Case Study

Jordan
Intel® Teach Program

The Intel® Teach Program Brings 21st Century Skills to Jordanian Teachers

In Jordan, the Intel® Teach Program supports the efforts of the Jordanian Ministry of Education, helping teachers transition from traditional methods of instruction to student-centered approaches and incorporate technology in the classroom. The result: more effective instruction and enhanced student learning. As a result, the Ministry has made the Intel program the primary method of training Jordanian teachers how to effectively integrate technology in the classroom and promote 21st century learning, including such skills as digital literacy, problem solving, critical thinking, and collaboration.

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Dr. Majdi Al-Mashaleh,
Master Teacher, Jordan

Challenges	• There has been a lack of curriculum to help teachers effectively integrate technology in classroom instruction.
	• There is a need to shift from traditional methods of instruction to more student-centered and outcome-driven approaches.
	• Instruction and support are necessary to help teachers implement new educational strategies that allow for more student-centered approaches and technology integration.
Approach	• Provide training in how, when, and where to incorporate technology tools and resources into instruction through the Intel Teach Program.
	• Expose teachers to new instructional approaches and tools via the Intel Teach Program.
	• Build capacity by training teachers to train other teachers in the Intel Teach Program curriculum.
Benefits	• Through the Intel Teach Program, to date, 60 percent of Jordanian K-12 public educators are able to develop inquiry-based, technology-enriched projects that enhance student learning and promote higher-order thinking skills.
	• Jordanian teachers who have participated in the Intel Teach Program and enhanced their practice as a result are eligible for promotions in rank and increases in salary, as awarded by the Jordanian Ministry of Education.

Intel® Teach Program: A Case Study

Five years ago, Dr. Majdi Al-Mashaleh was a fairly "traditional" teacher. The instructor at Abdel Malek bin Marwan school in Amman lectured in the classroom, assigned reading and writing exercises, and then tested his students on the material covered. "The role of the teacher was as a sender of information," explains Al-Mashaleh, "and the role of the student was as a receiver only." Further, the teacher adds, while the school facilities included two computer labs for student use, he virtually never sent his pupils down the hallway to access them for classroom coursework. Al-Mashaleh admits he saw little connection between education and technology, primarily because there had been few opportunities to learn how to effectively merge the two.

But that was before Al-Mashaleh enrolled in the Intel Teach Program, a professional development program designed to train teachers in how to effectively integrate technology in the classroom and help students develop important 21st century skills, such as digital literacy, problem solving, critical thinking, and collaboration.

"The Intel Teach Program was a qualitative leap," says the veteran teacher, who explains that his entire approach to teaching has changed as a result of the program. Student-centered instruction is now at the heart of his approach, and technology is employed as a highly effective teaching tool, woven throughout the curriculum.

"In Intel Teach, I learned what project-based learning is, and how to apply it to the topic that I teach, which is Islamic science," says Al-Mashaleh. By engaging his students in inquiry-based and hands-on assignments, the teacher saw them take additional interest in the subject they were studying and assume more responsibility for their own learning. As a result, Al-Mashaleh observes, "the roles have changed to where the teacher and student have become completely involved and interactive in the process of teaching and learning."

Additionally, says the teacher, "In Intel Teach, I gained knowledge and skills to effectively integrate technology in the classroom. It changed my whole view of education as I now see that education and technology should be side by side."

As part of his Islamic science course curriculum, Al-Mashaleh engages his students in a lesson on the process of human creation, incorporating biology, physiology, and religion.

Whereas students used to rely primarily on textbooks and classroom lecture, they now utilize the Internet to find up-to-date resources and multimedia presentations on the topic. Additionally, to help his students hone their higher-order thinking skills, the teacher collaborates with a biology teacher and an English teacher to engage students in cross-curricular inquiry and discussion. This includes prompting students with an "essential question" – a concept he learned about in the Intel training – that is, an open-ended question that engages students in critical thinking.

"When I posed an essential question to the class, students understood it differently. Some took it from the ethical point of view, others from the biological point of view, and others from the religious point of view. The essential question guided students' thinking and created lots of discussion among them," observes Al-Mashaleh. "The essential question triggered other questions in the students' minds and made them more interested in the subject."

Due to changes in his instructional approach, Al-Mashaleh says his pupils are now more inspired to learn course material, and student performance is improving. "Using the computer makes it more interesting to them. When I ask students about a certain subject, students don't like to go to library to get a reference. But now they get many references using the Internet. Almost 99 percent of them complete their assignments. Also, when displaying their projects, they used to do it verbally, but now they use different media and tools to present their understanding and research using presentation software, Web sites, brochures, and videos."

The Intel program introduced other useful strategies and tools, as well, notes the teacher, citing new assessment options as an example. "As teachers, we used to assess the knowledge of the students only by doing tests and exams that do

not go beyond the knowledge and memorizing of the information. Now, different assessments are being used by teachers, including rubrics, portfolios, and peer review, among others."

In short, students are learning not only course material, says the teacher, but "skills needed for the future, like technology, teamwork, collaboration, research, and planning."

Al-Mashaleh was among the first teachers in Jordan to participate in the Intel Teach program, completing the Essentials Course in 2003 and subsequently participating in Intel's Thinking with Technology Course. As part of his experience, Al-Mashaleh was trained as a trainer of the Intel curriculum and has since taught nearly 80 other Jordanian teachers how to enhance instruction by integrating technology and helping students to develop 21st century skills.

The Education Landscape in Jordan

Approximately 5,000 schools serve Jordan's 1.5 million students, in both large, urban communities and small, rural areas throughout the country. Most of the kingdom's 3,000 public schools provide at least one computer lab for student use, though scheduling may sometimes be tight. Outside of school, approximately 30 percent have access to computers at home. Many students visit Internet cafes as well.

Recognizing that technology access and improved instruction are key to overcoming some of the kingdom's economic challenges, the Ministry of Education (MOE) instituted the Education Reform for Knowledge Economy (ERfKE) policy in 2003.[1] The goal of this initiative is to upgrade the quality of education in Jordan by redirecting educational policy, providing professional development opportunities for teachers, improving the infrastructure of schools, and making preschool opportunities available. Additionally, the government instituted the Jordan Education Initiative (JEI), derived from the World Economic Forum by the Ministry of Information and Communication Technology and the MOE

to develop a public-private partnership model to improve Jordanian education, specifically in the areas of in-classroom technology, teacher training, e-curricula, and life-long learning.[2] These initiatives have resulted in many changes in Jordan's education system, including a shift from more traditional teaching methods to student-centered approaches, and improved access to and expanded use of technology in classrooms throughout the country.

Though teachers have long been required to take a basic computer course in their teacher preparation coursework, the class was often rudimentary in terms of addressing how to use basic computer programs, rather than focusing on instructional strategies and tools. As a result, educators often felt inadequately prepared to introduce technology in the course of their classroom instruction. To address this need, the MOE has made it possible for teachers throughout Jordan to effectively integrate technology in instruction. Endorsed by the MOE, the Intel Teach Program has been the primary means of delivering this instruction for Jordanian teachers since its introduction there in 2003.

The Intel Teach Program in Jordan

The Intel Teach program's introduction in Jordan in 2003 followed on the heels of the Ministry of Education's ERfKE and JEI initiatives. As a result, the program arrived at an opportune time. Because the program directly addresses goals of both initiatives, Intel Teach was endorsed by the MOE and soon became the primary method for training educators in how to integrate technology in the classroom and help students develop crucial 21st century skills.

To date, 33,000 teachers – 60 percent of public school teachers – have been trained through the Intel Teach Essentials program, reaching approximately 700,000 students throughout Jordan.

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1. The Education Reform for the Knowledge Economy (ERfKE) can be downloaded at http://www.esp-jordan.org/Home/erfke_vision.aspx
2. For more information on the Jordan Education Initiative, visit: www.jei.org/jo/

In two evaluations on the Intel Teach Essentials course, conducted by the MOE, teachers gave the program rave reviews. Eighty-eight percent said the training met the objectives of the program. Ninety-four percent said the program enabled them to successfully produce unit portfolios for the subjects they are teaching. Ninety-six percent indicated that, after training, they were ready to integrate technology into student activities. Ninety-six percent said they had acquired new teaching skills. Ninety-three percent said they would recommend the course to other teachers.[3]

Intel Teach is one of only two programs of the sort endorsed by the MOE in Jordan, and the Intel program is by far the dominant choice. The MOE has demonstrated such confidence in the Intel program that they now offer teachers who have participated in the program the chance to benefit professionally and financially for their participation and learning. After completing the program, teachers take an automated test; if they pass, they are eligible to be promoted in rank and qualify for a 15 percent increase in salary.

Additionally, as of this year, the MOE has made a commitment to train 10,000 teachers in the Intel Teach Thinking with Technology Course which promotes students' higher-order thinking using Internet tools. The MOE has has expressed the desire to train an additional 10,000 educators (20,000, total) by the year 2011.

The Minister of Education has also requested to implement Intel Teach Advanced Online Course in Jordan, allowing teachers further support after their initial training, as well as access to an online community of teachers around the world.

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 math, 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.

- For more information, visit:
  www.intel.com/education

- For more information on the Intel Teach Program, visit:
  www.intel.com/education/teach

3. Evaluation Report on Implementing Intel® Teach to the Future in Schools of the Jordan Ministry of Education, Jordan Ministry of Education, October, 2003.

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