The promise of...
In the 21st century, education’s long-proven ability to empower people of all ages has grown exponentially, thanks to the advances of information and communication technology (ICT).

Together, these two powerful forces are helping us literally redefine our capabilities as human beings. We can access and understand the world in new ways. Transcend the limitations of place and time. Connect and build communities to share knowledge. Powered by the tools of ICT, education also becomes intensely personal and customized, breaking down barriers and leveraging opportunities. The individuality of every learner can be addressed—whatever his or her special physical needs, talents, or ambitions.

In Qatar, the Supreme Council of Information & Communication Technology—ictQATAR—brings together the power of education and ICT in a department known as e-Education. In the pages that follow, we focus on how the wide-ranging initiatives of the e-Education department are invigorating Qatari K–12 classrooms. By making ICT an integral part of students’ educational journey, we encourage young people to become enthusiastic, facile e-learners—productive, progressive, at ease with innovation. We ensure that future generations of Qataris are heard in the global conversation.
ictQATAR’s role

ictQATAR leads the development and delivery of the government’s e-education strategy in four major ways:

ictQATAR serves as strategic advisor to the government on the direction of its e-education strategy. It sets policies and pioneers the use of technology to enhance education.

ictQATAR coordinates Qatar’s e-education strategy across the government, facilitating a seamless approach to e-education innovation and implementation. We work with other government agencies and ministries responsible for education to develop and implement a delivery strategy that is effective and well managed.
ictQATAR monitors trends in technology and conducts analysis and research that generates knowledge on how technology can transform education. Our research ensures Qatar will always reflect best practices, and we will share our findings with the broader educational community.

ictQATAR identifies appropriate partners to assist in delivering the e-strategy in the most effective ways, determining the appropriate roles for ictQATAR and potential partners.
e-Education objectives

The e-Education objectives aim at enhancing the learning experience through ICT, and building the underlying ICT capabilities to improve productivity and quality of life.
<table>
<thead>
<tr>
<th>e-Education objectives</th>
<th>For teachers</th>
<th>For learners</th>
<th>For schools</th>
</tr>
</thead>
<tbody>
<tr>
<td>Encourage innovative pedagogical approaches</td>
<td>Become self-directed learners</td>
<td>Create learner-centered environments</td>
<td></td>
</tr>
<tr>
<td>Manage classrooms efficiently</td>
<td>Enrich learning experiences</td>
<td>Offer a variety of learning resources</td>
<td></td>
</tr>
<tr>
<td>Personalize learning to meet students’ talents and needs</td>
<td>Improve child safety and protection online</td>
<td>Encourage parent involvement</td>
<td></td>
</tr>
<tr>
<td>Foster communication and collaboration</td>
<td>Promote higher-order cognitive skills</td>
<td>Develop ICT strategies and policies</td>
<td></td>
</tr>
<tr>
<td>Integrate ICT across curriculum</td>
<td>Enhance academic achievement</td>
<td>Access effective and efficient learning technology and management systems</td>
<td></td>
</tr>
<tr>
<td>Build confidence in using ICT</td>
<td>Increase motivation</td>
<td>Provide technical support</td>
<td></td>
</tr>
<tr>
<td>Encourage life-long learning</td>
<td>Master researching and accessing information</td>
<td>Conduct research in ICT and learning</td>
<td></td>
</tr>
<tr>
<td>Build local capabilities</td>
<td>Develop critical-thinking skills for evaluating web-based information</td>
<td>Partner with private sector</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Assess progress on a regular basis</td>
<td></td>
</tr>
</tbody>
</table>
The measure of progress

Stages of e-Education development

The progress towards achieving the set goals will be measured along the five stages of e-Education development.

1. ICT disabled
2. ICT supplied
3. ICT enabled by 2010
ICT-disabled school: Poor ICT infrastructure, no plan, poor utilization, mainly for e-literacy.

ICT-supplied school: Adequate ICT supplies, no plan, random utilization, mostly experimentations and ICT literacy.

ICT-enabled school: Adequate infrastructure, tentative plan, discrete projects, partial solutions; ICT perceived and used as an add-on, no system integration. The goal of ICT is to enrich students’ experience.

ICT-integrated school: Integrated system, systematic use, comprehensive solutions, integrated and complete plan; ICT mediates learning, instruction, communication, and effectively used for management, development. The goal of ICT is to improve students’ and teachers’ performance.

ICT-advanced school: ICT is woven into the school’s fabric. In addition to stage 4, ICT is used more creatively to transform how school conducts learning, communication, and management. An ICT-advanced school is or seeks to be ICT-accredited.

Increasing e-Readiness

1 ICT-disabled school: Poor ICT infrastructure, no plan, poor utilization, mainly for e-literacy.

2 ICT-supplied school: Adequate ICT supplies, no plan, random utilization, mostly experimentations and ICT literacy.

3 ICT-enabled school: Adequate infrastructure, tentative plan, discrete projects, partial solutions; ICT perceived and used as an add-on, no system integration. The goal of ICT is to enrich students’ experience.

4 ICT-integrated school: Integrated system, systematic use, comprehensive solutions, integrated and complete plan; ICT mediates learning, instruction, communication, and effectively used for management, development. The goal of ICT is to improve students’ and teachers’ performance.

5 ICT-advanced school: ICT is woven into the school’s fabric. In addition to stage 4, ICT is used more creatively to transform how school conducts learning, communication, and management. An ICT-advanced school is or seeks to be ICT-accredited.
Most of e-Education’s strategic initiatives are in partnership with *Education for a New Era*, the comprehensive K–12 education reform being led by the Supreme Education Council. Technology plays an important role in helping achieve the goal of reform: to produce engaged citizens and innovative thinkers by changing how children learn, how teachers lead classrooms, and how administrators run schools. Ultimately, the work of e-Education will result in schools where ICT is woven into every school’s fabric—transforming not only learning itself, but also communication and day-to-day management.

**Drawing on an expanding universe of knowledge.**

Technology is shrinking the educational world much as it has the business world. In Qatar, teachers can draw on instructional resources from around the globe. Students and teachers also have access to an international learning portal that allows them to share resources and collaborate with peers from 45 countries around the world.

**Engaging all learners.**

Computer-enhanced learning—often called e-learning—is turning classrooms into vibrant interactive environments and helping to reinforce Qatar’s internationally benchmarked curriculum standards. Working more independently and creatively, students take ownership of ideas, experience the excitement of intellectual pursuits, and bring a livelier
sense of give-and-take to the classroom. By offering stimulating activities and a wide range of opportunities to explore and experiment, e-learning has proven particularly effective in reaching students who have not been engaged by traditional pedagogical methods.

**Knowledge here, there, everywhere.**

With resources that include tablet PCs and information-rich school websites, learning is no longer confined to the classroom environment. Even at home, students can communicate with teachers, manage assignments, consult online study guides, and explore material with their parents.

**Helping schools run efficiently.**

To streamline administrative processes for both teachers and staff, the Supreme Education Council has developed a digital Unified Student Record. ictQATAR is assisting in the implementation of this tool, as well as other school-tailored information management systems, to ensure that schools have more time and energy to concentrate on their core mission: transforming lives.

**Creating a sense of community.**

e-Education is fostering an unprecedented level of interaction among all the stakeholders of education reform. Parents, for example, can

---

“E-learning is paradigm-shifting. Technology has the potential to make learning truly student-centered. We now have powerful tools to help students develop multiple intelligences and make the most of their personal learning styles. E-learning is also a powerful motivator—and that means Qatari youth have the opportunity to be better prepared for the future.”

Dr. Jock Schorger, ICT Specialist, Education Institute, SECl
communicate with teachers and view their children’s homework assignments, grades, and study guides. Anyone interested in the progress of reform can find information about overall student outcomes, as well as information on individual schools (such as student performance, environment, processes, and governance) via an international learning portal. By keeping the pathways to communication open and making the educational process truly transparent, ICT encourages a deeper investment in this ambitious undertaking.

Moving forward: e-Education strategy

Over the next decade, our e-Education strategy will address five dimensions.

**Infrastructure:** Providing connectivity, computers, and other smart devices to be used in the teaching process

- Connect schools with broadband connections and networking capabilities (such as Wi-Fi)
- Create a 1:1 ratio of user to PC by providing every teacher and student with a computer through purchase and/or loan programs
- Equip classrooms with smart devices such as interactive whiteboards and voice-enabled applications
- Increase Internet connectivity in Qatari households

“I use a wheelchair, so the tablet PC has made my life easier and learning more fun. I can communicate with my classmates and teachers from my place. My favorite subject is science, and I can carry out experiments directly on the tablet PC instead having to go to the lab.

Jawaher Naser, A student at Al-Wakra Girls Preparatory School
Focus on model schools

The electronic notebooks known as tablet PCs represent one of the most critical e-Education initiatives being implemented by ictQATAR. Tablet PCs are loaded with materials on science, math, and English mapped to Qatari curriculum standards. The devices also enable students to take notes and play video and audio content.

Students appreciate the difference right away. “All the educational subjects are right on the tablet PCs, so we don’t have to carry around heavy books,” says Sara Abul Saud, a student at Al Wakra School for Girls. “And I don’t have to worry about forgetting my protractor or compass. All the tools we need for math are built right in.”

As academic supervisor and project manager at Omar bin Al-Khattab Educational Complex for Boys (OBK for short), Mohamed Manasrah is responsible for training teachers in grades K–12 to, in his words, “unlock the potential” of the tablet PCs. “I envy my colleagues,” says Mr. Manasrah, a former English teacher. “They have this wonderful tool that I didn’t have. I see a big difference in lesson planning since the introduction of this technology. There’s more emphasis on collaboration and investigative learning.”

Because tablet PCs are a far cry from the conventional books studied by previous generations, parents initially expressed skepticism. At OBK, the tide began to turn when Mr. Manasrah invited parents to mock classroom session where they themselves used the tablet PCs. “They’re beginning to understand that this technology empowers people to share knowledge and experience,” he says.
Learning and Curriculum: Ensuring that teaching ICT as a subject matter goes hand-in-hand with the adoption of e-content and a new pedagogical process

- Develop in-house digital forms of content and reference for all grade levels
- Continue to grow online classes
- Develop grade-appropriate curriculum standards addressing ICT skills for K–12 students
- Develop an academic path for students interested in ICT careers
- Create a cadre of ICT teachers and professors

ICT Tools and Utilization: Supporting the teaching, learning, and management processes

- Develop a content management system that international institutions can share and collaborate on
- Develop an e-Education nationwide portal
- Use education information systems to increase the efficiency of the school administrations

“I feel so happy when students use K-Net to communicate with me. Some students are shy about speaking up in class, and K-Net helps them develop confidence in asking questions—which is the key to all learning.”

Maha Khodad, A teacher at Muaither Girls Independent Preparatory School
Every stakeholder in Qatar’s education reform initiative has a different perspective. What helps knit them into a community with a common goal is School Knowledge Network—or K-Net for short. This interactive web portal offers a secure and safe online environment for teachers, parents, and students and has a goal of reaching 100,000 users. “It makes connections and relationships much easier,” says Maha Mohammed, principal of Muaither Girls Independent Preparatory School.

With K-Net, communication is no longer confined to the hours of the school day. Students send teachers questions about their homework; teachers can compare pedagogical notes; busy parents can make virtual visits to the school and talk to staff. Ra’fa Ebada, a student at Muaither School, used K-Net when she was absent one day. “I looked up the lesson I had missed and asked my teachers to explain the points that weren’t clear to me,” she says.

At Muaither, even members of the school’s Board of Trustees are using K-Net, Ms. Mohammed says. “If we don’t have time to meet, they can post comments and recommendations on their special Trustees page. They’ve given us a lot of great ideas that way.”

For teachers, the impact has been equally transformational. Even those with little or no experience with computers are now adept users of K-Net, not only for classroom management and communications but also to create e-portfolios that show how they are meeting Qatar’s professional teaching standards.

“Endless learning is happening,” says Ms. Mohammed. “School Knowledge Network makes it a reality.”
Professional Development: Because teacher development remains at the heart of the shift in the education paradigm

- Offer more ICT workshops that help teachers teach, learn, communicate, and reduce their administrative workload
- Create an ICT competency certificate for teachers and administrators

e-Education Plans: Supporting schools in the development of a full e-Education strategy and operational plan

- Develop an e-Education assessment and planning tool that includes timeline, resources, competences, incentives, and benchmarks

“I use School Knowledge Network for staying informed about my daughter’s assignments and school activities. It’s also invaluable for exchanging viewpoints with other parents. And because K-Net is monitored by the school, I don’t worry about Internet safety issues.”

Jamila Abdullah, Mother of students at Al-Wakra Girls Preparatory School
Students in Zaher Al Askar’s classroom at the Muhammed Bin Abdul Wahab Secondary School for Boys learn English so they are prepared to thrive in a global economy. But thanks to Global Gateway, the boys discover much more than spelling and vocabulary.

ictQATAR introduced Global Gateway to Independent Schools in partnership with the Supreme Education Council. An online teaching tool that connects classrooms around the world, Global Gateway makes it possible for teachers to share ideas and best practices. Global Gateway connects students too, allowing them to virtually cross thousands of miles to debate issues, help one another understand different world views, and as Zaher says, “see that knowledge has no end.”

For example, Zaher is likely to write the English word for “poverty” on the blackboard and ask his boys to come up with English words for the results of poverty. Then, his students can use Global Gateway to talk virtually to boys their age in Africa about the pain of disease and war. Global Gateway also allows Zaher’s students to see photos of African families and even hear bird and animal sounds that are very different from what they know in Qatar.

Zaher says these personal glimpses across the world develop his students’ characters as well as their minds. He watches them become more empathetic and compassionate as they learn. And that transformation is what knowledge is all about. “Part of being human is exploring human relationships with many different people. There is no such thing as one subject, or even many. There is only the freedom to learn, to grow.”