

The Intel® Teach Program Helps Egyptian Teachers Bring Technology to the Classroom

In an effort to improve the quality of life for its people, Egypt is dedicated to improving the country's economy. Recognizing that education is key to creating sustainable economic development, the government is committed to helping its citizens – and its youth, in particular – gain access to technology and develop the necessary skills to compete in the 21st century global marketplace. To help reach this goal, the Ministry of Education has launched a significant education reform effort and has partnered with the World Economic Forum, Intel, and other leading technology companies to transform its education system via information and communication technology (ICT). Through the Intel® Teach Program, Egyptian teachers are now learning to integrate technology effectively in the classroom and to help their students acquire key 21st century skills, such as digital literacy, problem solving, critical thinking, and collaboration.

1. **Background**

Challenges

- Help is needed to transition the education system from traditional teaching methods to more modern, student-centered pedagogical approaches. This includes helping school administrators and curriculum developers gain awareness of the benefits of new approaches and strategies for implementation.
- There is a lack of infrastructure and access to technology (PCs and connectivity) in Egyptian schools.
- There is a need for training to help Egyptian teachers effectively learn how to integrate technology into their instruction, while working with existing national curriculum.

Approaches

- Secure equipment and funding to improve infrastructure and technology access through non-government organization and corporate partnerships, such as the partnership with Intel.
- Provide training in how to integrate technology effectively into their curriculum through the Intel Teach Program.
- Help teachers develop new student-centered, project-based-learning approaches and discover new educational tools via the Intel Teach Program.

Benefits

- Through the Intel Teach Program, over 80,000 Egyptian teachers are able to deliver student-centered, inquiry-based instruction, with technology interwoven throughout the curriculum, and to help their students develop important 21st century skills, including digital literacy, problem solving, critical thinking, and collaboration.

2. The Intel® Teach Program: A Case Study from Qalyoubiya

Though Ehab El Anany took an introductory technology course during his teacher training at university in the late 1990s, he had little opportunity to use technology in his classroom instruction after graduation. In his assignment as a high school English teacher in the Qalyoubiya region of North Egypt, an agricultural region where the primary commodities produced range from chicken and eggs to oranges and other fruit crops, technology was not readily accessible. Prior to 2004, few schools in the region possessed computers for either teacher or student work, and even fewer students had access to computers in their homes.

But things have begun to change in Qalyoubiya in recent years as the Ministry of Education (MoE) has instituted a campaign to promote technological literacy among the country's youth in the hopes of moving Egypt into the knowledge economy and spurring economic growth. As part of the initiative, efforts have been made to provide computer access at schools.

Additionally, the MoE began offering Egyptian teachers the chance to participate in the Intel Teach Program, a professional development program designed to help teachers learn how to integrate technology effectively in the classroom and help students acquire key 21st century skills, such as digital literacy, problem solving, critical thinking, and collaboration.

El Anany was among the first teachers to attend the training in Egypt. He says the experience profoundly changed his instructional approach, shifting from the 'teacher doing everything' to a more student-centered approach. 'The way I teach has completely changed since I participated in the Intel Teach Program', explains the teacher. 'Previously, the students would only sit in class, while I would read to them from a book. Now, they go and conduct research by themselves, and they provide the results. I simply try to find out what is missing, but they put forth the initiative'.

To illustrate this point, El Anany shares an example. In one of his classes, while studying public health and the water-borne parasite *Bilharzia*, El Anany took the students out of the classroom. They explored canals where the parasite had been known to thrive and cause illness, visited hospitals where patients had been diagnosed with the related disease, and researched medical treatments and cure rates. Through the project, students not only learned about the subject under investigation, but also had the opportunity to use technology and the information they had gathered to help their local community. Through this methodology, El Anany was not only able to cover the subject of public health and parasites, but was also able to give his students a chance to use technology and the information they had gathered to help their local community.

El Anany says, 'I believe in the following quotation: "Give a man a fish; feed him for a day. Teach a man to fish; feed him for a lifetime". In my teaching, I used to tell students about the subject. Now, I drive them to learn the subject, inside and outside the classroom'.

Since 2004, the number of computers available in schools has increased 'fourfold', reports El Anany. Additionally, while many students do not have computers at home, many do frequent Internet cafes after school. 'They go there to play games with

their friends, as well as to chat', says the teacher. As a result, one strategy El Anany employs is to encourage students to use fifteen minutes of their time at an Internet Café to do some educational work – to make chatting an educational experience, for example, by learning about another country from someone they might meet online.

To meet the growing demand for the Intel Teach Program among Egyptian educators, master teachers like El Anany have been trained to help deliver the curriculum to others. As a result, over 80,000 Egyptian educators have completed the Essentials program to date. El Anany himself has helped over 1,200 of his colleagues improve their practice through the Intel program and, as a result, enhance learning for thousands of Egyptian students.

3. *A Glimpse of Egyptian Education*

There are approximately 40,000 schools in Egypt serving 15 million students. These range from very large schools – sometimes with populations as high as 2,100 students divided into smaller 'schools' of approximately 350 students each, all located on one campus – to small, rural schools where the population averages around 120 students per school.

Because of serious economic challenges plaguing the country over the years, many school facilities had fallen into disrepair and were in desperate need of modernizing – as was the education system in general.

Recognizing that reform was necessary on many levels to raise the standard of living for Egyptian citizens, in 2004, Prime Minister Ahmed Mahmoud Nazif announced Egypt's 'Information Society Initiative', an economic development strategy intended to turn Egypt's ICT sector into an engine for economic development. The Initiative offered a vision of providing equal access for all to information technology, nurturing human capital, improving government service, providing companies with new ways to do business, improving health services, promoting Egyptian culture, and developing an ICT export industry.

Egypt targeted the education system as an important component of its development strategy. Elements of this reform included: decentralization and increased community participation in decision making; development of the physical infrastructure; improvement in the quality of administrators and teachers; and improvement and monitoring of the quality of education provided. As part of this effort, the government advanced a plan that would integrate technology into the education system both to improve education and to benefit the economy through the export of knowledge-based services and software production. The plan included programs to increase the computer skills of pre-university students, increase the efficiency of learning across subject areas, improve the curriculum to match the capabilities of ICT, and upgrade vocational education.

Since these reform efforts were launched in 2004, change has gradually occurred throughout the education system. Though the general educational approach in Egypt has long been very traditional, with teachers lecturing students and then testing

the students on the material presented, schools and educators are now beginning to introduce new curriculum and transition to more modern, student-centered approaches.

Though only 25 per cent of schools currently have a computer lab, efforts are underway to grow this number to 50 per cent by 2010. Teachers without technology access often travel to nearby schools to use their computer labs, or visit separate technology centers located in each of the country's 26 governorates. Much of the equipment for these computer labs has been donated by Intel through its PC donation program.

4. *Intel Teach in Egypt*

In 2004, with the endorsement of the Egyptian Ministry of Education, the Intel Teach Program was launched in Egypt. The objective is to train teachers how to integrate technology effectively in the classroom and how to help students develop key 21st century skills, such as digital literacy, problem solving, critical thinking, and collaboration.

Despite the fact that there has been much turnover in the MoE since that time, Intel Teach continues to thrive and attract support. The program continues to be in demand by educators throughout the country.

Additionally, in 2005, Intel launched the Intel® Learn Program in Egypt. This program offers Egyptian students, aged eight to 16, the opportunity to participate in hands-on, project-based learning, and to acquire technological literacy, problem solving and collaboration skills in an informal, community environment.

To date, over 80,000 teachers have been trained in the Intel Teach Essentials Course, and many have been trained to train other teachers in the curriculum. In close collaboration with the Egyptian government, Intel plans to train a total of 650,000 teachers through the Intel Teach courses by 2011, effectively reaching 80 percent of all Egyptian teachers.

5. *The Intel® Education Initiative*

The Intel Education Initiative is Intel's sustained commitment to prepare all students, anywhere, with the skills required to thrive in the knowledge economy by improving teaching and learning through the effective use of technology, and advancing mathematics, science and engineering education and research. Through a sustained public-private partnership with educators and governments in more than 50 countries, Intel works with international organizations and governments at an international, national, and local level and invests approximately USD 100 million per year in education programs adapted to address the needs of each country to advocate for 21st century educational excellence through policy work and awareness efforts.

6. *Links and Further Information*

For more information:

- On Intel's education activities, visit <http://www.intel.com/education>
- On the Intel Teach Program, visit <http://www.intel.com/education/teach>
- on Egypt's Information Society Initiative, visit <http://www.eei.gov.eg/index.htm>.