

DEVELOPING QATAR'S YOUTH FOR A DIGITAL FUTURE

AUGUST 2015



Introduction

In this new digital age, young people are learning, thinking, and communicating in ways that are fundamentally different from those of previous generations. Today, youth function in an interactive environment without any geographical constraints, and have access to information from around the world. Thus, fundamental skills and values—such as social ethics, critical thinking, and empowerment—have evolved and have new applications in the digital environment. Many new “21st-century” skills and principles have emerged in the past decade and are now essential for personal development.

And this is just the beginning. The digital world of tomorrow is filled with endless possibilities: the coming decade will bring continuous production of mass data sets, augmented reality, machine-to-machine communication, and so much more. A young person’s world will be a complex playground of empowering technologies, invisible protections, and stimulating connections. How do we as a nation prepare our youth to best utilize and benefit from the unlimited potential of technology in their professional, social, and personal lives?

The Ministry of Information and Communications Technology (ictQATAR) further explored these issues in a two-day roundtable discussion held in March 2015 with leaders from government, business, academia, and NGOs, along with other key stakeholders, to allow them to play a role in shaping the future for Qatar’s youth. Feedback and input from the roundtable are captured in this white paper. A complete list of attendees can be found at the end of this paper.



Background

Where Are We Now?

Around the world, policymakers are developing strategies and initiatives to empower and develop youth in the digital world. Recently, the United States introduced the Digital Promise initiative and created the National Center for Research in Advanced Information and Digital Technologies to advance technologies that transform teaching and learning. The European Commission introduced the Opening Up Education initiative, which includes a policy framework and large-scale projects to foster 21st-century teaching and learning in Europe. There are many similar examples globally. The goal now is for the world's education leaders, school leaders, and teachers to reach consensus that educational systems must evolve, and teaching practices must transform, to better prepare individuals for the current and forthcoming digital age.

In Qatar, the young population aged 15 to 24 has grown rapidly, from 14 percent of the population in 2000 to 15.4 percent in 2012. Investing time, effort, and resources in Qatar's youth will both provide young men and women with opportunities and choices throughout their lifetime and help build the human capital required to make the Qatar National Vision 2030 (QNV) a reality.

This vision, along with the Qatar National Development Strategy (2011–2016) (QNDS), sets out a program of initiatives aimed at transitioning toward a more diversified, knowledge-based economy that sustains prosperity for future generations. Critical to this effort is achieving the highest levels of human development through building human capital and increasing the capacities, capabilities, and choices of individuals in a sustainable manner. Investments in human development are also critical in the transition toward a more diversified, knowledge-based economy.

Qatar aims to build a modern, world-class educational system that provides students with a first-rate education on par with that of the world's top educational institutions. The system will provide excellent training and opportunities to develop its students' full potential, preparing them for success in a changing world with increasingly complex technical requirements. This education system will encourage critical thinking, creativity, and innovation. It will promote social cohesion and respect for the Qatari societal values and heritage and will advocate for constructive interaction with other nations.

In 2014 Qatar established the Ministry of Youth and Sports aimed at promoting our young people and their talents and developing them in the realms of culture, science, and religion. Other youth-focused initiatives include:

- Silatech is working to foster entrepreneurship among Qatar’s youth.
- The Qatar Scientific Club (QSC) has been significant in promoting learning and development in the fields of science and technology. QSC’s mission is to promote scientific hobbies and activities among youth and assist them in their creativity until they are able to compete in the challenging digital world.
- Similarly, Qatar National Robot Olympiad is a program that seeks to boost interest in science, technology, engineering, and mathematics (STEM) through fun projects and competitions. The aim is ultimately to encourage and increase the number of students who choose such subjects in secondary school and at college. This initiative has seen tremendous growth and public support over the years.
- Further, Qatar Academy has integrated 21st-century learning into its curriculum. Technology is embedded in the learning environment to promote digital literacy and fluency and make learning mobile and ubiquitous.

The Supreme Education Council has also undertaken a number of initiatives in this area. It created a pilot 21st-century collaborative classroom design in one of its schools. This is an entirely new concept, starting with the basic shell of the classroom. The smart classrooms provide truly intelligent learning spaces for today and the immediate future. Teacher training programs are also offered to enable pre-service and in-service development of digital-age skills and competencies (e.g., project-based learning, gaming in learning, collaborative learning).

These initiatives offer a great start in preparing youth for the future. However, the digital future is fast-paced and dynamic. Tomorrow’s skills—including coding, robotics, and data mining—will become essential in order to function efficiently in many different spheres of both academic and professional life.

In order to ensure that Qatar’s youth are well equipped with the required skills and competencies, it is essential to introduce additional programs and initiatives. There is continuous production of mass data online. Computation, programming, and coding are becoming necessary skills. Augmented reality will expand with technological advancements. Qatari youth should be prepared for the challenges of tomorrow and be able to fully utilize the unlimited possibilities the future has to offer.



Roundtable Discussion

Day 1: Creating the Vision

The first and most critical step is to create a national vision for Qatar's youth. The overall objective is to develop professionals, leaders, and well-rounded citizens. However, creating a comprehensive vision involves answering a few fundamental questions, and Day 1 of the roundtable was structured around these basic questions.

First, participants were asked to define "youth," which has different definitions in countries and organizations around the world, with age ranges varying from 3–18 to 8–23 to 12–27.

Participants agreed that we must include children from an early school-going age until they become working professionals. Programs and initiatives to be launched for youth should target the entire range. Participants emphasized how essential it is to start the learning process from an early age—to empower our young people with the necessary education, tools, and support to prepare them for the workplace of the future and to ensure that they can function efficiently as adults in their social and community lives.

There was also agreement on the definition of youth as those between 3 and 30 years of age. It is expected that further initiatives should address specific bands within this range. For example, programs may target school-age youth between 3 and 18, youth in higher and further education between 18 and 23, and young professionals between 23 and 30.

The second critical topic of discussion on Day 1 was the definition of a digital society—what we mean by the term. Below are some of the main characteristics of a digital society suggested by participants (non-exhaustive list):

- Being connected 24/7
- Living without boundaries
- Having access to virtual workplaces
- Experiencing the world as a global village
- Having access to knowledge and opportunities from around the world

Participants agreed that the digital society or the digital world is just an extension and evolution of the “real world.” In the 21st century the traditional real world and the digital world have merged, and we can therefore no longer draw a distinction between the two. We can expect the same principles and values of our traditional society to extend and evolve in the digital sphere—however, the basic principles of interaction, socialization, and learning will remain unchanged.

Day 2:
Competencies
and Pillars

Day 2 of the roundtable was a deep-dive discussion on the following critical questions related to youth in the digital future:

What is our vision of a successful young person in the digital society?

Further, how can youth be guided toward this vision?

The goal of the discussion was to determine the core competencies every young person should develop and to agree on the essential pillars of future youth development initiatives. Participants actively engaged in the discussion, and ideas and thoughts were shared enthusiastically. Participants talked about what successful young people should know, what they should be capable of, how they should act and think, and what their value system should be. They discussed the skills, habits, and tools essential for youth to know and have. Below is a list of some of the main suggestions shared in regard to the core competencies essential for youth in the digital society.

Critical thinking	Time management	Productivity and accountability	Safely navigating in the digital world
Decision making	Organizational skills	Flexibility	Ability to prioritize
Leadership skills	Self-competent	Adaptability	Self-awareness and tolerance
Empowerment	Self-motivation	Active and engaged citizens	Public speaking
Digital literacy	Teamwork	Shape the Qatari identity and culture	Reflection
Communications skills	Risk management	Build value in the Qatari digital economy	Curiosity
Innovation and creative thinking	Civic responsibility	Health and wellness	MapReduce
Problem solving	Social responsibility	Critical educational skills (math, sciences, and religion)	Self-learning
Research skills	Ethical behavior	Self-expression	Cyber responsible
Programming coding	Responsibility	Global awareness	Ability to unlock the potential of big data
Employability skills	Citizenship		Analytical skills
Entrepreneurship skills	Writing		
Language skills	Spelling		
	Personal development		

The Pillars

Participants arranged the skills and competencies listed above into a few basic pillars to guide youth development initiatives in Qatar.

Digital Individual

In a digital society, young people require personal strengths and dispositions that enable them to begin forming their digital identities. The competencies in the Digital Individual pillar are those needed by each young person for self-development and form the foundation for the pillars that follow. They are the personal, life, and health-related knowledge, skills, and dispositions required to become a digital learner, citizen, and contributor to the environments in which they will live and work.¹ These competencies can be considered the “core” competencies.

Digital Learner

In a digital society, young people participate in formal and informal digital learning experiences that begin early in life, include primary and secondary schooling, extend to higher education and vocational programs, and continue into their lives beyond school—all to support broad learning needs in life and work. The competencies in the Digital Learner pillar are needed to support lifelong learning in digital learning environments and include basic language skills, numeracy skills, and ICT literacy at progressively deeper and more specific levels as young people move from general to focused learning. To maximize learning benefits, young learners require higher-order thinking skills, the ability to work in changing conditions, and the ability to work with complexity.²

Digital Citizen

In a digital society, young people participate in local and global digital communities including in their professions. To become contributing citizens, professionals, and leaders, young people must develop a strong sense of their identity and the responsibilities they have in their communities.³ The competencies in the Digital Citizen pillar are those needed to develop participation in digital communities and include digital communications skills such as socializing skills, communications skills, and developing and shaping national identity. These competencies are further developed by those in the Digital Environment pillar.

Digital Environment

In a digital society, young people live and work within multiple intersecting and dynamic digital environments. To leverage their time and energy for personal and community benefit, young people require a range of fluencies including a well-developed understanding of the risks and benefits of these environments and their uses, as well as competency with data.⁴ The competencies in the Digital Environment

¹ Kennedy, Kathryn, Joseph R. Freidhoff, and Kristen DeBruler, *Personalized Learning for Global Citizens* (Microsoft Corporation: Redmond, WA, 2014).

² Richard E. Ferdig, *Curriculum, Content and Assessment for the Real World* (Microsoft Corporation: Redmond, WA, 2014).

³ Christopher Sessums, *Learning Communities and Support* (Microsoft Corporation: Redmond, WA, 2014).

⁴ Don Olcott Jr., *Transforming Learning Environments* (Microsoft Corporation: Redmond, WA, 2014).

pillar are those needed by young people who move among many contexts in their lives. These competencies include programming, analyzing big data, and navigating in the digital world as well as those in each other pillar.


In each pillar, the skills are organized into three categories, shown in the table below.

Digital Individual	Digital Learner	Digital Citizen	Digital Environment
<p>Values</p> <ul style="list-style-type: none"> Trust Respect Honesty <p>Organizational skills</p> <ul style="list-style-type: none"> Time management Risk management Prioritization <p>Personal development</p> <ul style="list-style-type: none"> Self-awareness Curiosity Motivation Initiator Confidence Expression Reflection Well-being 	<p>Thinking</p> <ul style="list-style-type: none"> Abstract thinking Critical thinking Problem solving Synthesis Decision making Analysis Comprehension Metacognition <p>Knowing</p> <ul style="list-style-type: none"> STEM ICT fluency Managing complexity Data fluency Language Programming/coding <p>Creating</p> <ul style="list-style-type: none"> Creativity Innovation Entrepreneurship Productivity Research Design Career management 	<p>Identity</p> <ul style="list-style-type: none"> Qatari identity Faith Culture Global awareness <p>Ethics and responsibility</p> <ul style="list-style-type: none"> Flexibility Accountability Adaptability Tolerance Commitment Other perspectives <p>Citizenship</p> <ul style="list-style-type: none"> Civic engagement Social responsibility 	<p>Digital-age literacy</p> <ul style="list-style-type: none"> Information fluency Media fluency Cyber safety <p>Skills for emerging technologies</p> <ul style="list-style-type: none"> Big data MapReduce Robotics Data mining Social analytics <p>Digital-age social skills</p> <ul style="list-style-type: none"> Collaboration Communication



Conclusion

The process of developing programs and projects for the youth initiative will consist of consultation with and participation by all major stakeholders in industry, government, and academia. There is a need to change formal education to meet the challenges of the new digital age, with informal learning augmenting skills development. Some children are picking up these skills through individual efforts and ad hoc initiatives. However, a national effort and long-term commitment and coordination among a number of organizations are required to ensure that opportunities exist for all young people to develop digital skills, and that institutions are aware of and able to address the challenges of this new digital age.



The Ministry of Information and Communications Technology would like to thank the following organizations for their participation in the roundtable discussion held on March 17 and 18, 2015, on Youth in the Digital Society:

American School of Doha
College of the North Atlantic-Qatar
Community College Qatar
Doha Center for Media Freedom
Infocomm Development Authority of Singapore, Middle East
Microsoft Qatar
Ministry of Youth and Sports
Ooredoo
Qatar Academy
Qatar Foundation
Qatar Scientific Club
Qatar University
Silatech
Supreme Education Council
Teach for Qatar
UNESCO Communication and Information Sector, Doha

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