministry of Higher Education & Scientific Research

JORDAN: Samar Wreikat, Head of Internships & Entrepreneurships, Ministry of Higher Education & Scientific Research

JORDAN: Wafa Makhamreh, Head of Professional Development Policies Division, Ministry of Education

JORDAN: Dr Ashraf Bany Mohammed Director of Innovation and Entrepreneurship Centre, University of Jordan

JORDAN: Prof Khitam Mousa Ay, Assistant Dean for E-Learning, Faculty of Science, University of Jordan

JORDAN: Dr Rima Al-Hasan, Assistant Professor of Operations and Innovation Management, School of Business, University of Jordan

JORDAN: Prof Shadi A Jawarneh, Director, Information Technology & Communication Centre, Jordan University for Science & Technology (JUST)

JORDAN: Prof Qutaibah Khatatbeh, Director, Academic Development & Quality Assurance Centre, Jordan University for Science & Technology (JUST)

JORDAN: Dr Mohammad Alsmadi, Director of the Centre of E-Learning and Open Educational Resources, Jordan University for Science & Technology (JUST)

JORDAN: Prof Mwaffaq Al-Omouh, Vice President, Yarmouk University

JORDAN: Dr Reem Kharouf, Associate Professor Excellence and Quality Assurance Assessor - GIS & ICT Remote Sensing, Yarmouk University

JORDAN: Amjad Abu Hilal, eLearning Manager, Queen Rania Teacher Academy (QRTA)

JORDAN: Hiba Abuhamdiah, Vocational Training Corporation, Change Management, Ministry of Labour

JORDAN: Reem Bsaiso, Head of Middle East, Brains Global

KUWAIT: Prof Omar Al-Jarrah, Vice President for Planning and Development, Arab Open University HQ

KUWAIT: Prof Mohammad Tawalbeh, Dean, Faculty of Education and General Studies, Arab Open University HQ

KUWAIT: Prof Fayiz Aldhafeeri, Professor of Learning Technologies, Training and Development, Director of Educational Training Centre, Kuwait University

KUWAIT: Nathalie Bouldoukian, Director of Quality Assurance and Institutional Advancement Department, American University of the Middle East (AUM)

KUWAIT: Dr Duna Almashaan Alkudhair, Education Consultant, Kuwait Foundation for the Advancement of Sciences

LEBANON: Dr Fawzi Baroud, Assistant Vice President for Information Technology, UNESCO Chair on Open Educational Resources for Access and Success, Notre Dame University

LEBANON: Prof Maha Aboul Ela, Dean of Academic Development and Quality, Beirut Arab University

MOROCCO: Halima Benramdane, Community Manager in charge of Information Monitoring at GENIE Program, Ministry of National Education, Vocational Training, Higher Education & Scientific Research

MOROCCO: Mounir El Araki Tantaoui, Rector, Université Internationale de Casablanca

MOROCCO: Dr Chris Taylor, Vice President for Academic Affairs, Al Akhawayn University in Ifrane

MOROCCO: Dr Ahmed Fal Merkazi, ICT Director of the Centre for Technological Innovation, University Hassan I

MOROCCO: Elarbi Imad, President, Moroccan Centre for Civic Education

OMAN: Dr Maryam Alnabhani, Research Director, Education & HR Sector, Ministry of Higher Education, Scientific Research, and Innovation

OMAN: Dr Muna Al Syiabi, E-Content Specialist, Ministry of Education

OMAN: Fahad Al Balushi, Trainer & Senior Supervisor, Senior Teachers Program, Ministry of Education

OMAN: Prof Armin Eberlein, Deputy Rector for Academic Affairs, German University of Technology (GUTech)

OMAN: Eng Badar Salim Al Ghunaimi, Vice Dean of Academic Affairs, Military Technical College (MTC)

OMAN: Deepthi Peiris, Head of Examination Department, Military Technical College (MTC)

OMAN: Dr Ivan Dudurych, Acting Head of System Engineering Department, Military Technical College (MTC)

OMAN: Dr Abid Ali Khan, Acting Head of Aeronautical Engineering, Military Technical College (MTC)

PALESTINE: Dr Mohammad Matar, Head of Evaluation & Research, Ministry of Education

PALESTINE: Majdi Moamar, Head of Teacher Training, Ministry of Education

PALESTINE: Rania Jaber Naser, Director General of Technological Innovation and Creativity Centre, Ministry of Telecommunications & Information Technology

QATAR: Dr Khalid Al-Ali, Assistant Undersecretary for Higher Education, Ministry of Education and Higher Education

QATAR: Dr Abdalla Hazaimah, Higher Education Consultant to the Assistant Undersecretary, Ministry of Education and Higher Education

QATAR: Dr Hissa Al-Aali, Director of the Training & Educational Development Centre, Ministry of Education and Higher Education

QATAR: Noha Alomari, ICT for Education Specialist, Ministry of Education and Higher Education

QATAR: Dr Siham Al-Amoush, Senior Faculty Development Specialist, Qatar University

QATAR: Samah Abdulhafid Gamar, Director - Teacher, Learning and Assessment, Doha Institute for Graduate Studies

SAUDI ARABIA: Dr Hamdan Alamri, Consultant for The Saudi National e-Learning Centre and Assistant Professor of Learning Design and Technology, King Saud University. *Opening Speaker*

SAUDI ARABIA: Dr Hasan Alzahrani, Professor in Faculty of Sciences, King Saud University

SAUDI ARABIA: Abdullah Aldukhayyel, General Director, Curricula Department, Technical and Vocational Training Corporation (TVTC)

SAUDI ARABIA: Saleh Alshowaer, Deputy General Director, Curricula Department, Technical and Vocational Training Corporation (TVTC)

SAUDI ARABIA: Eng Ali Al-Shehri, Development Supervisor in eLearning & Training, Technical and Vocational Training Corporation (TVTC)

SAUDI ARABIA: Ghaith Yaghmour, Curriculum Supervisor, Technical and Vocational Training Corporation (TVTC)

SAUDI ARABIA: Dr Sultan A Alshmimri, Director General, General Directorate of Awareness, King Abdulaziz City for Science and Technology University

SAUDI ARABIA: Dr Turki Saad Al-Zahrani, Professor, Educational Technology Department, University of Jeddah

SAUDI ARABIA: Dr Abdulrahman Alzahrani, Professor, Educational Technology Department, University of Jeddah

SAUDI ARABIA: Dr Mohamed Al-Adsani, Professor College of Education, Special Education, Imam Abdulrahman Bin Faisal University

SAUDI ARABIA: Dr Mariam Faisal Alnaim, Professor College of Education, Special Education, Imam Abdulrahman Bin Faisal University

TUNISIA: Latifa Al-Sharif, General Manager, National Centre for Technologies in Education, Ministry of Education

TUNISIA: Ahlem Ben Ali, Implementation of eTwinning Program, National Centre for Technologies in Education, Ministry of Education

TUNISIA: Radhi Maaoui, Pedagogical ICT Project Manager, Ministry of Education

TUNISIA: Prof Mohamed Jemni, Director of Information and Communication Technologies, The Arab League Educational, Cultural and Scientific Organisation (ALECSO). *Opening Speaker*

TUNISIA: Dr Hanene Boussi, Member of the Project Management & Technology Transfer Office, University of Tunis El Manar

UNITED ARAB EMIRATES: Prof Sameh Ghwanmeh, Chancellor, University of Fujairah

UNITED ARAB EMIRATES: Prof Mulhim AlDoori, Dean of College of IT, University of Fujairah

UNITED ARAB EMIRATES: Dr Khaula Al Kaabi, Chief Innovation Officer, United Arab Emirates University

UNITED ARAB EMIRATES: Dr Riham Rizk, Program Chair for Business in Accounting, School of Business and Quality Management, Hamdan Bin Mohammed Smart University

UNITED ARAB EMIRATES: Prof Sahel Alouneh, Professor, Cybersecurity Program, College of Engineering, Al Ain University

UNITED KINGDOM: Anthony Tattersall, Vice President of Enterprise, EMEA, Coursera. *Closing Speaker*

UNITED KINGDOM: Mike Damiano, Director of National Education Initiatives, Coursera. *Moderator*

UNITED KINGDOM: Kerry Houchen, Partnerships Director, Coursera. *Moderator*

UNITED KINGDOM: Sam Legroun, Partnerships Director, Coursera. *Moderator*

UNITED KINGDOM: Natalia Burbano, Marketing Manager, Coursera. *Moderator*

UNITED KINGDOM: Melanie Sutcliffe, Marketing Manager EMEA, Coursera. *Moderator*

UNITED KINGDOM: Kerri Lu, Product Marketing Manager, Coursera. *Moderator*

UNITED KINGDOM: Alberto Fanelli, Business Development Representative, Coursera. *Moderator*

UNITED KINGDOM: Alex Garnier, Business Development Representative, Coursera. *Moderator*

UNITED KINGDOM: Nieves Cohen, Business Development Representative, Coursera. *Moderator*

UNITED KINGDOM: Louay Dayoub, Coursera-for-Campus Consultant, Coursera. *Moderator*

UNITED KINGDOM: John Glassey, CEO, Brains Global. *Host*

UNITED KINGDOM: Claire Urie, Head of Government & International Relations, Brains Global

UNITED KINGDOM: Victoria Tate, Head of Education Partnerships, Brains Global. *Moderator*



DISCUSSIONS

SECTION 2.

Discussion

2.1 Opening Statements

The opening statements were provided by HE Mohammad Ayman Ashour, Deputy Minister for Higher Education, Scientific Research and University Affairs, Egypt, supported by Prof Abeer Elshater, Advisor to the Deputy Minister; HE Tayseer Al-Noaimi, Former Jordanian Minister of Education & Higher Education; Dr Hamdan Alamri, Professor of Learning Design and Technology, College of Education, King Saud University; and Prof Mohamed Jemni, Director of Information and Communication Technologies, The Arab League Educational, Cultural and Scientific Organisation (ALECSO), Tunisia.

HE Mohammad Ayman Ashour and Prof Abeer Elshater

This opening statement is in conjunction with the presentation as per appendix A.

Egyptian Deputy Minister, HE Ayman Ashour welcomed the opening of the meeting and expressed the importance of such meetings to discuss online learning policy and how the Government of Egypt has been actively designing and implementing post-Covid key policy pillars. Prof Abeer Elshater made the full presentation on Egyptian Higher Education and Technology: *"A Step Forward During and After Covid-19 Lockdown"*.

In initiating the post-Covid blueprint, the Egyptian Ministry of Higher Education engaged multiple stakeholders in a nationwide survey. This survey included participants from various disciplines, managers in universities, faculty, and administrative staff. The focus of the survey was students, of whom 89,000 took part. The aims were to assess the severity of Covid and its impact on higher education in Egypt, by measuring the efficiency of online teaching and the levels of learner satisfaction; to look at how different stakeholders acted during the university lockdowns; and the standing on effective practices and policies in the various systems in Egyptian universities.

The responses were split between university staff (managers, faculty and administrative) and students [slide 3, appendix A]. Of most concern amongst the responses was from Egyptian students (45%)



and international students (29%) who disagreed that that online education has been a positive overall experience. This feedback is based on both qualitative and quantitative indicators. So the Ministry of Higher Education implemented an action plan based on seven principles to confront the challenges faced because of the Covid pandemic.

This blueprint document *"Leading Out of Adversities: Policies for Post-Covid Pandemic"* can be accessed on the GOLTA presentations webpage, <https://gola.education/gola-presentations/> or directly downloaded from this link: <https://brains.global/print-covid-19-blueprint/> or from this QR code:



Of these seven pillars, two key ones to focus on are pillar one [slide 4, appendix A] "Driving Policies for Online Education Degrees" and pillar five "Accelerating Digital Transformation". Given the nature and variety of online courses in the higher education space, there is an important question over how these can be accredited by the Ministry in Egypt. The pandemic has certainly forced policy makers to accelerate digital transformation and paved the way for implementation.

To derive the appropriate policies for online education and study in Egypt, the team within the Ministry defined nine key principles to achieve strategic goals [slide 5, appendix A]. These include updating university programs and course specifications, developing an online education framework, issuing guidelines to redesign degrees and establish assessment guidelines for online learning. Another example is approving accreditation of international online education providers, pertinent to the *Coursera* concept. Approval is a pre-requisite, and the Ministry has a roadmap for such permission.

Another important principle is approving the use of blockchain technology for higher education documents and degrees.

In assessing the impact of the Covid pandemic on Egypt's higher education system, the Ministry realised it necessary to produce procedures for hybrid teaching and learning. Collection of data about the change in competencies is split into five main areas of specialisation: art and humanities; social science and management; engineering and technology; natural and basic sciences; and life sciences. This division between theoretical and laboratory based disciplines allowed for curriculum development in each discipline, bearing in mind the differences in required face-to-face classroom lessons and online teaching.

Regarding the acceleration of digital transformation, there are six principles applied to this pillar [slide 7, appendix A]: developing a digital transformation strategy for universities; assessing the maturity of transformation and digital readiness; developing enterprise architecture; business application data technology; defining operational models; and developing the digital governance framework. These are some of the highlights of the Ministry's policy response to the pandemic and the depth of these policies and frameworks is fully detailed and reasoned in the blueprint *"Leading Out of Adversities: Policies for Post-Covid Pandemic,"* accessible as above.

HE Tayseer Al-Noaimi

The former Jordanian Minister of Education emphasised how our experiences of the pandemic can be a potential catalyst for transformation in education and to not relapse into "business as usual." Failure to do so takes us back to the factory model of education of the 18th and 19th centuries. The reshaping of education policy should be coherent in catering to the needs of students and what they should learn. How and where a student learns are now the critical questions. Do we continue with a curriculum that is fully information-based or do we wish for generic concepts that can be translated into blended learning? Given the opportunity that technology affords us, students can learn more on their own and from that achieve deeper wisdom.

Evolution of curricula should meet the necessary modern skills and competencies required along with addressing how teachers need to implement reforms to the curriculum. It is especially an opportunity to remodel assessment that captures more authentic learning, moving away from the narrow assessment of memory.

The Covid pandemic has taught us to define and implement policies around safety, student well-being and the value of school as we appreciate how the psychosocial dimension of learning, and its environment is critical. As well as repositioning education policy within the wider perspective of public policy it is also essential to engage with the private sector, as we have learnt in Jordan. The shift of education to using more technology, applications and online resources has not been seamless and improved partnership with industry must be considered when building a robust education policy framework to transform the whole ecosystem.

The danger for educators and policy makers is falling back into the business as usual mindset or just tackling such desired transformation with a piecemeal approach. It needs to be systematic with teachers at the heart of the process and formulation of the required professional programs to support and encourage them to be innovative and creative. This will better deliver a blended learning framework that produces the desired skills and competencies in learners. We need to make a change to give the highest returns on our investment in education in terms of student development, learning outcomes and the subsequent transfer of these skills to socioeconomic development.

Dr Hamdan Alamri

This opening statement is in conjunction with the presentation as per appendix B.

Dr Hamdan Alamri detailed some of the key figures about King Saud university that includes 83,000 students with more than 6,800 faculty members and 29,000 staff. The University has more than 65,000 research studies with over 780,000 citations and continued efforts to create and produce research journals. There is also ongoing research into online learning and the safeguarding of students and supporting the standards and criteria in support of the Saudi National Cybersecurity Authority. The National eLearning Centre (NELC) issues institutional online learning licenses as they have for King Saud University which also has its own cybersecurity policies and dedicated data centres.

In deciding the most appropriate online learning platforms, the Saudi Ministry of Education takes responsibility for determining the Learning Management Systems (LMSs) within the country. This includes the "Quality Matters" rubrics and standards when creating online learning materials and content. It remains the responsibility of the college to select and maintain the quality of learning content. That said, when sourcing content from the

education industry and private online educational resources there remains a gap in determining criteria which requires more involvement of schools or universities to meet the pedagogical standards they are implementing.

Prior to the pandemic, King Saud University (KSU) was already preparing its own transformation towards digital education in line with the national Vision 2023. Faculty members are trained to implement modern teaching techniques and in the case of KSU they have the “Distinguished and Talented Students Club” that provides a variety of programs and courses to enhance talent and creativity. Furthermore, the “Computer Centre for Skills Development” ensures that most students have the digital, leadership, soft and emerging skills as required in the global knowledge economy.

In alignment with Vision 2030, the Saudi Ministry of Education has a range of key initiatives that include: transforming towards digital education; transforming to a more learner-centred approach; and improving the educational environment to stimulate creativity and innovation. Equally, KSU has its own efforts and initiatives to improve the online learning infrastructure, have more accredited online courses and in 2021 launched its first artificial intelligence (AI) adaptive learning course.

Another important initiative of the National eLearning Centre (NELC) is FutureX, the national integrated online learning ecosystem that contributes to providing lifelong learning opportunities for all citizens. This enables institutions offering online learning across all sectors by connecting providers and stakeholders, to ensure equitable access to trusted online learning. The FutureX Platform aims at enhancing trust in online learning by providing learning opportunities that meet future needs, improving agility, and enhancing the efficiency of online learning.

The Platform provides three main services: connecting institutions willing to deliver online learning with qualified providers; creating online learning content based on quality standards and best practices; and facilitating collaboration between institutions and online learning leaders to adopt the best practices in online learning. FutureX Platform is integrating with several national and international success partners. These partners includes the likes of Coursera to provide high-quality content and the experience to enhance the efficiency of online learning.

Prof Mohamed Jemni

This opening statement is in conjunction with the presentation as per appendix C.

At the start of the Covid pandemic in March 2020, The Arab League Educational, Cultural and Scientific Organisation (ALECSO) launched its initiative for e-learning in Arab countries in collaboration with international solution providers. This included successful program implementations in several countries like Djibouti, Comoros, schools in Lebanon and some universities in Mauritania. One very important activity launched during the pandemic is *Arab Code Week*, with the second edition taking place in February 2022, co-organised in partnership with the Tunisian Association for Educational Initiatives.

The purpose of this is to train teachers in educational technology with the modern landscape determining an important need to develop apps and study the application of resources and methodologies. The ALECSO mandate includes promoting scientific and technological awareness among young people in the Arab world and to enhance their abilities to understand scientific concepts. The purpose of Arab Code Week (ACW) is to support this foundational need to technology and spread the culture of programming and help create an exciting learning environment by utilising coding to acquire the necessary digital and IT skills. The aim is to allow children to explore new disciplines and acquire the necessary skills in line with the global STEAM approach.

So why should kids learn coding? Simply put, coding is the literacy of the digital age and if embedded at a young age can help develop crucial skills like problem-solving, analytical thinking, creativity,



collaboration, and communications. Children who learn code can set themselves up for a lifetime of opportunities. Coding for kids is not typically the same as programming and computer science, thanks to the many useful platforms such as Scratch and Minecraft that introduce the basics with easy block coding. Jobs of the future will require more problem-solving and critical thinking skills and according to the World Economic Forum, "In 2022, up to 75 million jobs may be displaced by the shift in the division of labour between humans and machines, while 133 million new job roles may emerge."

The first edition of Arab Code Week took place in February 2021 under the theme "programming and decoration" and witnessed massive participation of over 200,000 Arab students, over 10,000 teachers and more than 1,500 schools participating. No less than 13,000 activities were registered on the Arab Code Week platform (<https://arabcodeweek.alecso.org>). The goal of the second edition is to educate children on environmental issues to encourage them to start making a positive contribution, with the 2022 title being "Artificial Intelligence and Environment Protection." Given the ever-growing importance of artificial intelligence (AI), it is estimated that by 2030 AI will contribute more than \$15 trillion to the global economy.

The UN Artificial Intelligence Summit held in Geneva in 2017 identified that AI has the potential to accelerate progress towards a dignified life, in peace and prosperity for all people and have suggested to refocus the use of this technology on sustainable development and assisting global efforts to eliminate poverty, protect the environment and conserve natural resources. The official competition of Arab Code Week is during 21-28 February 2022, with many training sessions organised in advance during January. The challenge this time is to reach one million students and 100,000 teachers.

2.2 Regional Learning Policy Initiatives

In response to the disruption caused by the pandemic, the Qatari government has been developing a new national strategy for electronic learning. This does not just mean online learning but changing education to incorporate more technology, such as having more adaptive learning, using artificial intelligence (AI) in teaching, and more flipped classrooms to increase student engagement. When considering such a strategy that incorporates more hybrid learning then it is important to be cognisant of the dangers of loss of social interaction and potential inequities in education due to different levels of equipment and connectivity amongst students and their households.

Bahrain now has some online learning policies approved and published by the Ministry of Education and other policies are being developed to give more choice to students and families. For example, this may include a traffic light system for classroom attendance or allowing for more asynchronous learning using new technologies. Teachers have been upskilled to have more of the competencies required for online learning and new modes of assessment. Policy should also consider what remediation is required when there are gaps between what the objectives of the curriculum are and what students are actually learning.

In Saudi Arabia, they have the National E-Learning Centre (NELC) which defines the standards for all blended and online learning in K12 education, higher education and technical and vocational education and training. These standards form the basis of the quality accreditation system from schools to universities, who require a licence in order to operate. As well as maintaining quality, these standards include that every learner has compatible devices, and every institution has the requisite connectivity. Covid has certainly affected this level of policy management, which has been planned for online learning over the last decade, but the pandemic has accelerated the process.

Morocco had the National Charter for Education and Training from 2000 to 2010 and now there is the Government's Education Strategic Vision, a reform program running from 2015 to 2030, which includes a substantial focus on the best ways to use ICTs in education. The impact of the pandemic exposed gaps between what is expressed in the education reforms and the real life experience of educators. The government has implemented multiple measures using social media, online tools, an education portal, video lessons and the use of broadcast media to distribute content. The Higher Council for Education, Training and Scientific Research has recently released a report on how successful these measures have been with the main conclusions being that there is not enough ICT equipment across the education sector and that families have found it challenging in meeting the need to provide their children with the necessary devices.

In Egypt, the trend towards digital education was already underway for a few years before Covid struck. This included the Government's policy of Education 2.0 based around more critical thinking and problem-solving, the Egyptian Knowledge Bank and even an online assessment framework. The situation for technical education is a little different because of the required hands-on practical competencies. The Ministry is now working on

developing specific content for technical education and determining what can be done in a blended way along with aligning soft skills that can be digitised effectively, such as language and communications. They also have new Applied Technology Schools that work in close partnership with the private sector to develop programs for students who will be far better prepared for the world of work when they graduate.

In Iraq, a weakness in the domestic digital culture has made it particularly challenging to implement blended learning. That said, they have worked hard, especially in the higher education sector where there are now over one million tertiary students registered on the national e-learning platform. A big challenge has been how to verify the safety and quality of digital learning and how to successfully accomplish fulfilment of the academic year according to their national standards.

The Arab Open University, with its headquarters in Kuwait, has committed to robust partnerships with the private sector, particularly as their own gap analysis has found inconsistencies in digital and soft skills. These partnerships include the likes of *Cisco*, *Huawei*, *Microsoft*, and *Oracle* to support students with their professional and technical skills and *Coursera* to offer new programs.

Most universities in the region, like the American University of the Middle East, which moved completely online during the Covid pandemic, have gradually witnessed throughout 2021, a return to campus, yet not at full capacity. The strategy is to schedule the timetable where students attend on a 50/50 weekly rotation basis. Classrooms are often equipped with live streaming technology to allow for those learning from home to not miss out on lectures and tutorials. This gradual return aligned with the best use of online technologies has received positive feedback from the students.

In the MENA region we are witnessing many concrete initiatives to ensure that the growing demand for tertiary education is met with a blended approach. These include the fitting of new technologies in the classroom as well as investment into learning management systems, e-learning software, and quality educational content providers like *Coursera*. Universities are constantly developing courses and simultaneously assessing the outcomes of any new programs through student and teacher surveys. This feedback mechanism is an essential ingredient of any continuous improvement process. Another growth area is the integration of open educational resources (OERs), and this requires more elasticity in policy that meets the demand for more data storage and retrieval.

Over the last few years the Qatar Ministry of Education and Higher Education has been focussing on several competencies as part of its reform of the national curriculum framework. One of these competencies is the role of ICTs in education and the necessary curriculum reforms to develop digital skills for learners. These skills include coding, programming, problem-solving and the use of artificial intelligence (AI). In line with this is the development of the national education platform to facilitate teacher-student engagement, as a communication medium and to make learning resources available for the kids. The next step is to digitise all learning resources. Many of the existing educational resources already have a digital version and to produce a rich environment further work involves creating digital elements for use on the platform.

The University of Fujairah started experimenting with blended learning a year before the pandemic. This involved setting up a studio for recording lectures and trying to redesign the curriculum befitting of blended learning, including assessment and knowledge exchange material. As referred to by many officials in this meeting, the University also found practical sessions for technical courses a challenge. An important policy consideration has been to introduce measures that make sure students have hands-on experience, so the University engaged with local industry leaders and employers to ascertain how to best generate the skills required to satisfy recruiters. The critical issue is making sure that the students are receiving the quality education they expect. That said, students are very adaptable and learnt to change their behaviour to fit the new circumstances. This means reviewing and revising policies to better incorporate time for simulations and ensure learner engagement.

In Jordan, the Ministry of Higher Education has implemented a transformative policy for degree courses to have newly designed online content over the next three years. The priority is to move strategically not to full online learning but to have quality assurance regulations for a blended approach to tertiary education. The clear vision of quality is supported by a yearly training plan in blended learning for faculty members that incorporates the integration of open educational resources as well as regulations for edtech to ensure that e-learning is of high calibre.

When the Covid crisis started, the UAE was in a relatively strong position in terms of having a mature ICT infrastructure and several strands of government policy already in place regarding remote and e-learning. The country's ICT fund had already

been well-established since 2012. There was not a substantial disruption to the education system, maybe just a week or two as people and institutions adapted to the changes. The standards for smart learning had already been in place since early 2019, with technology implemented over the previous six years. Within the UAE curriculum they started 'Fab Labs' several years ago, with the purpose of introducing new digital technologies from 3D printing to coding software design. There is another stream for STEM education that is also embedded within the curriculum and introduced coding from Grade 1. The aim is to combine knowledge with science and technology to build the capabilities of the students and present them with real world problems and not just the theoretical aspects of the curriculum.

2.3 Online Pedagogy and Assessment

The consensus is that we will not return to business as usual in education. This is certainly the case in higher education which already has standards and pedagogies developed from open university models. As more universities expand their online learning courses, the more ministries of education need to have accreditation policies in place. This is particularly true with online assessment where there is the potential of cheating. Institutions can overcome this with tests based on critical thinking as opposed to simply having "knowledge-based" tests that require answers which any student can simply look-up online. The formatting and design of learning management systems and education software will also, in the future, be important in determining how effective online assessment can be.

Many participants spoke of the need to shift the mindset of learning outcomes. Students need to be taught the ability to self-assess and curricula should have greater emphasis on critical thinking and problem solving. Education needs to go well beyond just information gathering and knowledge attainment but should be flexible and responsive enough to respond to social changes and align with 21st century needs. Such learning outcomes in the future will need to address more qualitative proficiencies including communications, social and life skills and any such reforms must be connected to classroom methodologies.

Several countries and universities that have plenty of online learning courses and many programs are still grappling with the challenges of devising policy and regulations for online examinations. Developing online assessment, needs the regulatory bodies

to play a strong leadership role in working with universities and centres of teaching and learning to set appropriate standards such that any online exam can be certified compliant. In the meantime we are seeing a practical approach to blended learning policy with a portion of the curricula being learnt online, but when it comes to examinations, the students must sit these in the university campus. This is what they have been doing in Iraq since the pandemic struck and with regular monitoring, the ministry can then oversee step-by-step changes to policy in coordination with the institutions and stakeholders. In the Gulf there are also cultural considerations, such as face coverings, whereby online assessment is not practical and proctoring to ensure the integrity of the examination environment is very difficult.



The growth in online education has brought into the focus the need to reform models of assessment, particularly the traditional summative examinations. Summative assessment has long had the advantage of providing a numerical measure for student grading and further progression. Yet, it is a snapshot in time that is effectively evaluating the ability of the student to recall information. So many other aspects of education, including critical thinking, problem solving, extra-curricular activities, and project-based learning are not properly addressed by summative assessment. Research has long shown the advantages of formative and continuous forms of assessment, yet national investment in evaluation methodologies has often ignored this research. The Covid pandemic has been a huge catalyst in changing the mindset of education authorities.

Participants in the meeting spoke of several benefits of formative and continuous assessment that include better monitoring of student progress and the working towards clear targets; teachers being able to quickly identify where students may have gone off track; an increase in the classroom engagement of students, especially when activities reflect real world

situations that satisfy the curiosity of the learner; the learning experience becomes much more personalised; and an authentic evaluation of the student in real time.

Any shift in assessment policy needs to have the full participation of teachers and faculty staff whose judgement must be trusted and who need to work alongside policy makers to determine the success of implementing continuous and formative evaluation policies. The support for lecturers is not just in terms of training but also dealing with the existing pressure they face from parents and senior leaderships in institutions, to make sure they produce high levels of attainment in the form of grades or numerical marks. With this in mind it needs to be considered that teachers may neglect their formative practices in favour of summative assessment to meet intrinsic demands for the purposes of tracking data.

Designing online courses to achieve the best outcomes and support faculties requires the right professional development to suit the needs of teaching staff. Courses need to be accessible and ensure the full engagement of students and lessons need to be specifically constructed for the virtual environment. It is no use just digitising existing information and posting it online. That is not a lesson. So, policy makers should be looking at bringing together a whole gamut of key actors including coders, designers, gamers, curriculum developers, trainers, and teachers in developing proper digital content under an appropriate pedagogical framework. We need to think about how young people today consume new media.

Further training of teachers and lecturers should also focus on the design of online lessons and the curation of content. True e-learning is not just a matter of having students online via a video application such as *Zoom* or *MS Teams*, then moving to a provider such as *Coursera* or *Moodle* and then giving a lecture. It takes time and resources to develop an online course and over the long-term, the teaching profession should be equipped with the skills to design online lessons, including curating content and defining the standards of online assessment. The other critical ingredient of online learning is interactivity – the necessity to have student engagement and participation in the online learning process. For a learner to just sit in front of a screen listening to a lecture is no more than the remote emergency teaching we have seen during the pandemic.

The pedagogical challenges of conducting an online lesson remain. The conditions change completely for the teacher, conditions that have never been

trained or prepared for: the home environment of the student – is it a good learning space? Then there is the actual cognitive presence of the students. How much are they learning and what tools does the teacher have to answer that question? Another perspective of the influence of Covid on thinking, is that it has been an opportunity for people to re-evaluate the significance of technology, how it can be used in education and how we cannot progress without integrating it both effectively and ethically. A more blended learning future will inevitably impact upon pedagogies and classroom management as well as demanding new skills of the teachers as part of their continuous professional development. The big policy question is how do we create a culture of active learning and encourage students to actively engage, particularly through the new media, video, and e-learning platforms?

With the growth of online resources such as Coursera we are starting to see the feedback mechanism in play where academics will take and evaluate a course themselves and identify those elements that have a useful application in their own pedagogy. For example, a faculty member taking a course in say artificial intelligence (AI) can find out how technology can be used for instructional design with AI. Then with real-world implementation in the university setting to equip courses and classes, feedback can be given to any institutional or national e-learning centre who in turn work closely with the education technology and content providers.

Some comment was made about using Bloom's taxonomy or at least a modern revision where learning goals are important in the pedagogical interchange so that teachers and students alike understand the purpose of such reciprocation. The revised taxonomy underscores dynamism that is described by the cognitive processes of memory, understanding, application, analysis, evaluation, and creation. These "action words" now relate to technology and e-learning and particularly adaptive and computer-aided individualised instruction. One of the great advantages of deploying student-centred adaptive learning technologies is that you get continuous formative assessment and learning data as a by-product.

2.4 Blended Learning and Approaches to Edtech

Several participants in the meeting referred to how much the last two years has been a massive learning curve for ministry officials and educators in schools and universities. Initial problems encountered included the preparation of staff and the limited experience of e-learning, followed by the challenge of delivering online lessons and content. The

difficulties of connectivity are country-dependent depending on size and diversity. As we began 2021, ministries of education were better prepared with digitally available content and vastly improved online interaction between teacher and student. The more recent problems have resulted from the continued impact of Covid and especially in higher education the rotation of students on and off campus. This requires a far more sophisticated blended learning framework, but again we see governments adapting and improving their hybrid programs throughout the year as we enter 2022. It remains that adapting technical education to the blended environment and the methods of electronic evaluation still require much development and regulation to ensure resilience and coherence in education systems.

Interestingly, there was quite a variation of answers from participants concerning the question of what percentage the mix of online and face-to-face should be in a blended learning model. Most commonly, the answer is one of what is practicable and appropriate for the course, pedagogical objectives, and student assessment. There is no definable fixed split in the blend, but a general sentiment is that there should be limits to what is delivered online because of the importance of the school or the university as a place of more than just learning but of pastoral care, social interaction, and human growth. In practical terms the recent experiences of blended learning have been defined by the healthcare requirements imposed by Covid. Some institutions may have temporary mandates, such as 25% of classes being taught online, but things remain fluid as education recovers from such a big shock to the system.

As well as questioning what percentage of blended learning should be online, there was comment in the meeting of what is the actual definition of blended learning. Hundreds of academic research papers will fail to have the same definition and accordingly that makes devising policy difficult. The conclusion of many professors is that blended learning is situational, i.e. it depends on the practical implementation in a local context and that is why we see such variation in the mixture between online and face-to-face. Another view is that blended learning is just one of the modalities of e-learning which includes the integration of technology in the classroom as well as adaptive and learner-centred instruction.

Globally STEM graduates are in short supply and the teaching of science and engineering using virtual labs provoked some lively discussion. Virtual laboratories allow STEM students to experiment in simulated labs at a fraction of the cost of a normal institutional laboratory. A virtual lab simulation includes true-to-

life missions for students to complete, highlighting the connection between science and the real world. The simulations also have 3D animations, quizzes, and theory, helping students solidify their understanding of difficult concepts. In a virtual lab, a student can speed up time to see the results of experiments faster, go back in time to correct mistakes, and repeat experiments as many times as needed to fully understand the material. The use of virtual labs requires cloud services and as this technology expands and is used more, especially in universities, governments will need to keep a close eye on the regulations and guidelines around the use of simulations in STEM education. Equally, there needs to be in-built capacity to ensure that technical and vocational students still obtain the hands-on experience to develop the necessary motor skills required in the practical courses. Virtual simulations should thus be viewed as a complementary and not replacement technology.

With the shift to online learning, the issue of determining the most appropriate, quality and curriculum-aligned content has been a major problem for many institutions. Several participants spoke of their advocacy for open educational resources (OERs) and open access data. The problem for educational institutions and faculty staff is knowing what is open and what is free content. Much online content is copyrighted and protected even though it is readily available and using such resources in an e-learning platform without permission may well be in breach of copyright. This subtlety does not apply when a teacher obtains information online and then uses it as part of a lecture behind closed walls in the classroom, so training and guidance on the use of OERs is an essential part of online learning governance and regulation.

So the development of digital and e-learning skills amongst teachers is a major component of the governance of blended and online learning. Apart from the design of courses, curation of content and methods of evaluation, online teaching brings into play new factors such as the consideration of the difference between synchronous and asynchronous learning. For the latter, teachers become facilitators of learning who need to give students guidance on accessing resources and learning materials. New training programs and digital professional development for faculty staff are required as the bedrock for integrating ICTs in education and the governance of online learning.

With investment into infrastructure and connectivity in place, then the national governance of online learning needs to focus on how to produce e-learning

materials and how the new tools of technology can be applied in the educational setting. So now we see countries in the MENA region committing coding for youngsters, how to use web-based learning resources, how to develop mobile applications and the application of artificial intelligence software. While doing so, the oversight of ministries of education is to prioritise equitable access and ensure inclusivity of the most disadvantaged students. As national online and blended learning policies are developed and implemented then a growing emphasis will be on the private sector and education companies to meet and ensure that their technologies are effectively enforcing national policies. This is more obvious in general education where the ministry of education will take charge of implementing and providing technology along with determining the nature of partnerships with the edtech sector. In tertiary education we have institutions who will act more independently, say by designing their own in-house learning management system or having a particular set of academic courses, unique to that university.

With a greater policy emphasis on digital literacy and ICT skills, it will be necessary for policy makers to be cognisant of the pitfalls of technology. For example, some research has already shown that artificial intelligence (AI) leads to some inherent biases especially those of varying cultural backgrounds or dual-language learners; technology and online content is an environment with a wealth of distractions; and the internet is in itself a breeding-ground for cheating and chicanery. Furthermore, technology cannot provide answers to important and necessary extra-curricular activities such as physical education, school trips, technical and vocational activities, and the vitality of musicianship, amongst many examples.

As online learning evolves it is important not to have just off-the-shelf solutions that are driven by technology. Rather, technology needs to respond to the needs of a particular discipline or program with enough room for customisation. Many educators emphasise that the teacher remains at the heart of the education system and if there is any pedagogical reform then it must reflect the changing demands of the modern world by driving the direction of the type of edtech employed in blended learning. It is not technology that is driving the bus.

Regarding technology partnerships with the edtech industry sector a new component of evaluation is the certification given by providers such as Microsoft or Cisco. How do students receive this additional merit and how does a teaching faculty incorporate such certification into academic qualifications that are not a typical part of the course components? For many educators and students alike this can be seen as a win-win situation, especially when graduating and being ready to go to work with the latest technological industry skills. Such technology partnerships can be beneficial, especially in tertiary education where students are studying the competencies that prepare them for the labour market. Yet good governance and oversight is required to ensure that big tech does not drive the education agenda.

Covid has stimulated many policy makers and educators to ask how much learning is really happening in the classroom and how good are current assessment infrastructures and readying learners for real life skills. Does the system both accurately reflect student achievement and make the best advantage of the talents of each individual learner? The pandemic has certainly driven change and an emphasis of many educators has been around skills development policy and evaluating how much the blended learning model can bring new competencies that are missing in the traditional classroom.

Both educators and industry have been asking themselves, when is that digital learning tipping point going to happen? Now it has been forced upon us by what has happened with the pandemic. Going forward is about people, their interactions, communication, and the appropriate use of technology – a real mix in terms of how to manage everything. All the existing research and study into university digital learning, never contemplated that students would



not be on campus at all. Apart from the face-to-face learning environment, university campuses are very well equipped and have good bandwidth to cope with the intensive use of data. In the context of the pandemic, many of the online tools have been around for some time but their usage has been forced upon academic staff in a way many were not prepared for.

2.5 Policy Touchpoints and Collaboration

Universities having been working hard to develop their policies for hybrid and online learning, which are essential in ensuring the foundations for sustainable governance in the higher education sector. A critical component is the professional development of faculty staff and the specific standards and norms that need to be practiced in a virtual learning environment. An important realisation of this policy development is how much curricula need substantive change to produce young people who have the skills and competencies required for jobs of the future.

Given the changes and adaptations being made in education systems, a lot of policy and planning is based around the practices of teachers, faculty staff and students, but it is critical to consider the role of parents who need to be supportive of such changes. Educators are experiencing generally positive feedback from parents who are now developing their own greater understanding of the learning process. They are recognising the efforts and the importance of teachers. Equally, policy makers, in developing online learning standards are taking a multi-stakeholder approach that engages parents such that they can give their input to this technological evolution we are seeing in educational ecosystems. Implementation of online learning needs to be accompanied with a raising of awareness and having parents involved in the decision making. Parents will always wish to address quality and question whether the new modes of blended learning are giving their children a quality education.

As new online learning policies are being developed, it remains that the biggest challenges are in the technical and vocational education and training (TVET) sector. TVET curricula are based on specialised skills depending on the needs of the labour market and policy makers have found it difficult to implement blended learning when faced with the required mixture of theoretical and practical course content. Online learning is conducive to theoretical coursework but the practical elements of TVET are then dependent on the facilities an institution has available and how those facilities have been impacted by new Covid health measures.

Organisations such as the Technical and Vocational Training Corporation of Saudi Arabia have been searching for the simulation programs to deliver learning objectives, but these remain limited across the broad spectrum of vocational courses, as well as being expensive in many cases.

An important comment made during this meeting was what we have witnessed during the Covid pandemic has mainly been remote emergency education and not true online learning. Proper online education requires the infrastructure to be in place in advance of implementing new pedagogies and curricula needed in the virtual learning environment. So for many policy makers, the current climate is one of assessing the damage that has been done, what has been the level of learning loss and what lessons have been learnt, and then formulating the requirements of the recovery of education and how online technology can accelerate that recovery. Hence, what has been offered during the pandemic has really been about crisis management.

In Egypt they have noted how Covid has accelerated digital transformation across the education sector. The big push they have seen from government has been the growth in collaboration between industry and academia. This has allowed for new programs in entrepreneurship to flourish and further promoted innovation from undergraduate to research level that more closely reflects the market. As well as in Egypt, across the MENA region we have witnessed an increase in the levels of investment into start-ups and entrepreneurial programs.

As well as the need to have legislation that supports and accredits online courses, there is the matter of the culture of the institution. Some universities introduced e-learning and integrated virtual platforms many years ago, but not all have had this online learning culture embedded. Then with Covid and the closure of institutions, the need to upscale e-learning meant quickly implementing the first tools available – anything from Facebook to WhatsApp. Faculty members and teachers did a great job in being responsive and creative to ensure the continuity of education but as face-to-face learning returns, they are not obliged to go back online. Hence, it is the leadership of the institution that plays the key role in determining a long-term coherent strategy that builds-in a resilience against future shocks. This leadership needs to be supported at the governmental policy level, it needs e-learning champions and mentors, training and support of the faculty members and the ICT infrastructure as the bedrock for a robust technological environment.

A successful online learning strategy requires proper

planning at the government level for policy and at the school/institution level for implementation. Proper training should incorporate lesson design, online activities, learning objectives, how to align assessment and which tools to use in the evaluation process. E-learning and adaptive instruction is a different concept that requires a change in mindset. The old method of teaching by standing in front of students and giving a lesson with textbook content according to the curriculum, assessing and giving out grades is very different to the new forms of blended learning that we are now talking about.

When discussing blended learning and digital technologies there was a great deal of emphasis on the quality of education, but just a few of the participants referred to the quality of life, particularly at university. The three to five years at college are an important phase in a young person's life, part of growing up to build one's character. This may involve having fun, playing sport, interacting socially, and developing new extra-curricular interests. The world is changing at a rapid pace, especially with the automation of jobs; and these are not just factory or low-skill jobs but middle-income professions with new technologies encroaching on jobs in banking, research, customer service, pharmaceutical discovery, and even new machines capable of carry out human surgery. Soft skills, problem-solving, creativity and critical thinking are already the watchwords of industry, and the education community needs to keep pace with this rapid evolution.

One notable question is around intellectual property (IP) of in-house designed courses and the academic integrity of faculties who create specific open online content specific from their own research. Who does it belong to? IP is an important feature of maintaining the integrity of research in higher education so it is likely that greater use of online resources will force universities to ask the question: what is their intellectual property? With the need for greater collaboration and more universities forming consortia, they will need to keep a close eye on many aspects of higher-level academia, science and research that may have been taken for granted in the past.

Another consideration when formulating online learning policy is the enormous cultural diversity that affects teaching and learning methods along with the nature of student interaction. Instructors of online courses need to have strategies that address diversity in the virtual learning environment and policymakers need to appreciate the challenges that teachers encounter in a multicultural online environment. Equally there is a need for leadership

amongst the educational institutions to give guidance on the variety of instructional strategies from collaborative online learning to supporting cultural diversity in the online setting. Learning platforms and tools should be friendly, intuitive, and safe from discrimination and prejudice.

There is a great opportunity in the Arab World for regional cooperation in education and the use of e-learning technologies and content. Several participants expressed how they should regularly exchange best practice, give guest online lectures, facilitate knowledge transfer, share expensive technologies such as virtual labs and simulations, and even meetings such as GOLA to bring together government officials and educators to share ideas. Cooperation can be better leveraged and reflected through online activities such as the designing of courses which is very labour intensive. Furthermore, with the fast-changing pace of technology, officials and faculty staff need to be kept constantly updated on the latest digital applications.



2.6 Closing Statement

The closing statement was provided by Anthony Tattersall, Vice President of Enterprise, EMEA, Coursera.

This closing statement is in conjunction with the presentation as per appendix D.

Anthony Tattersall first introduced us to overall skills development [slide 2, appendix D] whereby a country's level of skills proficiency is strongly correlated with several macro-level indicators. We see that there is much higher labour force participation, higher wages with higher economic output and we see greater social equity. In other words there is less concentration of wealth as people have more opportunity to actively participate in high wage jobs. The education system has a very powerful role to play in this.

When we look at where the jobs are coming from [slide 3, appendix D], where do we see opportunities for skills development? It is firmly within the digital jobs sector. The major areas are around software development, cloud and data roles, data analysis and cybersecurity. It is often assumed that these jobs will be predominantly in tech or financial services, but the reality is that it affects every single industry. Every economy has key industries that fundamentally underpin the GDP of the country. Furthermore, we are going to see major disruption in agriculture, healthcare, education, and tourism, with these sectors having to adapt to digital transformation and skills. This is where the future jobs are going to be for many graduates.

Future digital skills [slide 4, appendix D] are going to be crucial around data and artificial intelligence (AI), cloud computing, engineering, marketing, and product development. There are also a range of skillsets in high demand around the world, such as soft skills, emotional intelligence and being able to work with teams. Currently, many companies are struggling to find people with this combination of skillsets. Hence, when a country embeds these core skills into the education system it creates a strong pool of graduates available for hire, improving employability and increasing income levels. One of the changes witnessed during the Covid pandemic has been more remote and home working, creating an opportunity for people to work from anywhere in the world – with a more competitive global economy.

Hence, there is an opportunity for regions to develop expertise that attracts companies and creates a virtuous circle of skills development. This represents an exciting opportunity for the MENA region where there is a real focus on skills development. If we look at the region today however [slide 5, appendix D], we see existing challenges around the prospects for youth. One of the most significant problems is high youth unemployment. This is not just a concern for those without professional qualifications but also for students who have successfully completed degrees, with about 30% of MENA graduates being effectively unemployed. There is still work to do, part of which involves making sure that we have a strong connection between the education system and the world of work.

Coursera does a lot of work with businesses in terms of upskilling their existing programs. There are clear gaps between the output of traditional education and the skillsets that companies are looking for such that a graduate can be effective and productive. There is a real opportunity for education to close that gap, both locally and on the global stage by improving outcomes for graduates. Looking at youth

labour force participation [slide 6, appendix D], we see there is a 40% under-utilisation rate today in the MENA region. There is a huge opportunity globally to make an impact on how much we can get youth into work effectively and into careers that will have high economic impact, high salaries and students being able to have their careers of choice.

For MENA countries [slide 7, appendix D] the focus is on how to transform skills that lead to more medium and high-skilled jobs. The skills proficiency is different from what we have seen historically as industries evolve and change in terms of the skills they need. Part of what *Coursera* tries to do is work with organisations to give some insight into those future skills expectations and answer how to embed such skills into students. The focus is on transforming the education system in partnership with institutions and governmental organisations to deliver improved outcomes.

So *Coursera* has done a great deal of work investigating in skills mapping and have consolidated nearly 80,000 different skills across a database of 92 million learners on the *Coursera* platform today [slide 9, appendix D]. The skillsets in which we see the highest demand are data science and technology. So *Coursera* is creating learning paths that will build these skills in a way that we know will be relevant to organisations and the roles that graduates are likely to go into. There is a lot of focus around foundational skills such as machine learning, programming, English language capabilities and learning how to learn as part of professional development [slide 10, appendix D]. On the global stage we are seeing the need for negotiation skills, psychological skills and perhaps some of the softer skills one would expect to understand markets. Again, here is a great opportunity for the education sector to respond and develop the necessary skillsets in young people.

Coursera helps by producing a series of development dashboards to provide an insight into future skills strategies and how we benchmark against them. So what do we find from the 92 million learners on the platform? What are the typical levels of skills proficiencies in different categories? Where are the potential areas of competitive advantage for learners? The dashboard helps answer these questions to support governments and institutions when developing their centres of expertise around particular skillsets in the region. This kind of actionable data can then attract inward investment from companies looking to hire from a pool of talented individuals.

Hence, from a partnership perspective [slide 13, appendix D], *Coursera* seeks to work with educational

institutions to address three broad themes. Firstly, ensuring better access to quality education across all communities by creating programs that work online and are flexible to engage anywhere. Secondly, there is the improvement of student employability. This involves building skills around digital transformation across the education system from students to teachers to faculty staff and leadership to ensure they are empowered to deliver the best possible outcomes.

An example of how this has worked at scale is where *Coursera* has worked with a group of universities in Morocco [slide 14, appendix D]. The country is shifting its university degree system, moving from a three year program to a four year bachelor's degree with the first year being a foundational degree. This is designed to reduce university dropouts by making sure they have the necessary skills to complete the programs effectively and to focus on a much more skills driven curriculum that will improve educational

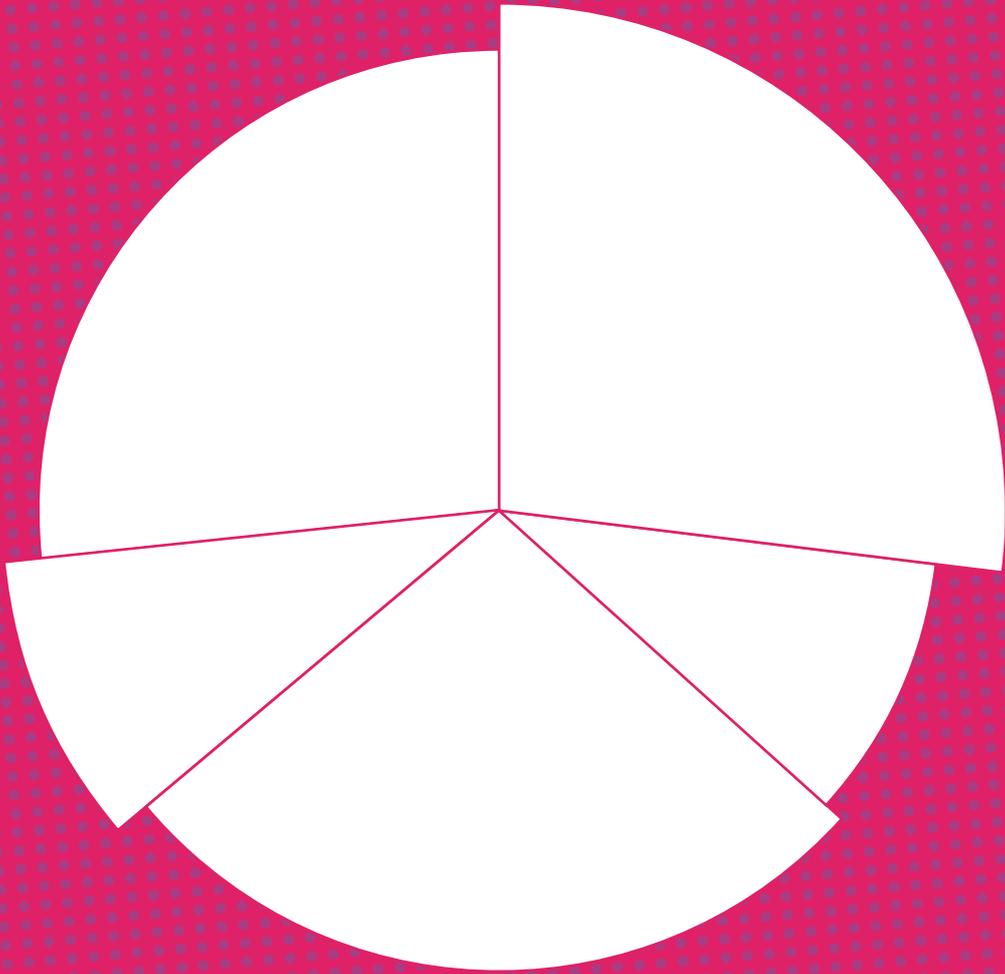
outcomes. This has been sponsored and driven by the Ministry of Education and now has 15 universities in the consortium, working collectively to build a cost effective program that will improve Morocco's overall educational outcomes.

We have a great opportunity to partner and work together to transform the landscape of education. This can be a force for good in the world and a force for good in terms of an individual's life expectations and outcomes, all the way up to macro level changes in the national economy. *Coursera* is delighted to partner with all governments and universities in the MENA region and is delighted to support this GOLLA meeting to engage with so many leaders.

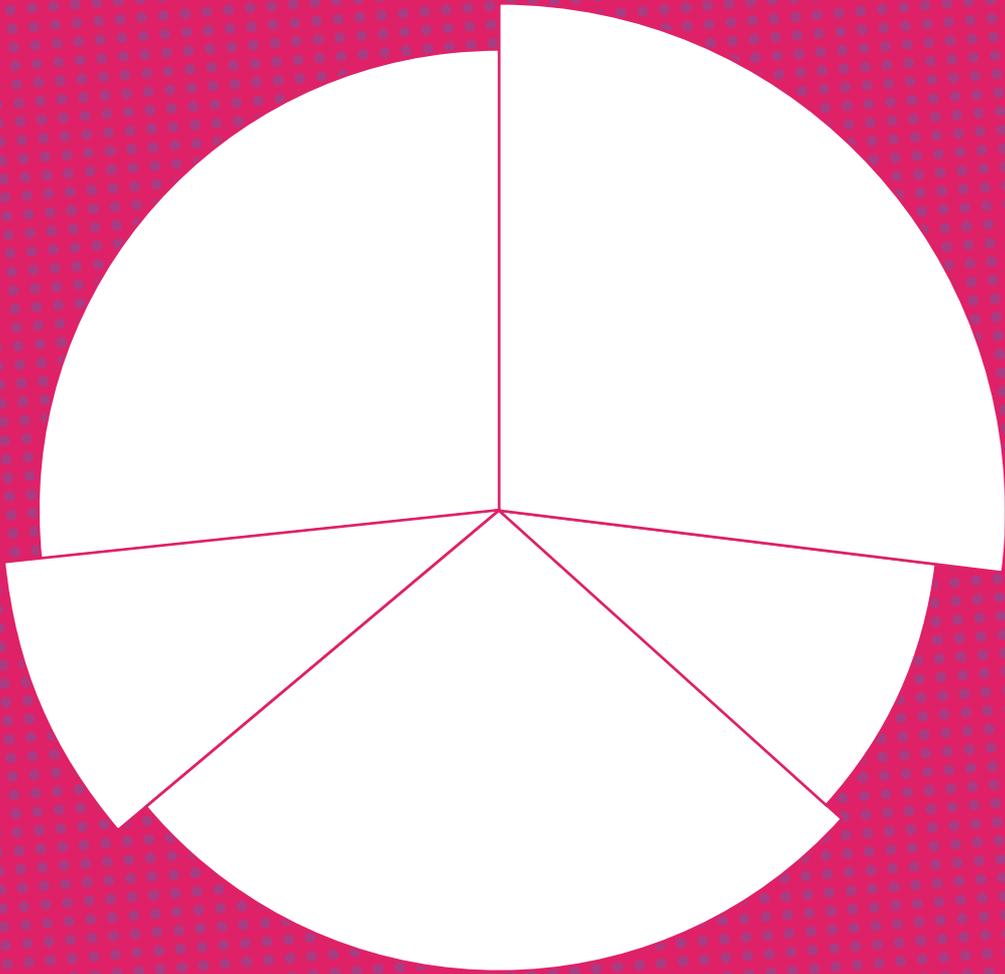
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For further details or copies of this report, please contact john.glassey@brains.global





APPENDICES



APPENDIX A

Egyptian Higher Education & Technology:

A step forward during and after COVID-19 lockdown

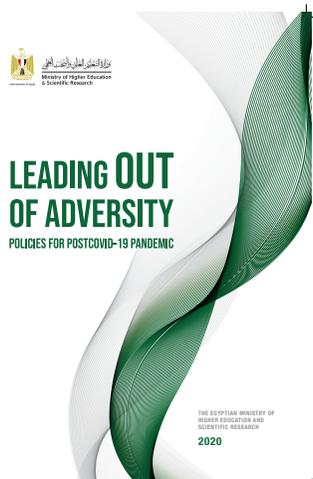
Professor Abeer Elshater

Consultant for the Egyptian Deputy Minister of Higher Education and
Scientific Researches

Egypt



وَزَارَةُ التَّعْلِيمِ الْعَالِيِّ وَابْتِحَاثِ الْعِلْمِ



Aim

Top Managers

Faculty Staff

Administrative Staff

Students (Egyptians and International)

- Assessing the severity of COVID-19 pandemic on Egyptian higher education (satisfaction, efficiency)
- How different stakeholders act during the university lockdown
- Standing on the effective practices and policies



Participation

1,041
Responses

11,100
Responses

1,258
Responses

89,867
Responses

The overall responses to distance learning and actions/support during universities' lockdown



How likely do your institution plan to continue in providing online teaching fully or blended after the crisis is over?

How satisfied are you with the workload to deliver online lectures by any means?

how satisfied are you with the support you are getting from your institution to help you adjust to all the changes this spring?

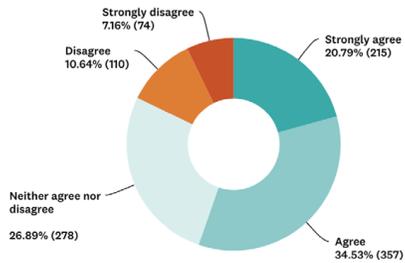
Do you think Online education is a positive experience overall?

Students (Egyptians and International)

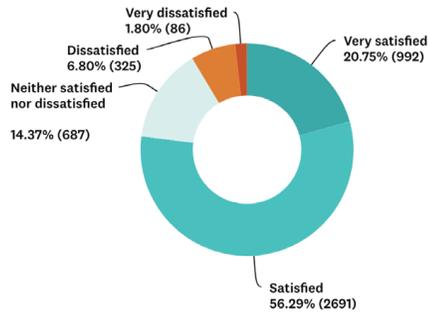
Top Managers

Faculty Staff

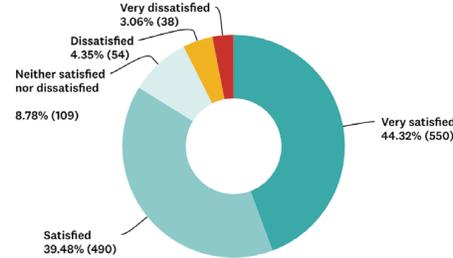
Administrative Staff



Answered: 1,034
Skipped: 7
Total **1,041**

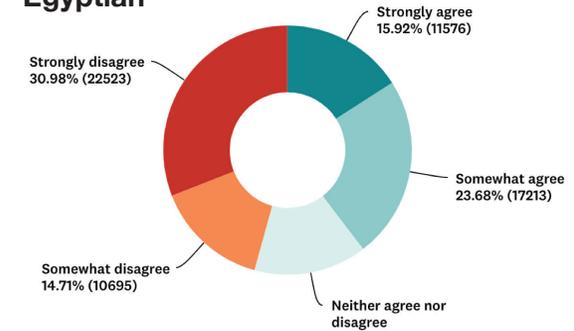


Answered: 4,781
Skipped: 6,319
Total **11,100**



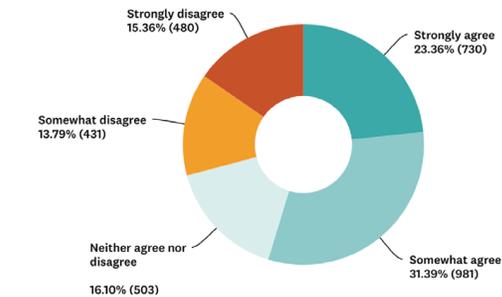
Answered: 1,241
Skipped: 17
Total **1,258**

Egyptian



Answered: 72,693
Skipped: 17,174
Total **89,867**

International

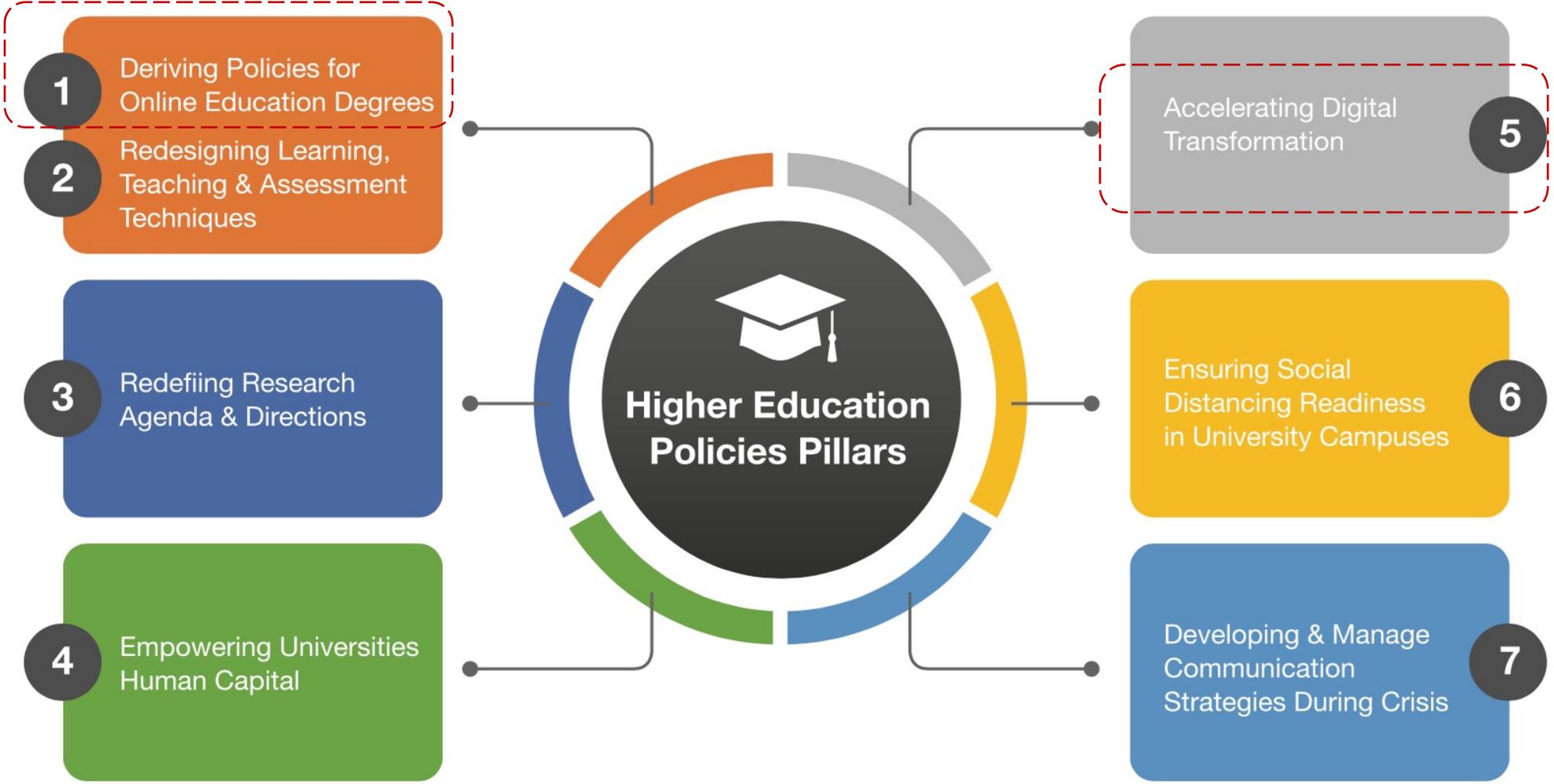


Answered: 3,125
Skipped: 506
Total **3,631**





Seven Policy Pillars for Post COVID-19 Pandemic



P1: Deriving Policies for Online Education and Study in Egypt Initiative

Policy Achievement

A1.1: Update the universities programme bylaws and courses specifications



A1.2: Develop online education framework for undergraduate and quality postgraduate degrees



A1.3: Issue guidelines to redesign degrees to include online delivery



A1.4: Set-up assessment guidelines in line with online learning



A1.5: Approve accreditation of international online education providers



A1.6: Engage new policies for of local and international staff recruitment



A1.7: Ease the enrolment process of international students to study in Egypt



A1.8: Reform administration for postgraduate education



A1.9: Approve the use of blockchain for higher education documents and degrees



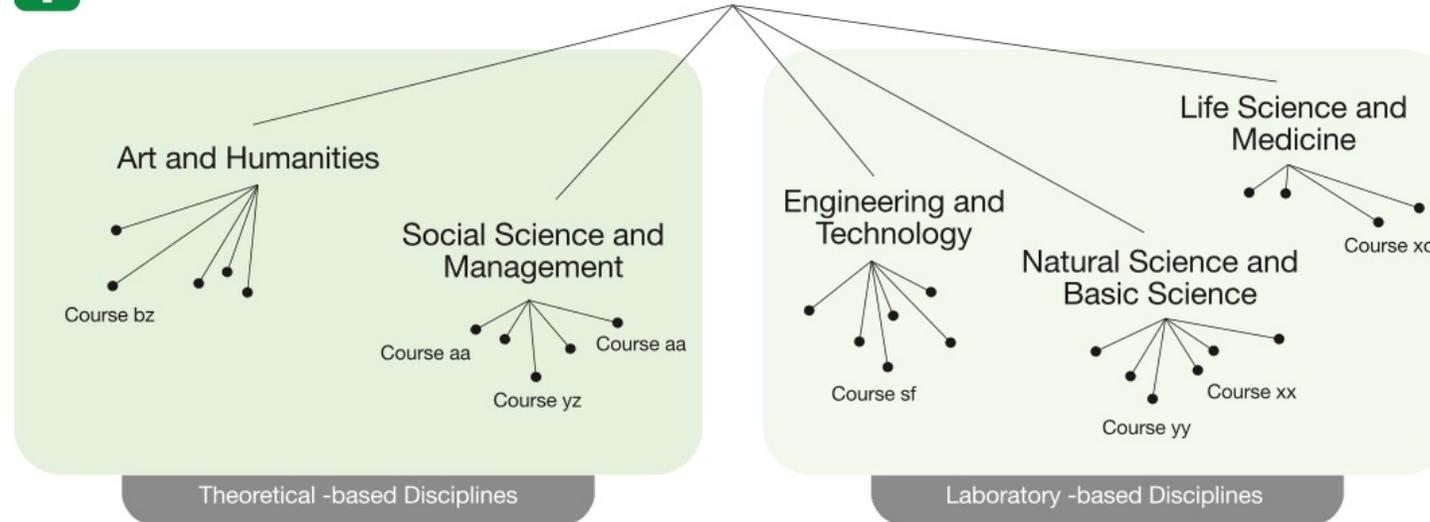
Short-term achievement

1

Deriving Policies for Online Education Degrees



1 Collect data about the pressing Change in the competencies in different area of specialisation



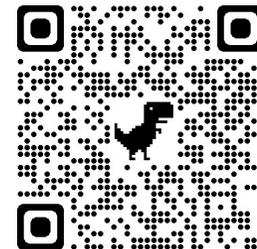
2 Revisit the programs contents to coop with the change in labour market based on Coronavirus and pandemic disease

3 Determine each course that needs:

- face-to face contact hours,
- distance learning or
- Hydride learning.

- Laboratory-based Discipline should be 60 - 70% face-to face teaching 40 - 30% distance learning
- Theoretical-based Discipline should be 50 - 60% face-to face teaching 50 - 40% distance learning

4 Amend learning outcomes that fit the learning technique illustrated in the third step



P5: Accelerating Digital Transformation

A5.1: Develop DX strategies for universities with regard to ongoing efforts

A5.2: Assess digital transformation maturity and readiness using best practice frameworks

A5.3: Develop DX enterprise architecture (business/ application/ data/ technology)

A5.4: Develop IT service portfolio/catalogue based on the new business requirements emerged due to the current situation

A5.5: Define and develop digital operation models to identify practices, capabilities, processes, and procedures that support DX operation

A5.6: Develop DX governance framework

Policy Achievement



Short-term achievement

Medium-term achievement

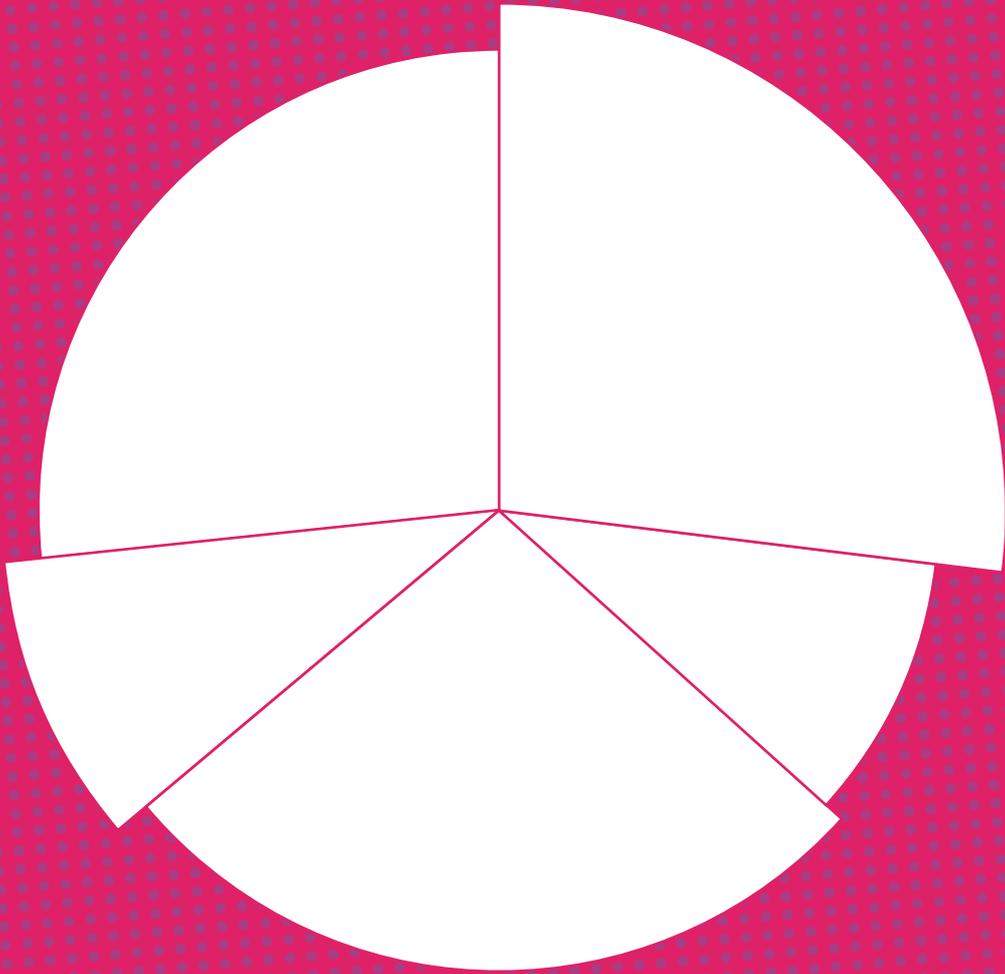
Thank you

Egyptian Higher Education & Technology:

A step forward during and after COVID-19 lockdown



وزارة التعليم العالي والبحث العلمي



APPENDIX B

King Saud University

toward accredited and quality online learning

DR. HAMDAN ALAMRI

King Saud University in Figures

- 101-150 in Shanghai Academic Ranking.
- More than 83000 undergraduate & graduate students.
- More than 6800 faculty members, and 29000 staffs.
- More than 3000 patents.
- More than 65000 research studies and more than 780,000 citations.
- 94 research indexed journals.
- 20 research centers, 71 research chairs, and 6 specialized research institutes.
- 93 bachelor degrees and 14 diplomas.
- 269 Master programs, and 98 PhD programs.

Safeguarding of Online Learners at KSU

- For hosted services, KSU has met the National Cybersecurity Authority standards and criteria, under KSA strategic vision for cybersecurity.
- For non-hosted services, it is the providers responsibility.
- Indicators of safeguarding assurance:
 - Received NELC Online Learning License for “Institution” (2021).
 - Received NELC for two “online learning diplomas” (2021).
 - KSU policies for cybersecurity and data centers.
 - Strict accessibility and authentication to all services to ensure learners’ privacy and confidentiality.



الهيئة الوطنية للأمن السيبراني
National Cybersecurity Authority



LMS and Sources of Content at KSU

- Deciding the most appropriate online learning platforms:

- LMSs are being decided and provided by Ministry of Education.

- Source of learning content:

- KSU meets NELC standards and use Quality Matters Rubrics and Standards for educational content.



- KSU publisher (digital textbooks to support online courses).

- It is the college responsibility to select the source and maintain quality of the learning content.

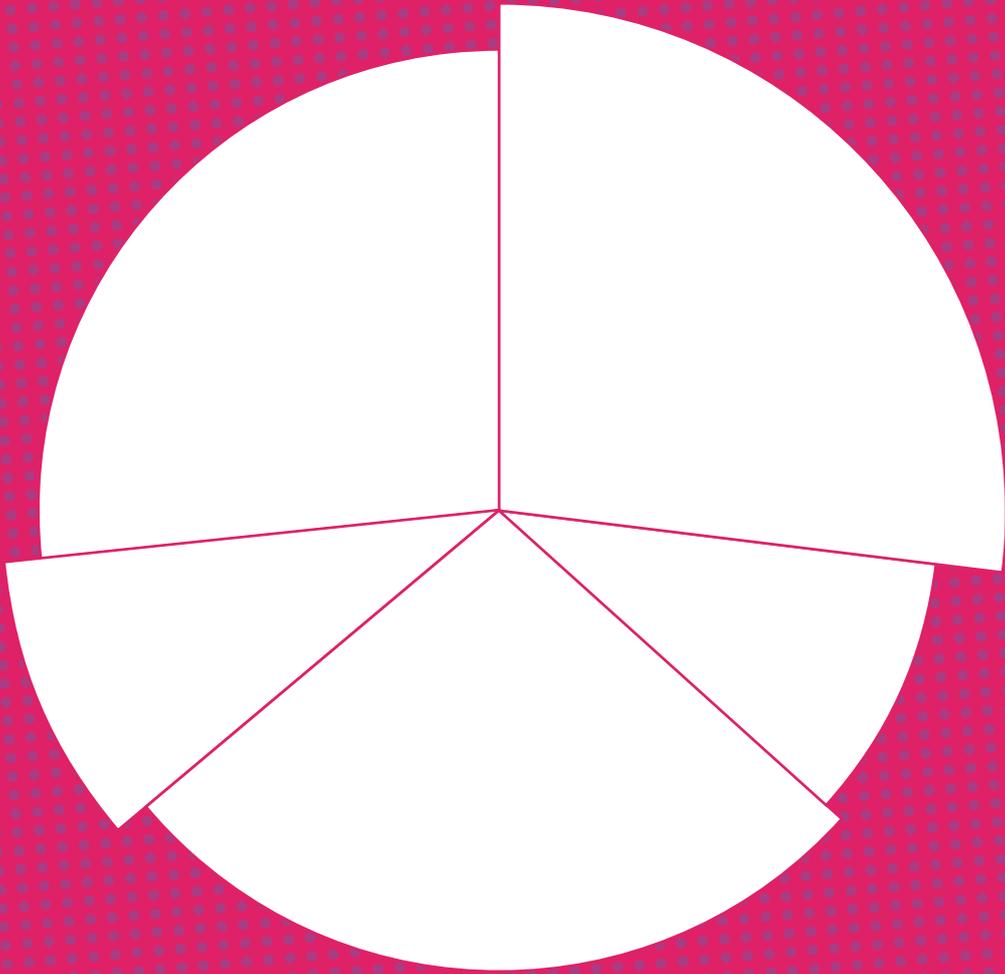
- Need to determine criteria for education content providers to meeting the pedagogical standards of the university.

Preparing for digital knowledge-based economy

- Transformation toward digital education (KSU 2030 vision).
- Preparing faculty members to implement modern teaching techniques.
- The Distinguished and Talented Students Club
 - Programs and courses to enhance talent and creativity.
- Computer Center for Skills Development
 - Digital skills, leadership skills, soft skills, emerging skills, etc. → KSU Skills Transcript.

Aligning with the Kingdom's Vision 2030

- Ministry of Education initiatives:
 - “transforming towards digital education to support student and teacher’s progress”.
 - “transforming learning into a learner-centered process to develop students’ abilities to face life challenges”.
 - “Improving the educational environment to stimulates creativity and innovation” (The National Transformation Program 2020).
- KSU initiatives:
 - Improvement on online learning infostructure.
 - 2 Accredited fully online diploma, and more to come.
 - 74 online courses are delivered in online format.
 - KSU launched first course that implement Artificial Intelligence “Adaptive Learning” this year.
- FutureX
 - A National Integrated Online Learning ecosystem to providing lifelong learning opportunities for all.
 - KSU will contribute to providing reliable and high-quality online courses through FutureX.



APPENDIX C



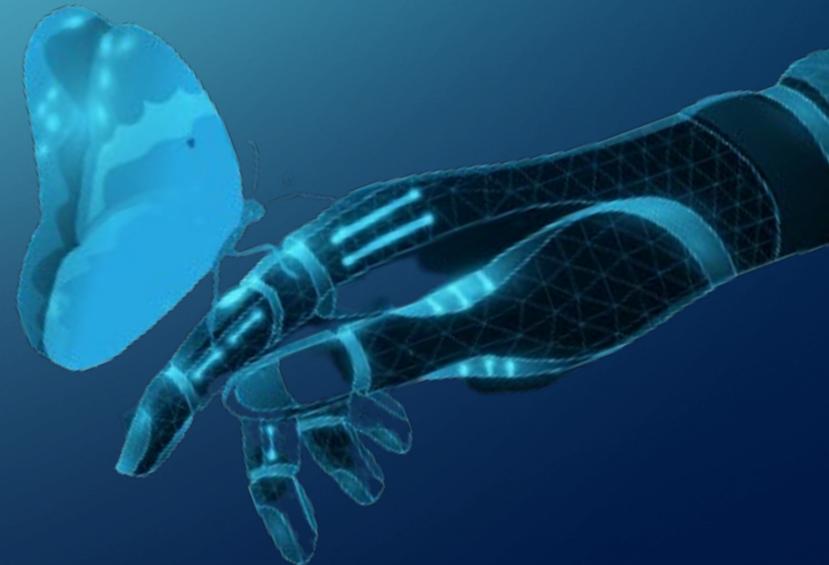
The Arab League Educational,
Cultural and Scientific Organization
ALECSO

THE ARAB CODE WEEK

21 – 28 FEBRUARY 2022

DR. MOHAMED JEMNI

DIRECTOR OF ICT DEPARTMENT AT ALECSO



INTRODUCTION

- Educational technology constitutes an important aspect in modern education providing unique learning experiences to students and improving their learning.
- Technological resources (especially computers) have been integrated in education for decades. However, integration of educational technology in early childhood education is a more recent trend compared to the other levels of education.
- This fact creates the need to develop, apply and study application of resources and methodologies specifically addressed to young children.

INTRODUCTION

As part of ALECSO's endeavor to :

- meet the challenges facing the Arab world in the intellectual and cultural fields,
- promote scientific and technological awareness among Arab young people,
- enhance their abilities to understand science and technology concepts and methods,

=> ALECSO co-organize with the Tunisian Association for Educational Initiatives the Arab Code Week (ACW).

WHAT IS “ARAB CODE WEEK”

The “Arab Code Week”, like The European Code Week, is an initiative aimed to :

- spread the culture of programming in the Arab world,
- promote kids coding,
- help teachers and students enhance their capacities in modern technologies and electronic programming,
- provide an exciting learning environment that helps acquire the basics of programming for all ages, especially youth.

The aim is offer them wide prospects to explore new disciplines and acquire scientific skills that enhance creativity and excellence in the fields of technology, science, mathematics, engineering and arts, in line with the global STEAM approach.

WHY SHOULD KIDS LEARN CODING ?

- Coding is a basic literacy in the digital age,
- Kids need to understand the technology around them and work with,
- Coding at a young age helps develop crucial skills like problem-solving, analytical thinking, creativity, collaboration, communication, and confidence,
- Children who learn to code when they're young can set themselves up for a lifetime of opportunities for success and become a productive child of technology than a simple consumer.
- Future jobs also require more problem-solving and critical thinking skills than ever before. According to the World Economic Forum : “In 2022, 75 million current job roles may be displaced by the shift in the division of labor between humans, machines, and algorithms, while 133 million new job roles may emerge at the same time”.

CAN KIDS LEARN CODING ?

- While it is difficult to imagine a child learning something so complex, Coding for kids is not typically the same as “programming in computer science”.
- Thanks to many kids programming platform, children can learn the basics with easy block-based coding like Scratch (Scratch: A visual, drag-and-drop coding experience) and many other tools like “Co-Spaces”, “Minecraft” before seamlessly transitioning to real-world text-based languages.

THE FIRST EDITION OF ACW

- The first edition of ACW was launched on February 8th, 2021 to February 15, 2021 under the theme “Programming and decoration”.
- A host of events and activities were organized as part of the Arab Code Week, including, in particular :
 - training workshops on “Scratch”, “Co-Spaces”, “Minecraft” and “Pixel Art”,
 - seminars and competitions,
 - virtual visits to Arab museums,
 - discovery of young talents in modern technologies,
 - Open Days in primary schools.

THE FIRST EDITION OF ACW

- The ACW activities witnessed massive participation from Arab students (over **200.000**), teachers (over **10.000**), and schools (over **1.500**).
- No less than **13.352** activities were registered on the ACW platform (<https://arabcodeweek.alecso.org>). Each activity was performed by a teacher with a group of his students, and was related to the main theme of the ACW edition (Programming and decoration).

THE SECOND EDITION OF ACW

- The **2nd edition of Arab Code Week** will take place in **Egypt** at the beginning of 2022, and the goal is to reach **one million of students** and **one hundred thousand of teachers**.
- Theme of the 2022 edition : **“Artificial Intelligence and Environment Protection”**
- Date of Second “Arab Code Week”: February 21-28, 2022
- The closing and prize-awarding ceremony will take place in Egypt

THE GOAL OF THE 2ND EDITION OF ACW

- Educate children about environmental issues,
- Encourage children to start making a positive contribution towards the environment,
- Learn some basics in Artificial Intelligence (also known as AI) and help children understand how it works and what to do with it,
- Motivate children to find solutions to environmental problems using “AI”,
- “AI” is considered to be the biggest game-changer in the global economy. With its gradual increase in scope and application, it is estimated that by 2030, “AI” will contribute up to 15.7 trillion of the global economy which is more than the current output of China and India combined.

THE GOAL OF THE 2ND EDITION OF ACW

- The UN Artificial Intelligence Summit held in Geneva (2017) identified that AI has the potential to accelerate progress towards a dignified life, in peace and prosperity, for all people and have suggested to refocus the use of this technology, that is responsible for self-driving cars and voice/face recognition smart phones, on sustainable development and assisting global efforts to eliminate poverty and hunger, and to protect the environment and conserve natural resources.

THE LOGO AND POSTERS OF THE 2ND EDITION OF ACW

<ArabCode
Week> 2022



اللجنة الوطنية المصرية للعلوم والثقافة
Egyptian National Commission For Education
Science and Culture

اتية
الجمعية العربية للتربية والثقافة والعلوم
ALECSO

وزارة التعليم العالي والبحث العلمي
Ministry of Higher Education and Scientific Research

الأُسبوع العربي للبرمجة
الدورة الثانية

<ArabCode
Week>

الذكاء
الاصطناعي
و حماية البيئة

21 - 28 فبراير 2022

مسابقات
ندوات علمية
تدريبات

الحفل الختامي و توزيع الجوائز بجمهورية مصر العربية

بمساندة

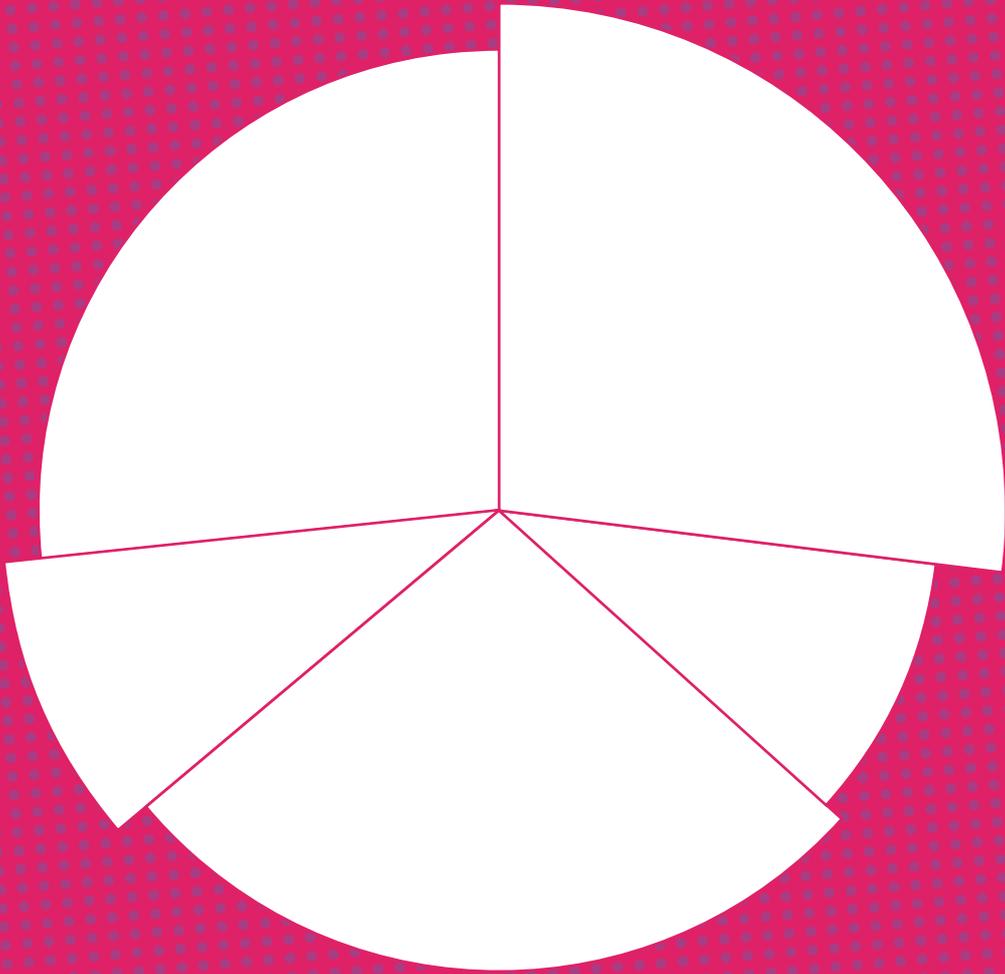
<https://arabcodeweek.alecso.org>





THANK YOU

- DR. MOHAMED JEMNI



APPENDIX D

Transforming Education in MENA through Skills Development



Anthony Tattersall
VP of EMEA, Coursera

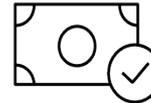
Investment in skills development pays off



A country's level of skills proficiency is strongly correlated with:



Higher labor force participation



Increased wages and economic output

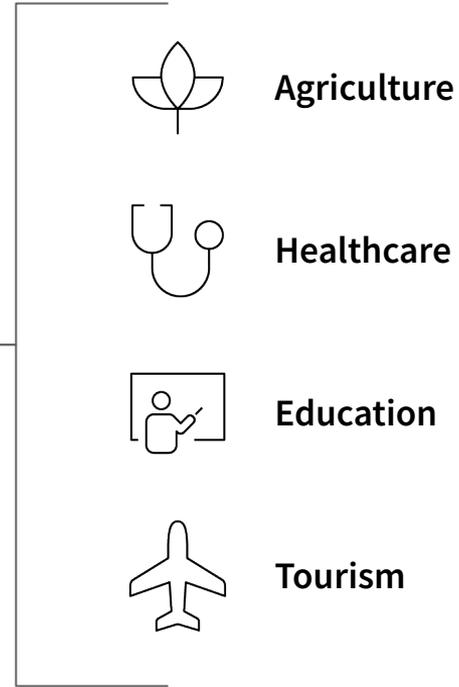
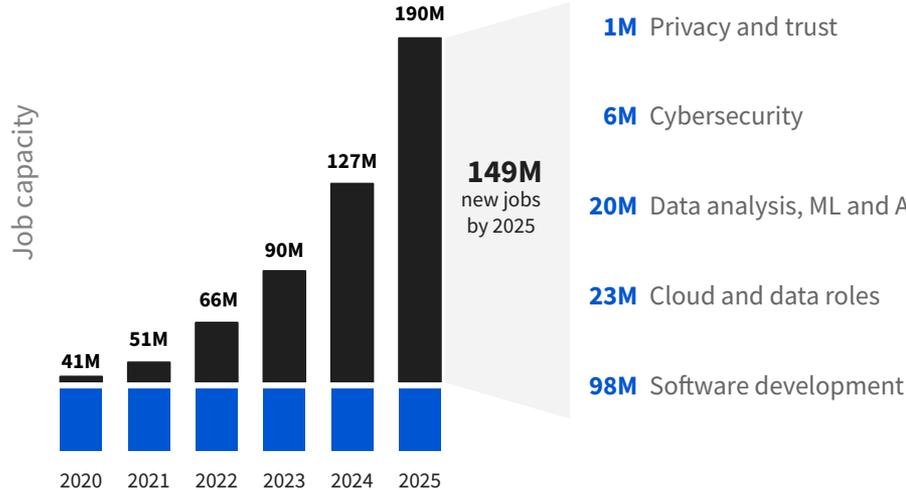


Greater social equity

New digital jobs will emerge across all sectors and functions



Digital job capacity from 2020-2025



Source: World Economic Forum, Future of Jobs Survey 2020; Microsoft Data Science, June 2020

Digital skills are crucial for roles in these in-demand fields

WORLD ECONOMIC FORUM - FUTURE SKILLS	
Cloud Computing Delivering innovative computing services	Marketing Building brand and acquiring customers
Content Production Driving brand through creative visual or written assets	People & Culture Creating positive work environments
Data & AI Driving strategy with insights	Product Development Fulfilling customer needs through innovation
Engineering Developing software solutions	Sales Finding customers and solutions for their challenges
Green Economy Building a sustainable future	Care Economy Supporting the well-being of our communities



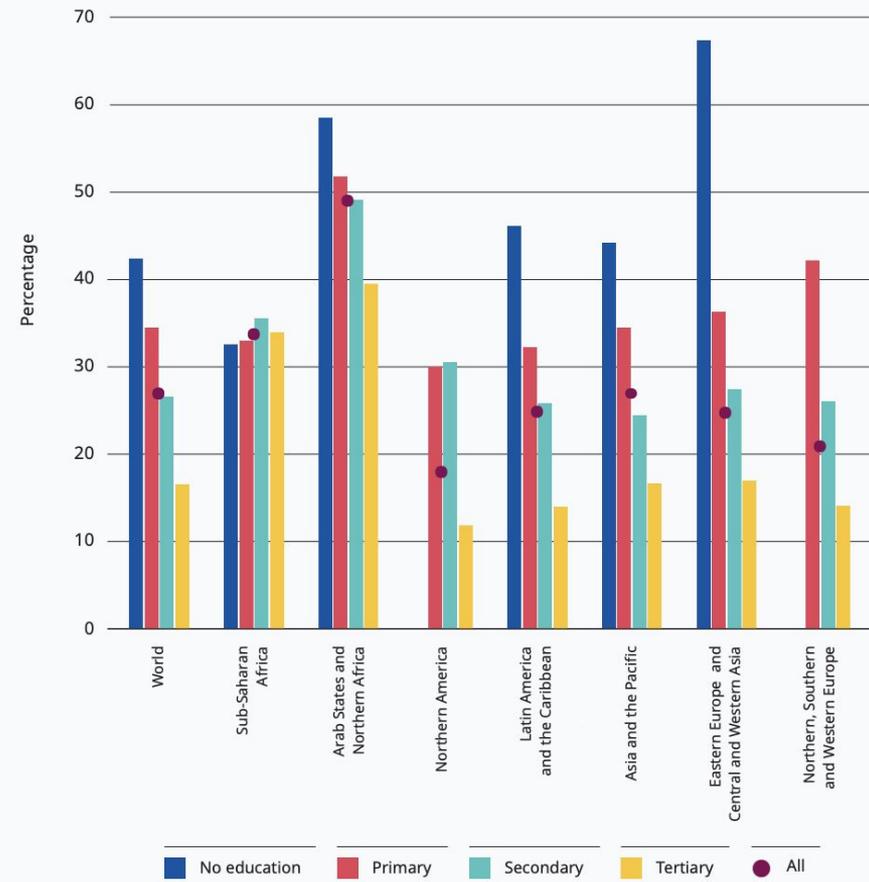
Top 5 jobs with increasing demand

- 1 Data Analyst and Scientists
- 2 AI / ML Learning Specialists
- 3 Big Data Specialists
- 4 Digital Marketing and Strategy Specialists
- 5 Process Automation Specialists

In the MENA region, youth have some of the lowest economic prospects globally..

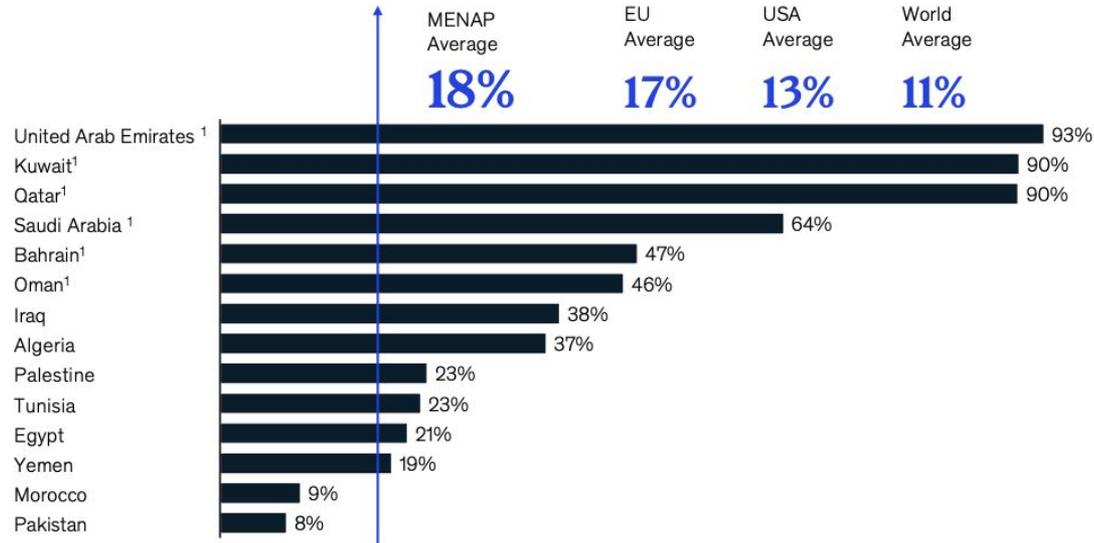
Over 30% of young adults are not in education, employment or training (NEET), regardless of their educational attainment.

NEET rate for young adults (aged 25–29) by level of educational attainment, global and by subregion, latest available year (percentages)



They have the lowest youth labor force participation rates in the world (27%), and a 40% underutilization rate

Public Sector Employment Compared to Total Employment



Source: [McKinsey](#) (2021)

Labor Underutilization Rate

40%

Underutilization rate of MENA youth

20%

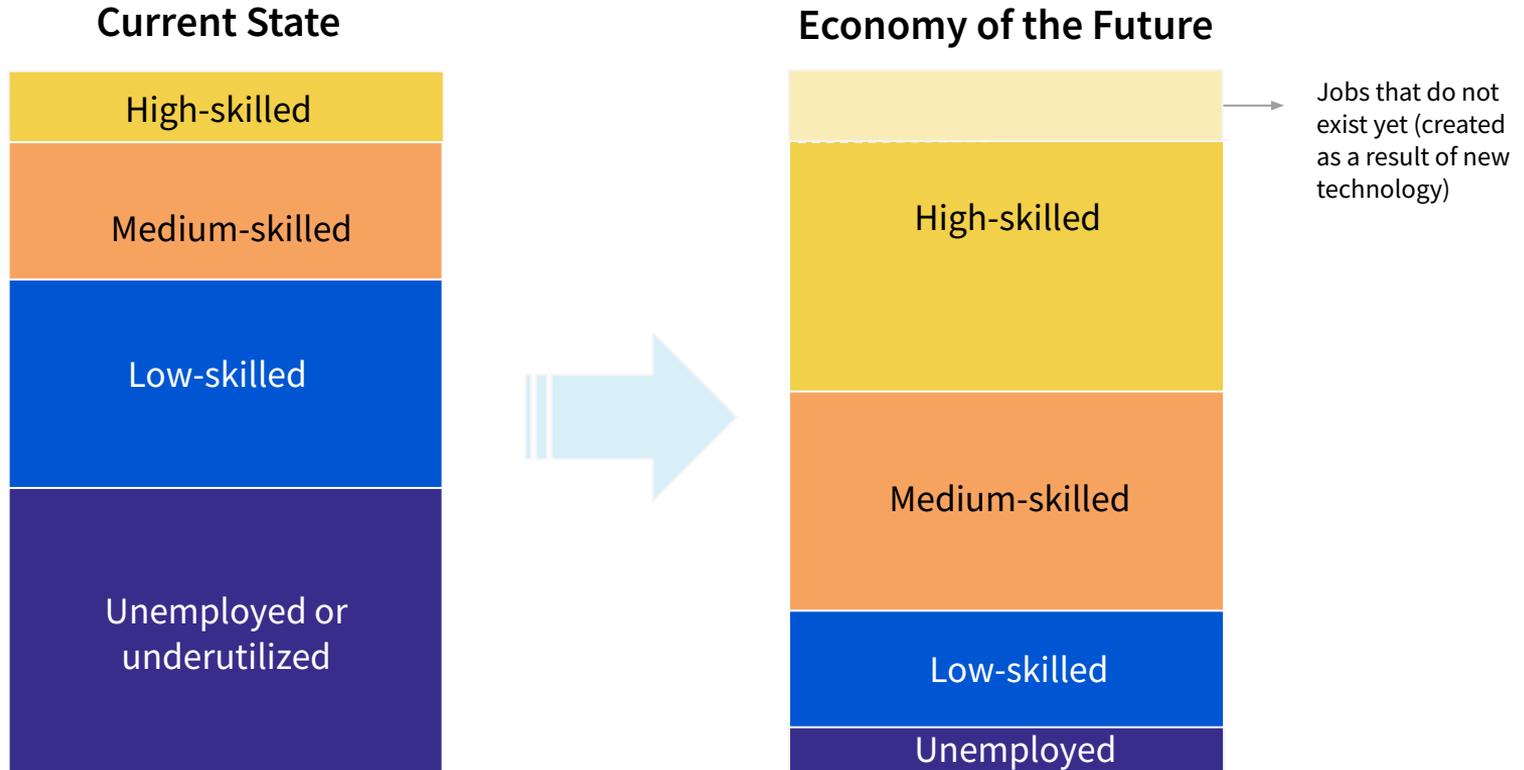
Underutilization rate of youth globally

11%

Underutilization rate of youth in North America

[ILO](#) (2020)

To be more competitive, MENA countries need to significantly transform the skills of their populations, especially youth



The transformation of education through online learning

A woman wearing a teal hijab and a yellow long-sleeved top is seated at a desk, looking at a large computer monitor. The monitor displays a data analysis interface with various charts, including line graphs and a pie chart. A laptop is open on the desk in front of her, and she is holding a pen over a notebook. The background is a bright, slightly blurred office or study environment.

We've consolidated
80,000+ skills

from our

92+ million learners

into the **roles** and **skills** that
 matter most for today's
 leading businesses.

Data Analyst	Software Engineer	Database Architect	IT Support Associate
Security Engineer	Data Scientist	ML Engineer	Cloud Architect
Android Developer	iOS Developer	Cybersecurity Analyst	Cloud Security Engineer
Network Administrator	Designer	Product Manager	Sales Leader
Cybersecurity Manager	Penetration and Vulnerability Tester	DevOps	Web Developer

Business

Functional Business Areas

Accounting	Fin Analysis	Accounting	Tax
Comms	Advertising	Public Relations	Media
Finance	Finance Mgt	Payments	Risk Mgt
HR	Talent	Training	HR Ops
Marketing	Brand Mgt	Digital Mark	Social Media
R&D	Research	Innovation	User Exp
Sales	Sales Strategy	Bus Dev	Account Mgt
Strategy	Strategy	Performance	Change
Operations	Process Mgt	Project Mgt	Ops Mgt
Supply Chain	Supply Chain	Procurement	Planning
Entrep'ship	Innovation	Research	Product Mgt

Leadership & Management

Leadership	Org Dev	Bus Strategy	Culture
People Mgt	Bus Analysis	Psychology	Planning

Human Skills

Communication	Critical Thinking	Creativity	Collaboration
Influencing	Negotiating	Conflict Mgmt	Problem Solving
Adaptability	Emot. Intel	Resilience	Learning

Data Science

Maths & Statistics

Probability	Basic Statistics	Regression	Forecasting
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Data Analysis

Desc Statistics	Data Analysis	Data Mining	Data Software
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Data Management

Big Data	Data Models	Data Warehouse	SQL
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Data Science

Programming	Python	R	SQL
SAS	Visualization	Dat Vis Tools	

Artificial Intelligence

Machine Learn	ML Algorithms	ML Software	Computer Vision
NLP	Reinforcement	Neural Network	Deep Learning

Technology

Software Engineering

Agile Dev	Programming	Engineering	Mobile Dev
Web Dev	DevOps	Architecture	Soft Security

Design and Graphics

Graphics	Design	Product	HCI
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Infrastructure

Databases	Networking	Op Systems	IT Support
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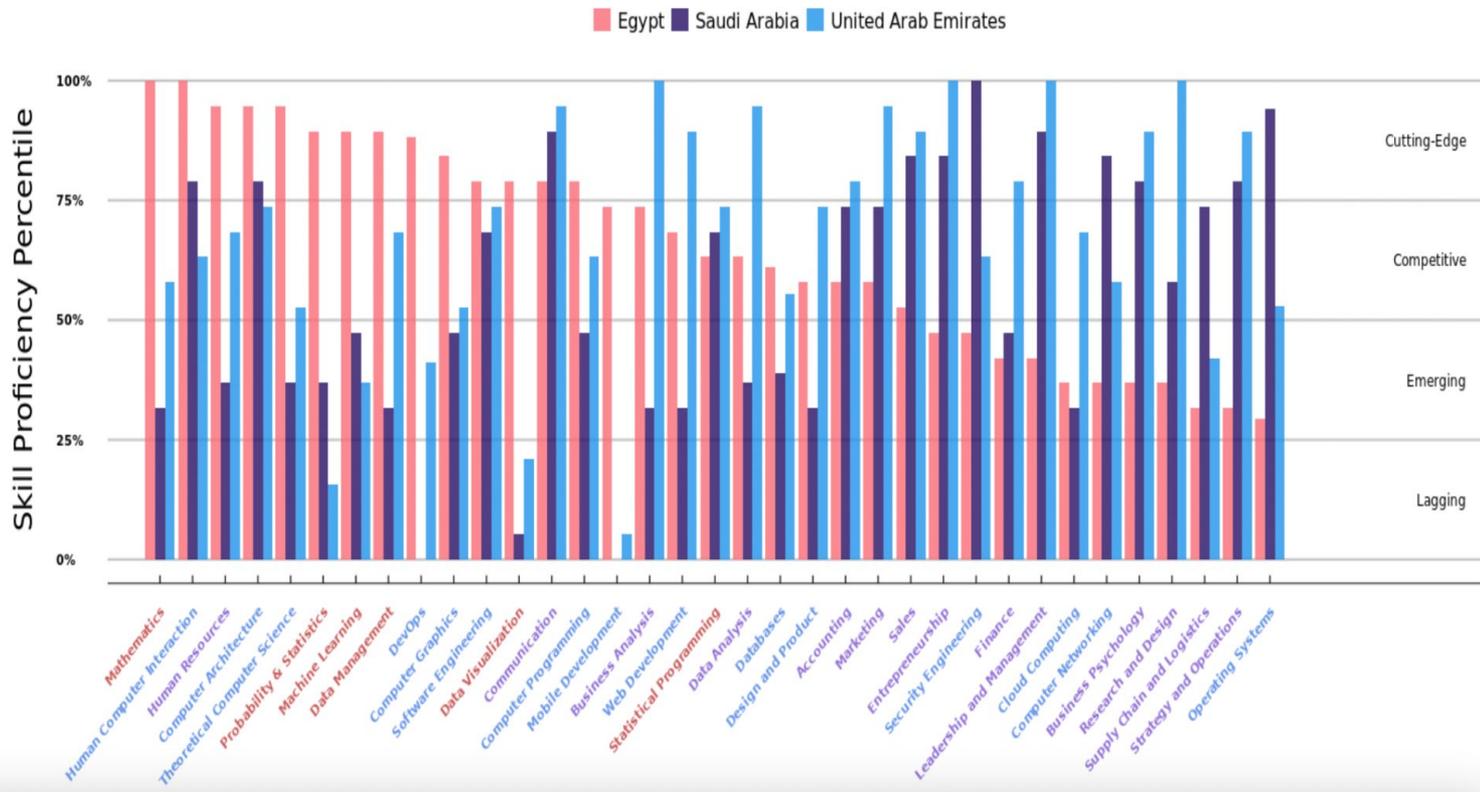
Learners in the region are developing a broad selection of foundational skills. These can be built on to design bespoke learning pathways...

Top 10 courses in Middle East in 2021

1	Learning How to Learn: Powerful mental tools to help you master tough subjects	Personal Development
2	Machine Learning	Data Science
3	English for Career Development	Language Learning
4	The Science of Well-Being	Personal Development
5	Programming for Everybody (Getting Started with Python)	Computer Science
6	Speak English Professionally: In Person, Online & On the Phone	Language Learning
7	Successful Negotiation: Essential Strategies and Skills	Business
8	Write Professional Emails in English	Language Learning
9	Introduction to Psychology	Health
10	Financial Markets	Business

Skills development dashboards provide insights & benchmarking to ^{coursera} inform future skills strategies, priorities & programs.

Benchmarking the skills proficiency of learners by country on Coursera



How we partner



We partner with governments and educational institutions to address...



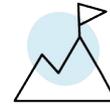
Access to Quality Education

Online learning is here to stay and can be an equalizer of opportunity. Investing in high quality content to increase access to education at scale can transform the future of education.



Student Employability

Skills are more important now than ever. Equipping students with digital skills, hands-on learning experiences, and recognized credentials from industry leaders will prepare them for the future of work.



Digital Transformation & Upskilling

Educational staff and leaders are central to any successful educational initiative. Investing in their skills to drive transformation and innovation will determine the impact on the broader education system.

CASE STUDY

Upgrading a national higher ed system



Kingdom of Morocco
Ministry of National Education, Vocational Training
Higher Education and Scientific Research

PROBLEM

Switching public universities to the four-year bachelor system to lower student drop-out rates and enhance student employability

SOLUTION

Launching the new curriculum using skill-first content on Coursera – namely due to its popularity with students during COVID

15,000
learners reached
during COVID

100,000
enrollments
during COVID

320,000
students in next
four years



15 universities

Thank you
www.coursera.org/campus