

FUTURE SKILLS SUPPORTING THE UAE'S FUTURE WORKFORCE

FOREWORD

FUTURE SKILLS NEEDED TO UNLOCK POTENTIAL OF UAE YOUTH

Throughout its relatively short history as one nation, the United Arab Emirates has become accustomed to exceeding ambitious milestones that it sets for itself. Looking back over nearly 50 years of social and economic development in the Emirates, the country has grown in size, prosperity and global recognition. Its 50th anniversary in 2021 will also see it mark the conclusion of UAE Vision 2021, an ambitious policy that seeks to position and enable the UAE's long term economic and social development beyond the age of oil revenues. A core component of this vision is the need to create a globally competitive workforce, that is future ready and equipped with the skills of the future.

As the discussion continues about how best to equip the UAE's youth to prepare for the future global economy, the British Council is proud to present this whitepaper as our contribution to that discussion. Equipping young people with the educational foundation and skills necessary to prosper in the future is therefore one of the biggest challenges the nation faces.

We have looked at the 'Future Skills' the nation will need to ensure continued prosperity and diversification. The conclusions of the paper offer some useful indications of the need for a



whole chain of stakeholders to be collaborating for success.

As the UK's international organisation for educational and cultural relations, we are committed to creating opportunities for young people worldwide, be it through skills development, language learning or cultural and educational exchange. As part of this commitment, we have created this paper to explore current perceptions and aspirations among a broad group of stakeholders, particularly employers.

This approach offers some guidance on the future skills employers want the educational

system to deliver, and underlines the value of robust testing methods.

Through this study, it is clear that the opportunity exists to match the needs of employers with modern-day curricula, through conventional education and vocational methods.

In fact, one of the biggest opportunities the paper reveals is the need for employers to engage in a regular and open dialogue with educational authorities and institutions. Comments from CEOs of major companies suggest that this needs to be focused on encouraging the early adoption of skills that provide a gateway to learning STEM subjects. It also suggests that proficiency in multiple languages, including English, equips young

minds with the capacity to flourish in these subjects together with the need for appropriate teacher training.

Supporting Future Skills requires a holistic and collaborative approach to educational reform, which is a common thread around the world. As the UAE sets about refining its future education policies, our paper aims to make an informed and valuable contribution towards this dialogue.



GAVIN ANDERSON

Director British Council, UAE

1. INTRODUCTION

The voice of the job market

Around the world, a technology 'revolution' is changing the fundamental nature of work across all industries and sectors. It is characterised by the convergence of physical and virtual worlds, and has been described as the Fourth Industrial Revolution¹.

Many job families are disappearing altogether, others are being displaced, while some new and exciting job categories are being created. This is causing a major skills gap in today's labour markets, while simultaneously delivering leaps in productivity.

Depending on which side of the equation one sits today, the future is either extremely exciting and prosperous, or very challenging and unequal.

While the rising tide of AI and automation has sparked fears of a jobless future, and while some jobs and individual work tasks will certainly disappear over time, there will be lots for humans to do in the coming years. The Cognizant Centre for the Future of Work (CFoW) estimates that approximately 21 million new jobs will be created in the next decade by augmenting human skills and sensibilities with emerging forms of AI and automation. Organisations and nations that act now to develop future skills and transform their workplaces will thrive.

The difference between these two worlds is how we [as nations, businesses, and individuals] are equipping ourselves for this future.

The UAE today is a global trade and logistics hub, and one of the most advanced and sophisticated regional economies². Given its global connectedness and focus on growing the knowledge economy, the technology trends that form the Fourth Industrial Revolution have a direct and visible impact on the UAE's labour markets.

This paper aims to bring the "voice of the job market" into the complex system that is preparing the youth for a prosperous and productive future. It does not aim to present an analysis of the education system in the UAE today; that has already been undertaken by numerous studies over the past few years, and all led to the same conclusion. This paper refers to that body of knowledge, builds on it, and takes an outside-in demand-driven view of the job market to assess the future of jobs in the UAE, the skills needed for those jobs, and what can be done today to better prepare UAE youth.

MANY JOB FAMILIES ARE DISAPPEARING ALTOGETHER, OTHERS ARE BEING DISPLACED, WHILE SOME NEW AND EXCITING JOB CATEGORIES ARE BEING CREATED

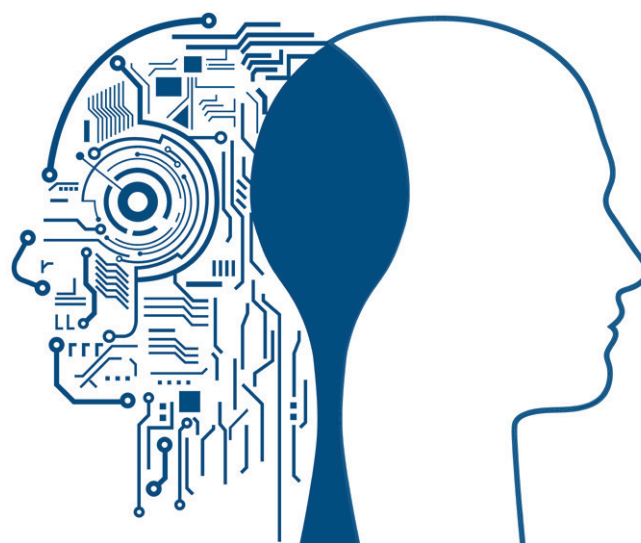
¹ The Fourth Industrial Revolution, Klaus Schwab, 2015

² According to competitiveness and doing business rankings published by the World Economic Forum and the World Bank

2. JOBS IN THE FOURTH INDUSTRIAL REVOLUTION: GLOBAL TRENDS, LOCAL IMPACT

Today, new business models are emerging, and traditional ones disappearing or being completely transformed (e.g. the bank teller role, the travel agent, and even medical professionals have seen their jobs transformed). A report by the Economist³ predicted that telemarketers, accountants and auditors, retail salespeople, technical writers and real estate agents are highly probable to see major job losses in the next two decades. In the UAE, we recently witnessed some of these major shifts in the banking sector (as one example) where many of the traditional jobs have been automated and replaced by some form of AI⁴.

Technology driven productivity improvements are not new, but what is different in today's Fourth Industrial Revolution is both the pace of change, and scale. No job seems to be safe. Historically, only routine, repetitive tasks were affected by computerisation. Today and with the rise of big data and algorithms that are rapidly developing, human labour that requires pattern recognition and other non-routine cognitive tasks is slowly being phased out with the advent of advanced robots and increasingly sophisticated sensors⁵. A study from Oxford University suggested that 47% of current jobs could be automated in the next decade or two⁶.



This is not an issue affecting the private sector only as the public sector has many repetitive routine jobs that can be automated. Reform - a UK think tank - estimates that as much as 250,000 UK public sector jobs will be replaced by robots over the next 15 years⁷.

Technology not only changes the skillsets needed in the workforce, it also revolutionises the way in which individuals can participate in their work. Globalisation, catalysed by increased connectivity and ease of communication, has made the labour force increasingly more international and diverse. This is especially true in the UAE, where over 80% of the workforce is

250,000 UK PUBLIC SECTOR JOBS WILL BE REPLACED BY ROBOTS OVER THE NEXT 15 YEARS⁷

³ Economist Intelligence Unit (EIU), 2014.

⁴ Mashreqbank - as an example - led the foray with a 10% reduction in workforce in 2017 leveraging advanced technologies. See The National, UAE <https://www.thenational.ae/business/mashreq-to-shed-10-per-cent-of-headcount-in-next-12-months-as-artificial-intelligence-spending-pays-off-1.628437>

⁵ McKinsey Global Institute, 2013

⁶ The Future of Employment, Frey & Osborne, 2013.

⁷ <https://www.theguardian.com/technology/2017/feb/06/robots-could-replace-250000-uk-public-sector-workers>

foreign. Additionally, the expansion of cloud services, video conferencing and mobile internet capabilities is fostering increased virtual work, opening possibilities of working transnationally and out of the office. This means that UAE youth will no longer be competing solely against other UAE youth (or UAE based expatriates) for jobs, but rather against a global workforce that has increased mobility and access to better training.

More importantly, this challenge is not static. It is not simply about providing the youth of today with sufficient skills for this new world of work, as complex as that is. It is also about continuous adaptation and lifelong learning. A study from the UK Commission for Employment and Skills warns that technological growth and the accompanying changes in business models make the continuous adaptation of skill sets absolutely fundamental for the successful participation in the labour market⁸. Not only will fresh graduates have to demonstrate their skillsets, businesses will have to regularly train their workforce in order to maintain a competitive edge and maximise results with new tools being developed.

In Australia, a recent report commissioned by the Foundation for Young Australians estimated that in future workplaces, 41% more time will be spent on critical thinking, 77% more time will be spent using science and mathematics skills, and management will go down by 26%. The report also predicted the end of the concept that you study or train for one particular occupation and then work in that field for the rest of your life. They estimated future workers would on average make at least 17 changes in employers, across five different careers over their lifetime.

The above are global trends and the UAE is at the heart of this global shift given its position as a key hub in the global economy. The UAE is also marching towards the future by proactively taking a leading role in adopting some of the world's most advanced technologies.

Over the past five years alone, the UAE appointed the first Minister for Artificial Intelligence, launched a National Smart Government plan, announced a 3D Printing Strategy, and the whole government is focused on adopting block-chain as the back-bone for its transactions. From the "Mars science city", real life hyperloop, programmes for renewable energy and electric vehicles, and tests for flying taxis, the UAE has become a global hotbed for early adoption of various futuristic technologies. This will have a profound impact on the future world of work in the country.

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⁸ UKCES (2014).

3. THE FUTURE OF JOBS IN THE UAE: SKILLS FOR A NEW GENERATION

Proactively approaching this new tech-driven world is especially important for countries like the UAE where there is a clear, and ambitious focus on diversifying the economy away from dependence on oil and gas and driving towards a more sustainable knowledge-based, tech-enabled future.

In March 2017, His Highness Sheikh Mohammed bin Zayed, Crown Prince of Abu Dhabi and Deputy Supreme Commander of the UAE Armed Forces, told a group of over 3,000 UAE youth that the future of the UAE will rely on their skills and “will not come through oil”. At the same forum, His Highness Sheikh Abdullah bin Zayed, Minister of Foreign Affairs and International Cooperation, noted that the era of comfortable government jobs was coming to an end, and told the youth: “You are no longer competing amongst yourselves, but with the greatest minds around the world”.

The message is clear. Emirati youth are encouraged to move away from government jobs and away from focusing on business and finance courses in their studies (seen as preparation for a government job). They are encouraged to pursue science, technology and mathematics. Sheikh Mohammed bin Zayed particularly singled out engineering noting that “we cannot have enough of it”. In fact, it was clearly noted that for future jobs, whatever they study, students must graduate with basic science, technology, engineering and mathematics (STEM) skills.



3.1. Where are the future jobs in the UAE?

In the past few decades, the UAE has looked to diversify its economy, relying less on oil and growing other industries. These policies so far have been successful to some degree, and the growth of non-hydrocarbon sectors has outperformed - or at least matched - those of other oil exporting countries of advanced economies⁹. The sectors that contributed the most were logistics, manufacturing, construction, tourism, and financial services. The share of oil to GDP decreased by more than 20% in real terms between 1990 and 2011 (in nominal terms), and in 2017, the IMF estimated that just under a third of the UAE GDP comes from oil. This is planned to fall to 20% by 2021, and then 0% in the next 50 years¹⁰.

⁹ In the period 1980-2009, see Espinoza et al. (2013).

¹⁰ <http://gulfnews.com/business/economy/uae-targets-zero-contribution-from-oil-to-gdp-minister-says-1.1708973>

The plans for continuing this economic transformation are outlined in the UAE Vision 2021, as well as strategies at the local government level including Abu Dhabi 2030, Dubai 2021, and Ajman 2021. Aggregating these strategies, we have narrowed down the list of sectors that contain the biggest potential for future growth in the UAE; first, because of the commitment from the governments to leverage these sectors moving forward, secondly, because of historical evidence and trends¹¹, and thirdly because of the UAE's competitive advantage. These sectors were also confirmed - and ranked - by the business leaders who were interviewed, and include:



¹¹ We exclude the construction sector from the list despite it being one of the top providers of jobs. Construction, especially in the GCC, relies on cheap and unskilled labour from South Asian countries. As such it does not represent a potential growth sector for future jobs. Moreover, it is a lagging sector and reliant on the local economy driven by other sectors.

¹² The United Nations defines manufacturing to cover any industries that transform the physical or chemical characteristics of the products. The UAE aims to have 25% of its GDP by 2025 from manufacturing (it is today a leading global producer in Medical, Precision and Optical Instruments, and Printing and Publishing). Due to uncompetitive energy and white-collar labour costs, the basic manufacturing (inc. F&B) seems to be moving to low cost conversion countries.

3.2 Preparing for the future: the voice of the private sector

To assess what can, and should, be done to prepare the national workforce, we engaged private sector leaders via a UAE-wide survey, and in-depth interviews¹³. The following are the key insights from this engagement.

Tech-Driven and Enabled Future

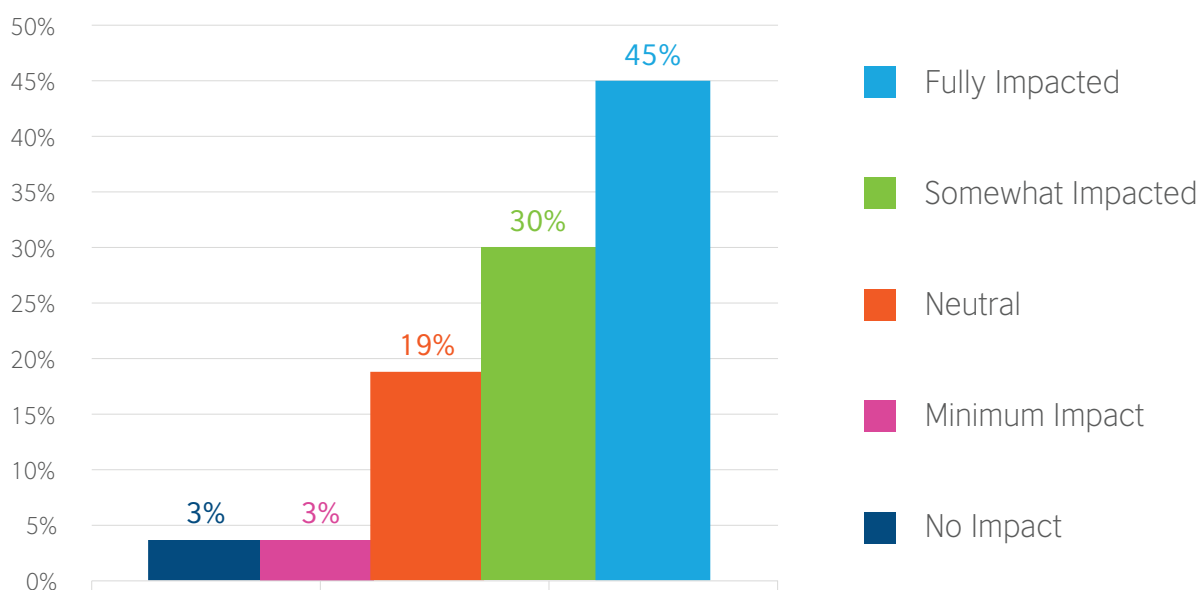
The business sector in the UAE is already dealing with the impact of technology which is evolving at break-neck pace. In our survey of UAE executives, over 75% noted that technology has already impacted their current business model and jobs. Our in-depth CEO interviews revealed that closer to 100% of them see this accelerating in the future.

While these UAE six growth sectors sound traditional, they are all changing rapidly, driven by technology. A CEO of a global IT firm (based in the UAE) noted that “no single industry will be

left unaffected by the intelligent cloud over the next 10 years”. This is even true in sectors considered traditional like real estate. Nick Maclean, the CEO of CBRE, noted that technology will transform how real estate consultancies operate in the future, with the trend already established around the world. The UAE is heading down the path of the US and European models, where valuations and transactions are increasingly based upon tech applications. In the UK, CBRE has already saved over AED4.5m by investing in a computer scanner that uses key words to review legal contracts and leases. Huge savings were made especially on legal fees. In such context, real estate companies will have to “evolve into IT firms with a specialisation in real estate!”, and so will the jobs in that sector.

This new tech-enabled work paradigm is affecting every sector. As the Manufacturing Director of Mars (UAE) put it, “being tech savvy will be an essential skill requirement across all levels, roles and age profiles”. The Head of

How has technology impacted how your employees work?



¹³ See Appendix 2 for the study methodology.

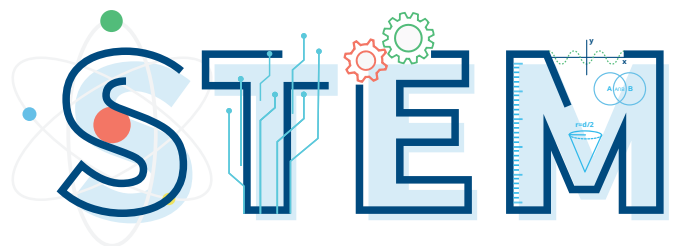
Human Resources at Red Entertainment (based in the UAE) expects to grow in double digits in the region moving forward, but stresses that future jobs will have more focus on technology, more flexible working arrangements, and need collaboration skills and ability to work in agile teams who are brought together for specific skill sets and more project based jobs. The story is repeatable (almost to the letter) in the events sector where, according to Sophie Le Rey, CEO of NASEBA, technology applications like LinkedIn transformed digital marketing, and call centres have been replaced by highly efficient data bases. “Our industry is moving from ‘event manufacturing’ to more ‘event consultancy’. This requires a totally new skill set, and less people”.

The Foundation of Future Jobs: STEM and English

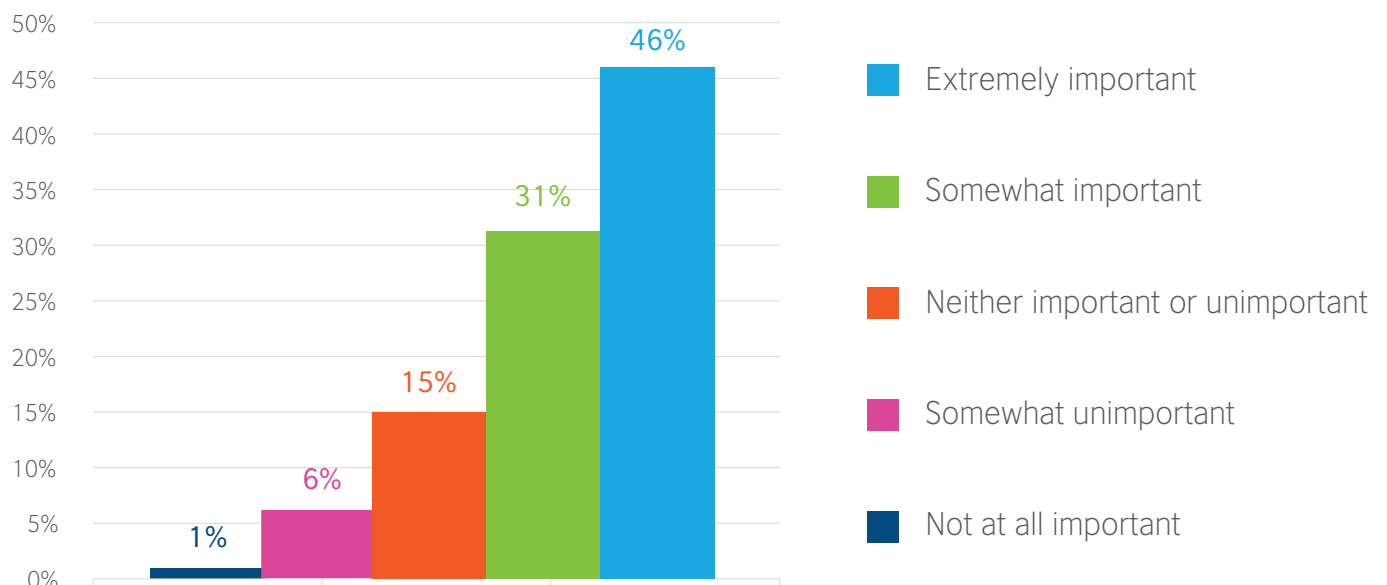
As the UAE economy grows, more jobs will be opening up across these six sectors and highly skilled workers will be increasingly in demand, especially those with STEM skills and training. A McKinsey report estimated that, globally, individuals with skills in engineering, research

and development, product design and marketing will be the most in-demand in industry sectors like manufacturing, energy, and TMC. More importantly, these core technical skills are exportable and can lead to positive knowledge transfer between them.

Patrick Allman-Ward, CEO of Dana Gas, flagged the fact that whilst the hydrocarbon sector continues to underpin regional economies, it has evolved a pool of talent necessary to successfully operate future sources of sustainable energy – solar, wind, biomass etc. This transfer of skills only becomes possible through a focus on STEM and comprehension of the industry’s lingua franca, English. However, he notes that there is a major lack of focus given to promote STEM subjects, both by the education authorities and employers.



How important are Science, Technology, Engineering and Maths (STEM) subjects to employers for future jobs?



One thing is clear, STEM skills will underpin future success and competitiveness. Over 75% of our survey respondents, from across all business sectors in the UAE, noted that STEM related qualifications are key for the future, irrespective of the jobs (the percentage was even higher - 85% - for female respondents).

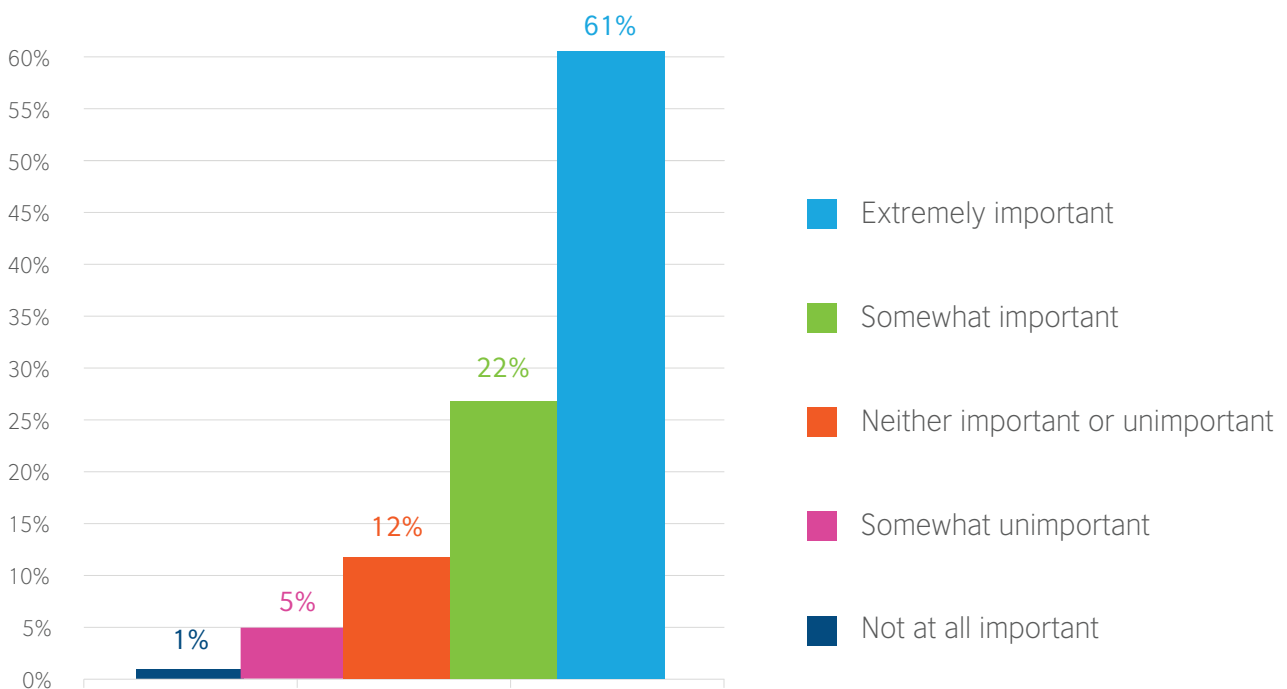
This will pose a challenge in the UAE as executives highlighted that UAE graduates lack technical skills (mainly STEM related) and essential skills like analytical capabilities, communication, core technology skills, critical thinking, collaboration and working in teams, and the English language (which is the lingua franca for all growth sectors identified). Nick Maclean, CEO of CBRE, noted that English is the default language for the real estate sector. This is largely due to banks and investment organisations requiring legal documents provided in English (valuations, surveys,

contracts etc). It is also the foundation for many of the new software applications commonly used for valuations and transactions. This is true for most sectors in the economy.

In fact, when it comes to English language, the challenges here are costing the graduates, and


OVER 75% OF OUR SURVEY RESPONDENTS, FROM ACROSS ALL BUSINESS SECTORS IN THE UAE, NOTED THAT STEM RELATED QUALIFICATIONS ARE KEY FOR THE FUTURE

How important are English language skills in your industry?



the state, time and money. Today, many public-school graduates must take a one-year foundation course (after high school) to prepare them for gaining entry into state universities, specifically because they fail a high school exit test that measures their level of English readiness in grade 12¹⁴. This Foundation year is an expensive programme, previously reported to consume about one-third of the post-secondary school budget, and cuts into higher education funding for research, innovation and new programmes. In July 2017, The National¹⁵ reported that the pre-university year for Emiratis will not be phased out yet (as originally planned in 2012).

What is also important in this discussion about English and other foundation skills (like maths) is the assessment. While English language and maths are important, so too are the qualifications that assure organisations of an individual's proficiency as the UAE has a very open and transient labour market and talent flows. Competition for future jobs will need to rely on solid, globally accepted, benchmarks of proficiency. What is "good" and the accepted yardstick to measure the level needed to be at a global level, with global acceptance? This has always been a key factor in talent management in fast-growing hub economies.

	Skill Set	Typical Definition
	Complex Problem Solving	Defined as a higher-order cognitive process that requires the modulation and control of more routine or fundamental skills.
	Critical Thinking	The objective analysis and evaluation of an issue in order to form a judgement.
	Creativity	The use of imagination or original ideas to create something, inventiveness.
	People Management	Refers to a manager's role in training, developing and motivating employees to perform their best.
	Coordinating with Others	Bring the different elements of a complex activity or organisation into a harmonious or efficient relationship, collaborating across borders.
	Emotional Intelligence	The capacity to be aware of, control, and express one's emotions, and to handle interpersonal relationships judiciously and empathetically.
	Judgment and decision making	The ability to judge, make a decision or form an opinion objectively, authoritatively and wisely, especially in matters affecting action.
	Service orientation	The ability and desire to anticipate, recognise and meet others' needs, sometimes even before those needs are articulated.
	Negotiation	Discussion aimed at reaching an agreement.
	Cognitive flexibility	Refers to the brain's ability to transition from thinking about one concept to another.

¹⁴ Minimum score of 5 on the International English Language Testing System (IELTS), or at least 1,100 on the Emirates Standardised Test (EmSat)

¹⁵ A UAE newspaper, www.thenational.ae

Future Skills for Employment

Whereas in the past employers sought certain technical skills, future jobs will equally require flexible and self-motivated individuals.

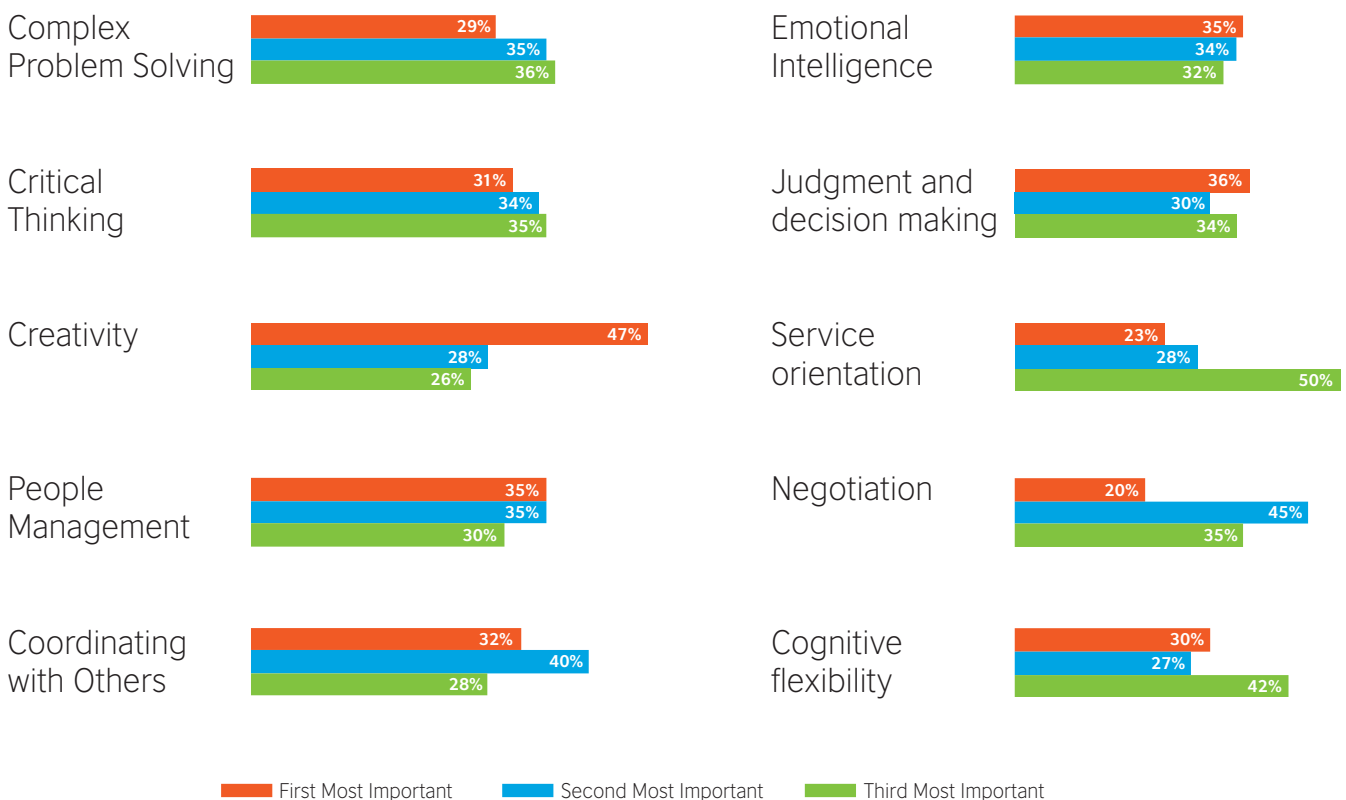
Employers that are fast-growing and innovative are rapidly utilising and adapting technologies which require more and more such unique skills¹⁶. Hence, today's students need to not only be equipped with certain technical skills - such as basic computer literacy - but with the ability to understand computer programmes and teach themselves to utilise and manipulate applications. Basic computer literacy will not be enough - the job market of the future requires computer fluency - including usability and understanding information organisation.

The new world of work requires a much more robust set of skills, distilled in the list below. The list follows an outline for Future Skills listed by the World Economic Forum (2016), World Bank and regional surveys.

According to our survey and interviews of business executives in the UAE, the list is all relevant to future jobs in the UAE, with specific focus areas that are probably more relevant to a growing hub economy. Almost unanimously, business leaders in the UAE stressed the importance of collaboration, and the ability to work in teams, and communicate across borders.

It is interesting to note the "priority" list for UAE business leaders when it comes to future skills.

Top ranked most important from a list of 10 job skills



¹⁶ Ibid.

The focus on working with others, collaborating and communication across borders, and having a strong command of the English language are a direct reflection of the economic model of the UAE: a trade and business hub for the region. Business hubs are defined by connectivity, trade links, global dealings, and fast (and bold) developments. Other globally successful models include Singapore and Hong Kong.

These critical business-hub skills are closely followed by creativity, and complex problem solving. In fact, in our survey, creativity was second only to a strong command of the English language.

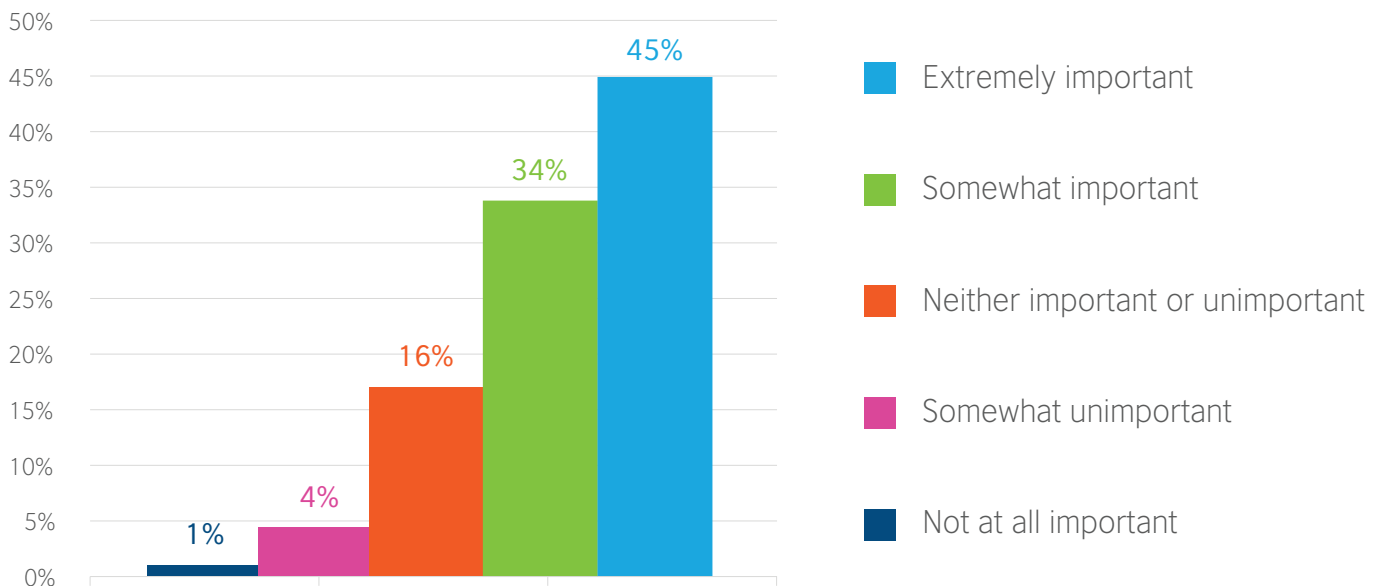
Creativity is of particular interest given that it is not a specific discipline or indeed a trade skill. It is a way of thinking that is developed over the years. The underlying themes that enable creativity to flourish are open-mindedness, curiosity, tolerance, and diversity. It is these areas that an education system can focus on to nurture creativity in future students. Reflecting on the World Economic Forum's future skills list, the UAE growth projections,

voice of business leaders, and insight from our team of regional experts, we offer the following list of priority future skills for employment:

1. Complex problem solving
2. Critical thinking
3. Creativity
4. People management
5. Coordinating with others

THE FOCUS ON WORKING WITH OTHERS, COLLABORATING AND COMMUNICATION ACROSS BORDERS, AND HAVING A STRONG COMMAND OF THE ENGLISH LANGUAGE ARE A DIRECT REFLECTION OF THE ECONOMIC MODEL OF THE UAE: A TRADE AND BUSINESS HUB FOR THE REGION

Is it important for the education authorities, colleges and universities to work collaboratively with employers?



We would call these the UAE Future Skills, and couple them with a set of “foundation” skills and disciplines that underpin their successful attainment: technology, maths and English, and stress the underlying theme of diversity.

Public-Private Collaboration

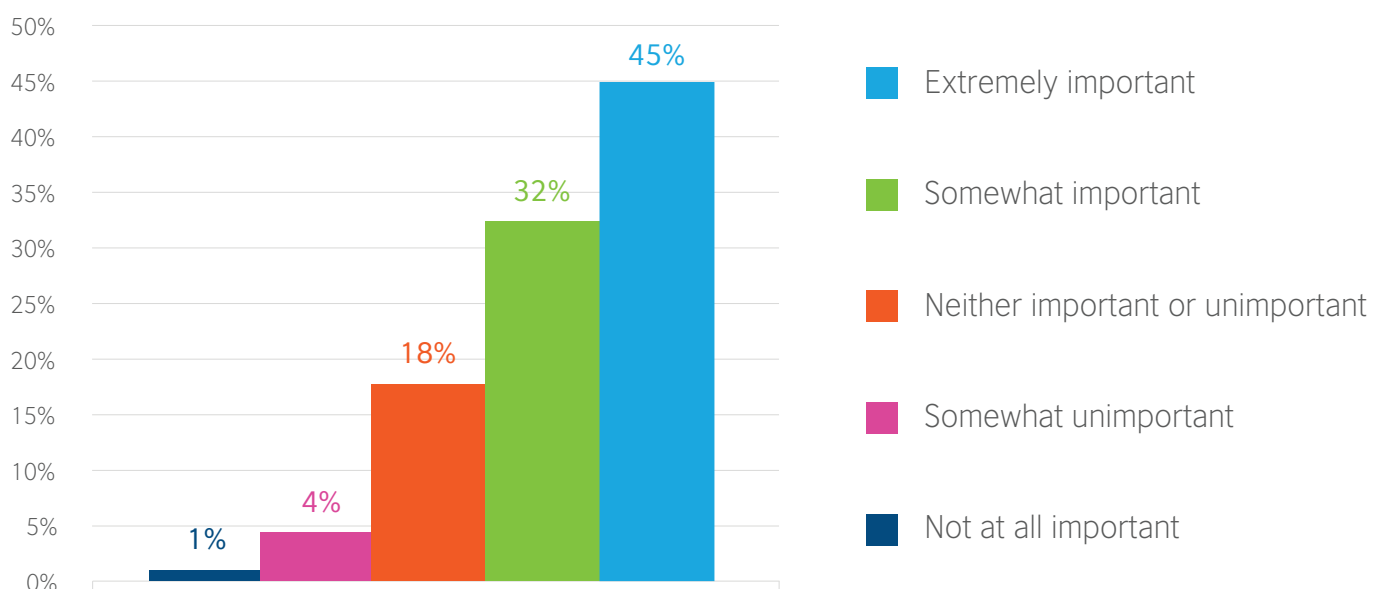
One of the biggest challenges facing education authorities today is the curriculum. The suitability for today’s jobs, readiness for tomorrow’s jobs, and the pace of change. It is now high time that more structured, forward looking, cooperation mechanisms are put in place. Most employers interviewed for this study have reported little contact and cooperation with the Ministry of Education over the years. In fact, there seems to be no significant links or platforms to bring together the education providers with the world of work (private sector), apart from career fairs. This is a major gap in terms of equipping youth with future skills.

Andrea Ferguson, Head of Human Resources at Red Entertainment, summarised the challenge

when she said: “I think that the current formal education background of academic degrees won’t be able to provide the skills of the future, technical skills that are constantly changing and evolving. More than anything, education should be about teaching students how to learn, how to question and how to reflect and apply what has been learnt. Shorter more specific teaching that can be applied quickly, coaching and support to encourage innovation and take away the fear of failure”. Today’s education system will not be able to foster the skills needed tomorrow without a major curriculum overhaul, one that is continuous in nature, and with direct involvement from the private sector.

Not only will the private sector need to be engaged in shaping the curriculum and updating the skills required, they should also be an integral part of the education cycle. In an era where lifelong learning is key for competitiveness and employability, employers will have to play a bigger role in this via various mechanisms. Our survey respondents strongly supported the need for more apprenticeships and practical learning opportunities.

How important is vocational learning or apprenticeships in your industry?



4. ARE UAE YOUTH FUTURE READY?: CHALLENGES AND OPPORTUNITIES AHEAD

With over 60% of the UAE's population under the age of 29, and almost half of those under 15, youth education and employment will continue to be on top of the policy agenda for the government for decades to come¹⁷.

Today, global and regional¹⁸ studies show that education systems are falling behind, and the UAE is no exception. In a global survey of young people and employers, 40% of employers said lack of skills was the main reason for entry-level job vacancies, while 60% said that new graduates were not adequately prepared for the world of work. There were gaps in technical skills such as STEM subject degrees, but also in soft skills such as communication and effective teamwork¹⁹. In the UAE, the Programme for International Student Assessment (PISA) identified the UAE as having one of the most rapidly improving education systems in the world, but also noted that students still perform well below the average levels in advanced economies in mathematics, reading and science²⁰. Moreover, anecdotal evidence from the job market demonstrates that graduates today also lack essential skills like critical thinking, communication, creativity, team work and the ability to work under pressure²¹.

Given these shortcomings, the UAE finds itself in a unique position. Unlike the general challenges



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¹⁷ Arab Human Development Report, United Nations Development Program (UNDP), 2016

¹⁸ Various regional and international studies and reports like The Road Not Travelled: Education Reform in the Middle East and North Africa. World Bank, 2008 ; Arab Human Development Report, UNDP, 2016 ; The Arab World Learning Barometer, Brookings Institute, 2014 ; GCC spends \$150bn a year on education but challenges persist, Arabian Business, 6 Jan 2017

¹⁹ Technology, Jobs, and the Future of Work. McKinsey Global Institute. May 2017

²⁰ Further Education and Skills: United Arab Emirates. March 2016, British Council

²¹ Future of Jobs Report (2017), World Economic Forum ; Arab Learning Barometer, Maysaa Jalbout, Brookings Institute (2014)

faced by the MENA region in terms of high youth unemployment, the UAE has a much healthier picture in this regard with millions of jobs ready for UAE youth. However, studies show that the majority today work in the public sector, with extremely low involvement in the private sector. According to the Emirates Foundation²², over 70% of employed UAE nationals work in the public sector including defence and security, government and oil and gas. A CEO of one of the firms we interviewed noted “our new HR manager [an Emirati] was encouraged by her family not to leave a government job to come to work for the private sector”.

Most CEOs interviewed noted that their businesses actively showcase their career opportunities, but always seem to compete with Government and public-sector employers who continue to be the first choice for Emiratis. Some recent studies demonstrated a slight shift in attitude where preferences for public sector work are less in those under 30 than those older than 30²³.

This job-preference challenge is compounded by a well-documented skills gap. Studies show that local youth are not well equipped with the right skills to successfully compete in the private sector²⁴. In a World Economic Forum survey in the GCC, only 22% of respondents believed their education prepared them well to succeed in their career²⁵.

Students who are able to reach tertiary education are not being well equipped for the working world. This has been attributed in part

to students not choosing the right majors or specialisations adapted to the working world, but also to universities which are failing to foster talent in their students, diverging from skills required in the workforce. Today, no UAE University features in the top 200 lists of global higher education rankings like Times Higher Education²⁶ rankings or Shanghai’s Academic Ranking of World Universities²⁷.

This has led to the understanding in the region that there is a ‘shortage of talent’, something a PwC CEO Survey identified as one of the top 3 barriers to growth in the MENA region²⁸. This gap will grow wider if no action is taken to tackle it. For example, LinkedIn, a professional networking site, recently conducted a skill-gap study, and determined that for the UAE to be able to compete in the 21st century, the following two skills are instrumental in the future workforce: data mining and statistical analysis. These skills are industry agnostic and must quickly become part of mainstream education. Today, they do not feature in most curricula today.

The problem is not one of funding. According to HSBC, the country’s education costs are the second highest in the world, after Hong Kong. The bank’s “Value of Education” report was released in early July, 2017²⁹.

Given all these challenges, making a closer link between jobs and the education sector must be a priority; in fact, in the Gulf region, the shortage is not one of jobs³⁰, nor funding³¹, it is of skills.

²² <http://www.emiratesfoundation.ae>

²³ Emirati Employment, Oxford Strategic Consulting

²⁴ Arab Thought Foundation and PwC, 2013²⁵ Technology, Jobs, and the Future of Work. McKinsey Global Institute. May 2017

²⁶ <https://www.timeshighereducation.com/world-university-rankings>

²⁷ <http://www.shanghairanking.com/>

²⁸ Annual CEO Survey, PwC, 2012

²⁹ Dubai to expand tertiary education opportunities, Oxford Business Group, 27 July 2017

³⁰ Circa 50% of the GCC population today is expatriate. The number is over 80% in UAE and Qatar

³¹ GCC spends \$150bn a year on education but challenges persist, Arabian Business, 6 Jan 2017

Future ready: policy considerations

For policy makers, business leaders and workers themselves, these labour market shifts create considerable uncertainty, alongside the potential benefits. While technology is shaping a new world of work, and widening the current skills gap, the job market in the UAE is growing rapidly, representing a massive opportunity for the Emirati youth to secure good quality, well-paying jobs as well as become successful entrepreneurs.

Being fully aware of the challenges, the UAE government has a very ambitious education modernisation agenda. Today, the public-school curriculum is undergoing massive reforms including introducing new subjects, textbooks and phasing in bilingual education.

Another challenge related to perceptions when it comes to choosing the private or public sectors in the UAE; like most GCC countries, over 70% of the employed nationals work for the public sector. All they need is a basic qualification to join the public sector, and hence it is common for public sector workers to get a degree in their favourite subject, or in one that is relatively easy³², and are less likely than their expatriate peers to consider maths and science as necessary to future employment³³.

This is changing, albeit slowly. Sarah Shaer, associate researcher at the Mohammed bin Rashid School of Government, said recent education reforms had helped to improve pupils' understanding of the value of STEM since the 2011 TIMSS results were released. Local developments such as the UAE Space Agency and the Emirates to Mars mission are all seen as initiatives that seek to inspire interest in technology and STEM subjects. Robert Zubrin, the president of the Mars Society, said the government was encouraging Emirati's to



“become a pioneer and an explorer of new worlds”.

The challenge today is how do we prepare for jobs that don't yet exist? Governments need to make education and training flexible enough to teach new skills quickly and efficiently. It will require a greater emphasis on lifelong learning and on-the-job training, and wider use of online learning and video-game-style simulation. This “Agile-market-driven” Education system is one that needs to be designed, and the UAE is in a great position to lead this new paradigm, on a global level.

The future needs much more private sector engagement in the public education system, more career experience and internships, better – and faster – leveraging of technology, and a

³² Omar Al-Ubaydli, Distortions to Education and the Resource Curse in the GCC and Beyond, The National, 18th March, 2017

³³ Dr Alexander Wiseman, Digest of Middle East Studies, March 2017

call to form regional industry specific partnerships between the private and education sectors in order to inform changing the curriculum and the needs of the private sector, both in terms of content and pedagogy.

The following specific recommendations are meant to add to the ongoing policy conversation in the UAE:

1. Develop Portable Skills

Given the fast pace of change, experts advise that rather than focusing on teaching for jobs, education systems must focus on providing the youth with transferrable skills. Young people must be equipped with the new work smart skills and capabilities. In addition to formal education, this requires a new approach to immersive learning and real-world experiences.

Policy should be designed to offer tailored and relevant early work experience to today's youth. Not every work experience and entry-level job will prepare young people equally for the future. A look at the skills required in different roles shows that some early-career jobs appear particularly suited to help young people become ready for the 'new work smart' because they already rely on skills that will be most important in the future. These jobs are as broad as advertising professionals, statistical clerks, multimedia specialists, service (e.g. tourism) advisers, and ICT sales and support technicians. What they have in common is the opportunity to gain experience utilising technical and foundation skills in conjunction with enterprise skills.

Equally as important, for skills to be portable, they must be certified against certain standards that are globally acceptable. The issue of standardised assessment of skills must inform the design of such programmes, from

languages to statistics, to working in teams.

2. Build and nurture an ecosystem that connects employment with education

Government needs to develop a framework that ensures employers work with schools, universities and alternative providers to create and improve their own supply of talent. New analysis in the UK has uncovered explicit links between employer engagement with higher education institutions that show enhancement of teaching and learning, and improvements in students' employability³⁴.

Such links should be formally structured, incentivised and sustained. They will benefit the whole eco system by offering students the opportunity to gain work-relevant skills, experience and knowledge, and in some cases professional qualifications and accreditation, as part of programmes of study. For employers, it will allow the creation of 'work-ready' graduates, equipped with the skills, knowledge and experience required for the workplace.

THE FUTURE NEEDS MUCH MORE PRIVATE SECTOR ENGAGEMENT IN THE PUBLIC EDUCATION SYSTEM, MORE CAREER EXPERIENCE AND INTERNSHIPS, BETTER – AND FASTER – LEVERAGING OF TECHNOLOGY, AND A CALL TO FORM REGIONAL INDUSTRY SPECIFIC PARTNERSHIPS BETWEEN THE PRIVATE AND EDUCATION SECTORS

³⁴ <http://www.universityworldnews.com/article.php?story=20150117072732644>

The CEO of a global IT firm in the UAE noted that schools and universities have to make their offerings far more practical than theoretical. At the moment, companies have to retrain graduates for real life situations. The education sector needs a much stronger relationship with the private sector to help create an environment for students driven by real life challenges.

Moreover, employers should be incentivised to leverage their capability and innovation for developing skills within the workforce through a variety of high-quality flexible study opportunities, delivered in response to need and demand; shorter courses, lower costs and online delivery are making it easier for people to combine work and training, and employers need to be encouraged to shape them.

3. Focus on communication skills and the balance between local and global languages

A critical skill for future employment, especially in a hub-economy like the UAE has been identified as the English language (the world's language for business, trade and diplomacy). Wamda, a Middle East Entrepreneurship Platform and Fund, conducted an online survey³⁵ asking the key question whether MENA youth needed to speak English to succeed in their Entrepreneurial ventures. A 64% majority noted that knowledge of both Arabic and English languages is key to succeed in tomorrow's world. It is not an either /or question anymore. This is key for entrepreneurs in terms of continual learning, the ability to pitch to investors, connect with their customers, and manage any technology aspects of their business.

These skills have been shown to translate into higher salaries. A study conducted of recent



Jordanian graduates demonstrated that tests for their English, personality, and soft skills have predictive capabilities of the graduate's employment prospects and salary³⁶.

The UAE is heading in the right direction in this space and recently announced education reforms requiring pupils to study more subjects in English in public schools. More needs to be done to improve English language skills including immersive experiences and leveraging technology. Equally important is the focus on standardised assessments that can demonstrate, global proficiency in such skills. This balance between the national language and international languages is indeed a mark of today's global world. In a study in the UK on the foreign languages the United Kingdom needs to

³⁵ July 2017, www.wamda.com

³⁶ Groh, Krishnan, McKenzie and Vishwanath (2012).

become a truly global nation³⁷, Arabic ranked number four (after Spanish, Mandarin, and French). Global proficiency in languages, is becoming a must across all nations.

4. Promote innovation and investment in Ed-Tech

New technologies should make learning more effective. Virtual and augmented reality could radically improve professional training. Big data offer's the chance for more personalised education. Platforms make it easier to connect people of differing levels of knowledge, allowing peer-to-peer teaching and mentoring. The Government should give a strong push towards technology-enabled lifelong learning. The UAE now has the chance to take a regional, and possibly global leadership role in focusing on Ed-Tech. Considering a national Ed-Tech fund mechanism would be a unique and winning investment in the future.

5. Lifelong learning for all

Education has to move from the outdated notion of simply getting a degree for landing a job. "Life-long learning" and "on-demand learning" are concepts that must be embraced today. Life-long education should be made more accessible and affordable for the mass of citizens. Singapore provides a great example with its SkillsFuture initiative. Employers in the city-state are asked to spell out the changes, industry by industry, that they expect to happen over the next three to five years and to identify the skills they will need. Their answers are used to create "industry transformation maps" designed to guide individuals on where to head. Since January 2016 every Singaporean above the age of 25 has been given a S\$500 (US\$345) credit that can be freely used to pay for any training courses provided by 500 approved providers, including universities and MOOCs. Generous subsidies, of up to 90% for

Singaporeans aged 40 and over, are available on top of this credit. The programme currently has a budget of S\$600 million a year, which is due to rise to S\$1 billion within three years.

6. STEM and the Mission to Mars

One of the most needed topics in K-12 education is STEM (Science, Technology, Engineering and Mathematics) subjects. This does not mean that all students will go into STEM careers. The knowledge of science and technology provides students with the background necessary to understand and work with the ever-changing technologies that they will encounter in any career. Regardless of what career students choose to pursue, they will need systematic problem-solving skills and the technical knowledge STEM subjects offer.

K-12 schools must teach STEM in a conceptual and experiential way, moving away from traditional classes focusing on memorisation of unrelated facts. STEM teaching must be linked to the real-world application of this knowledge. It also needs qualified teachers, who are constantly updating their knowledge, an agile curriculum that is modern, interactive and continually improving, and advanced facilities and links with industry.

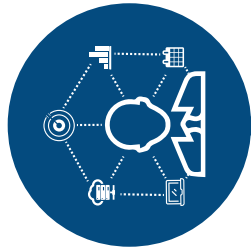
UAE students also need career coaching, guidance and encouragement in this regard. This can't only be a school-based activity. They need community support where companies offer internships and career days, shadowing programmes and science fairs. The national space ambitions will be a major step in this regard and should be leveraged with strong collaboration with the private sector.

This focus on STEM must continue to be coupled with an equal focus on diversity, curiosity, and tolerance, all seen as foundations for creative thinking and life-long learning.

³⁷ LANGUAGES FOR THE FUTURE The foreign languages the United Kingdom needs to become a truly global nation, 2017, British Council

FUTURE SKILLS POLICY CONSIDERATIONS

DEVELOP PORTABLE SKILLS

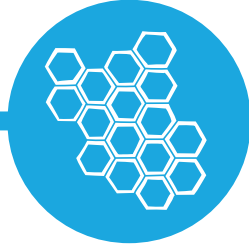


1

- Government needs to ensure employers work with schools and universities to create a supply of talent
- Employer engagement with higher education enhances learning and employment prospects
- Links should be structured, incentivised and sustained – by students gaining work-relevant skills
- Employers benefit by accessing a pool of 'work-ready' graduate talent
- Employers should be incentivised to leverage their capability and innovation for developing skills within the workforce

- Education systems must focus on providing transferrable skills
- Young people need to be equipped with work smart skills
- Policy should be designed to offer relevant early work experience
- Young people should learn skills that will be most important in their early careers
- Easily applied to a wide range of jobs; Communications, Statisticians, ICT, Multimedia, Service, Sales & Technicians
- Critically important is for skills to be portable

BUILD AN ECOSYSTEM THAT CONNECTS EMPLOYERS WITH EDUCATION

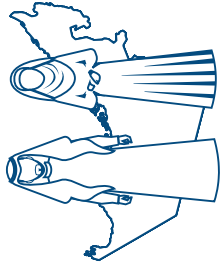


COMMUNICATION SKILLS AND LANGUAGES



3

- Language skills are critical in the UAE, especially English - the world's language for business, trade and diplomacy
- Majority of people believe both English and Arabic language skills are key to success
- It is not an option; this is key for entrepreneurs for learning, pitching ideas, connecting with customers, and managing tech aspects of their business
- Education reforms in the UAE will require pupils to study more subjects in English
- More needs to be done to improve English language skills including immersive experiences and leveraging technology
- Greater focus on standardised assessments that can demonstrate global proficiency



- New technology, virtual and augmented reality could radically improve professional training
- Platforms make it easier to connect people of differing levels of knowledge, allowing peer-to-peer teaching and mentoring
- The Government should give a strong push towards technology-enabled lifelong learning
- The UAE now has the chance to take a regional, and possibly global leadership role in focusing on Ed-Tech
- Considering a national Ed-Tech fund mechanism would be a unique and winning investment in the future

4



PROMOTE INNOVATION AND INVESTMENT IN ED-TECH

LIFELONG LEARNING FOR ALL



5

- Education has to move from the outdated notion of simply getting a degree for landing a job
- Life-long learning and on-demand learning are concepts that must be embraced today
- Life-long education should be made more accessible and affordable for the mass of citizens
- The SkillsFuture initiative in Singapore provides a great example, offering credits for training
- It also provides employers with the opportunity to spell out changes they anticipate through a dialogue that generates industry transformation maps
- Generous subsidies of up to 90% for Singaporeans aged 40 and over, are available on top of this credit

STEM is one of the most needed topics in K-12, but doesn't mean that students pursue STEM related careers

The knowledge of science and technology provides students with the foundation to understand ever-changing technologies

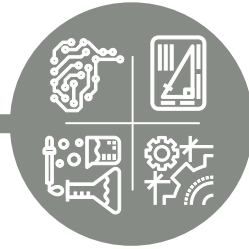
K-12 schools should teach STEM in a conceptual and experiential way

Qualified teachers, who are constantly updating their knowledge are pre-requisite

UAE students need career coaching, guidance and encouragement in this regard, with companies offering internships, career days and shadowing programmes

The national space ambition is a major step forward and should be leveraged

6



STEM AND THE MISSION TO MARS

APPENDIX 1: METHODOLOGY

The study follows the Design Thinking approach. We look at the education system from the outside (jobs market / user perspective). We undertake a review of what is needed in the future (growth sector, future skills), then review how the current education system can be improved / upgraded to meet that demand.

The review is based on both desk research and primary data gathering:

- Global trends impacting the future of jobs in advanced hub economies like the UAE, as well the local UAE economic trends and national plans
- Views of UAE private sector leaders on future jobs (both in terms of growth sectors and the required skills)
- The readiness of UAE youth to compete for these future jobs (based on today's education system outputs)

Based on the above, we offer some recommendations for better preparing youth of today for the jobs of tomorrow. These are meant to augment current education modernisation initiatives undertaken by the government, not to replace or challenge them.

The first phase of the research involved an extensive literature review. This was focused on three key areas: an analysis and determination of the top sectors in terms of growth and job creation in the UAE, a review of the changing nature of jobs and technology's role in the creation and destruction of jobs (globally, and in the UAE as part of the global economy), and a review of the skills gap impacting the youth in the UAE today.

In the second phase, we collected primary data from the UAE private sector (employers) via

- in depth interviews with employers (CEOs and senior management executives of major companies and conglomerates in the UAE).
- in depth interviews with policy leaders and experts in technology (as a cross-cutting sector)
- a survey of private sector leaders where a total of 507 UAE senior executives participated³⁸

This whitepaper has been compiled and edited by Dr. Yasar Jarrar, a specialist in education and government communications on behalf of the British Council. [www.bit.ly/thc-yj]

³⁸ The survey was conducted in collaboration with YouGov. A total of 507 respondents within the UAE, made up of senior business executives (397 male & 110 female)

APPENDIX 2: INTERVIEWS

We would like to thank the following CEOs and senior officials for sharing their time, and valuable insights.

1. Badr Al Olama, Director of Aerospace, Mubadala Aerospace
2. Nick Maclean, CEO META, CBRE
3. Ibrahim Al Zubi, Head, Sustainability, MAF, UAE
4. Patrick Allman-Ward, CEO, Dana Gas
5. Ashraf Zeitoun, Ex-Head of Government Relations, Facebook, MENA
6. HE Nabil Al Yousuf, CEO, Al Jal Capital, UAE and Ex-Director General of His Highness Sheikh Mohammed's Executive Office
7. Khaled Al Huraimel, CEO, Bee'ah
8. Ibrahim Al Badawi, CEO, Open Data Institute (Dubai)
9. Elias Monem, MENA CEO, Agility
10. Bassel Dabbagh, CEO, Agility
11. Andrea Ferguson, Head of Human Resources, Red Entertainment
12. Steven Kewley, MEA Strategy and Transformation Lead, Cisco
13. Jack Naidoo, MEA HR Leader, Cisco
14. Neil Long, Manufacturing Director, Mars Incorporated, UAE
15. Najla Al Midfa, General Manager of Sharjah Entrepreneurship Centre (Sheraa), UAE
16. Sophie Le Ray, CEO, NASEBA, UAE
17. Seham Azzam, HPE, HP
18. Rajai El Khadem, – Public Sector LTS, LinkedIn MENA
19. Senior executives from both HSBC and Microsoft were also interviewed but preferred to not be identified by name given corporate policy

