

By Elaina Loveland

A Sea Change in Jordan

An interview with the Jordanian Minister of Education

KHALED TOUKAN HAS BEEN THE MINISTER OF EDUCATION for the Hashemite Kingdom of Jordan since 2000. He previously served as minister of higher education (2001-2002) and president of Al-Balqa Applied University (1997-2001). Toukan's academic career includes the positions of acting dean of faculty of engineering and technology and professor of industrial engineering at the University of Jordan, research scientist at Kernforschungszentrum Karlsruhe, and associate research scientist at the University of Petroleum and Minerals in Saudi Arabia. His awards include the UNESCO Ghandi Medal of Peace (2003), the Royal Grand Gordon of Alkukab Al-Urduni (awarded by Jordanian King Abdullah II in 2003), and the Theos J. Thompson Fellowship (1980-81) in the Department of Nuclear Engineering at the Massachusetts Institute of Technology (MIT). Born in Amman in 1954, today Toukan is married and has three children. He holds a Ph.D. in nuclear engineering from MIT (1978-1982), an M.Sc. degree in nuclear engineering from University of Michigan (1976-1978), and a B.E. degree in electrical engineering from American University of Beirut (1971-1976).

Khaled Toukan was in Washington, D.C. in September 2006 as a featured speaker at The Conference Board 2006 Business and Education Conference, which was themed "Global Public-Private Partnerships in Education." The conference gathered CEOs from major global organizations and other business and education leaders. At the conference, IE took the opportunity to interview Khaled Toukan in person about developments in higher education in Jordan.

IE: What are the key points of the higher education strategy in Jordan?

TOUKAN: The Ministry of Education released a new National Education Strategy this year. (This is available online at www.moe.gov.jo) Education is a key factor in encouraging investment in Jordan's economy since it is the primary mechanism for upgrading labor market quality.

As noted in the National Education Strategy report, the mission of the strategy is to create and administer an educational system based on excellence, energized by its human resources, and dedicated to high standards, social values, and a healthy spirit of competition, which contributes to the nation's wealth in a global knowledge economy.

To achieve its goal of becoming an IT hub for the Middle East, the country looks toward new skills and knowledge and a national commitment to life-long learning. The global business environment emphasizes such skills as teamwork, problem solving, and the use of information and communication technology (ICT) in managing information and generating and applying knowledge.

The education system intends to be responsive in market demands in key industries and developing "knowledge economy skills" at all levels of the education system.



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Jordanian Minister of Education Khaled Toukan

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IE: During the past few decades, what advancements have been made in improving the higher education system in Jordan?

TOUKAN: Well, the number of universities in Jordan has increased dramatically. We had one university in the early 1960s and then two universities in the 1970s. In the decade of the 1990s, the number increased to a total of 20 universities. In the last decade, eight public universities and 13 private universities have been started. Today we have a total of 30 public, private, regional, and international universities offering programs in Jordan. So the decade of the 1990s witnessed the initial involvement of the private sector in Jordan. This was the era where the private sector stepped in to fill some of the vacuum that emerged because the government and the public universities were not able to accommodate the increasing demand on higher education in Jordan. The government stipulated that those in the private sector, through their own funding, could establish universities, populate universities, and expand on the programs offered by established universities. However, this was still under the guidance of the government that applied the education rules and guidelines to all private universities and public universities.

IE: What is the demand for pursuing higher education in Jordan among high-school-age students?

TOUKAN: We have seen a dramatic rise in students wanting to pursue higher education in the past several decades. For example,

in the 1960s, we had a total of a few thousand students enrolled in one university, the mother university, Jordan University. Today we have 200,000 students in the higher education system: 180,000 are in university programs and 20,000 are in community colleges.

IE: How do you assess the quality of education?

TOUKAN: The Ministry of Education is currently working within Jordan and also establishing contacts with international agencies to apply quality assurance stipulations like those in developed countries like England and the United States. We are also working with experts in the United States and Europe on assessing and evaluating the outcomes and the outputs of the universities. Over the last two years, we have required our students to take tests in certain disciplines, and now we are having graduating classes take tests as well. We have been collaborating with the Educational Testing Service (ETS) in the United States. We have adopted some of their tests, such as the measurement field tests, also known as MFTs. And, we have been subjecting our students to these tests, particularly in the areas of computer science, computer engineering, physics, chemistry, biology, mathematics, pharmacy, and also business and English, to compare the outputs of these universities in terms of the performance of students, what knowledge they have, and how to compare with international measures, particularly the United States and other countries, especially in the areas of computer science, sciences, business, and in English.

IE: What are the greatest challenges facing the higher education system in Jordan today?

TOUKAN: Well, for the public universities, the greatest challenge we face now is financing. We have a big demand for the public universities for the intake of more and more students. But as a government, we have limited financing with the growth of the number of universities and the intake of students in universities. We have at the moment 120,000 students enrolled in the public universities and 60,000 enrolled in the private universities. So the big problem that faces us in the higher education system is that the financing by the government has not grown in proportion with the demand on higher education institutions, particularly the public ones in Jordan. And this we feel has pushed universities to violate education quality in terms of the number of students in a given classroom, etc. It has also pushed universities to start accepting students over and above its capacity for evening programs at a higher rate in order to more or less compensate for the lack of financing.

Let me explain what I mean. Universities accept regular students for the regular price, which usually covers almost 20 percent of the cost of education. However, then they accept students on the evening program where they charge much higher rates, like three times as much. Unfortunately, this has been at the expense of quality. This has also been at the expense of faculty not being able to do their research and really continue their professional development.

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So this is, I think, one of the biggest threats and challenges for higher education.

On the private sector side, I think there has been, to some extent, a domination of profit making because the private universities were established with private sector funds. And except for very few of them, established a culture of excellence.

Profit making, or I would say, the commercial aspects of accepting students and graduating them has, to some extent, dominated the scene. That's why the government now is stepping in, going to apply strict accreditation quality assurance rules, apply more stringent requirements, more testing and evaluation of the outputs of all universities, and making those outcomes public. As a result, universities that do not meet the quality assurance criteria will be curtailed, particularly the departments that do not demonstrate quality.

Another challenge for the higher education system in Jordan is that now we are having saturation in some disciplines, particularly the social sciences and humanities. This is becoming a problem; we have an accumulation of people who are getting their degrees in social sciences, like sociology, psychology, history, philosophy, who are not able to get jobs in the country. And that's why I think the higher education system in Jordan is now faced with a challenge of channeling.

IE: You received your Ph.D. at MIT in the United States. How has your international education experience impacted your career? Would you encourage students in Jordan to take advantages of opportunities to study in other countries?

TOUKAN: Indeed, I personally would encourage any student to expand their education beyond their home country's borders. Actually the government encourages Jordanians, and especially those who score at the top of the classes in the universities, to encounter international experience in education, particularly in the United States. We know in Jordan that the best Ph.D. programs, the best graduate school programs offered in the world are in the United States. It's a very demanding system where a student covers a lot of depth in his field, in addition to preparing for a comprehensive exam. And this is coupled with an intensive research experience. So I think our belief in Jordan that the U.S. private schools, whether in a Master's or Ph.D., are first class and we value these programs a lot.

IE: How does the Jordanian higher education system promote education abroad?

TOUKAN: As a government, we require the universities, particularly the public universities in Jordan, and to some extent the private universities, to send students graduating at the top of their class—particularly in sciences, engineering, medicine—to apply to the U.S. graduate schools to be educated and qualified in the United States because we believe that this type of experience is of great value to the country because it's very hard. The students are able to get state-of-the-art knowledge in their own disciplines.

So, it's not just an encouragement. We require it. Now the law stipulates that every Jordanian university, public or private, has to send students on scholarships to international, prestigious universities, and in particular to the United States. At the moment, we have 800 Jordanian students studying abroad, the majority in the United States, the United Kingdom, or Australia, in different spheres of science, engineering, and medicine. And they are on scholarships from their own universities, and they have to come back and be qualified as practicing members. And we plan to send more.

IE: There are several trends in higher education today such as the development of branch campuses, foreign universities starting campuses in countries beyond their borders, distance learning, increased focus on internships, and others. Has Jordan been affected by any of these and if so, how?

TOUKAN: We have seen the effects of the branch campus trend. But now with the Internet and connectivity, we ask universities to establish partnerships with many departments in the United States and Europe. Also, we have international universities coming in and starting their programs in Jordan. I would mention, for example, from DePaul University, we have a Master's program now in Jordan. There are also other universities that have started programs here like the New York Institute of Technology and European universities like the Masters School of Management that offers a program in Jordan. So to some extent, now international universities are coming in and offering programs. Also, I think some Australian universities are trying to do the same.

IE: What is the most important element in developing a knowledge economy in Jordan today?

TOUKAN: Jordan's Ministry of Education has launched the National Education Strategy this year, a comprehensive program that is based on building our students' skills for the knowledge economy for a total of half a billion U.S. dollars. And our aim from initiating such a program is to prepare and train our young Jordanians from their early

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IE: What is the current overall philosophy of higher education in Jordan, and how does that impact the strategy to improve the post-secondary system?

TOUKAN: We do not believe any more that education in a given country is limited to just equipping or preparing the students for competition in their own country and in their economy. We do believe that the world is so small today that those coming out of our schools, those who are coming out of our universities, should have the knowledge, depth, skills, and practical experience that will allow them to compete internationally. And that's why we have launched such a program.

Now at the university level we do believe that this same philosophy, this same approach, should be pursued so that you have practical depth and you have a didactic that starts from early childhood education, continuing into primary schools, secondary schools, up to the university so that those students come out well prepared. That's why, in addition to infusing information and communication technology (ICT) formation and communication, technology in the classroom, connecting schools, using ICT board as a teaching tool in the classroom, developing e-content, using ICT to teach science, math, English, in addition to teaching ICT as a subject matter in the classroom. We are also emphasizing foreign languages, English, which is the international science and business language of the age.

And that's why we have started teaching English not just in the private and religious schools, but also in the public schooling system because we do believe that those students who graduate should have the knowledge of another language in addition to their native language, Arabic. We feel now it's a must for every student in Jordan that comes out of our schooling, he should be fluent in two languages, his native Arabic in addition to English as a must, and a very small percent also take up another language. A mastery of languages is the minimum. The mastery of the ICT skills is being able to use a computer to do simple programming, connect to the outside world, talk to his colleagues and be able to live the culture of ICT in his school and the university.

Jordan has always viewed itself as an exporter of manpower, particularly to the Arab countries. And that's why we believe that our educational system, whether from school or university, our students should have an edge, and they should have skills, up-to-date skills. They should have textbook knowledge. They should have a breadth so that they can still have a place to compete in and to grow particularly in the Arab Gulf, oil-rich countries, to have jobs as teachers, civil servants, engineers. And this was, and still is, one of the main sources of the nation's wealth

In the last few decades, studies done by the World Bank showed that for every U.S. dollar that the government spent on education

in Jordan, the return was three dollars in the long term. So we view this as our strategic wealth, and that's why our educational system is based on educating, training, and graduating Jordanians who really are able to compete internationally.

IE: What does the future hold for higher education in Jordan?

TOUKAN: It's time for a major shift. As I mentioned, a number of universities have grown substantially. But so far, they are teaching and learning universities. None of the universities has established itself as a research university that really can step in and fill in some of the vacuum created by the needs of the government of the private sector in order to do research development innovation, particularly at a sophisticated level with industry.

Our aspiration, which is also what we are working on right now, is to institutionalize a research culture in the universities in Jordan and to start moving ahead and establish graduate programs. We are totally against self-breeding, meaning students who just graduate with bachelor's and master's and Ph.D.s in Jordan. We will send students abroad to get other academic experience and avoid self-breeding. However, our universities should establish a research culture, and for this reason, in September 2006 the government passed a law for institutionalizing and establishing a national research fund which will collect one percent of the profits of public and private shareholding companies and channel this into a research fund that will be managed by universities, the Minister of Higher Education, and the private sector in order to stimulate the culture of research and development.

We believe that unless our universities step into building a research culture, then the whole quality of education and the culture of higher education in Jordan will dwindle. We believe that the universities moving into the research culture will elevate all the standards of education, starting from the undergraduate to graduate education. We believe that this is a challenge that our universities have to take. They have to move out of just the typical academic institution that offers just teaching. Good teaching is fine but it is not really the trade of the age. It's research and culture and being able to publish internationally, have a presence, and also to build strategic partnerships and research with international institutions across the globe, and particularly Europe, United States, and Japan.

Currently, we have some differences between institutions in Jordan. We have Jordan University for Science and Technology, a university established in the late 1980s. This institution has required its professors to publish internationally, in science, engineering, and other international journals. After 20 years, our best students come out of this university. And why? Because from the onset they moved away from just being, from inward-looking to outward-looking, from just being a classical teaching university toward being a university that encourages research—and now the challenge is to push all our universities in that direction.

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