

By Dave Cornelius

The Education and Skills Gap: A Global Crisis

SPECIAL REPORT

“OUR ANTIQUATED ASSEMBLY LINE MODEL OF EDUCATION FAILS TO GRASP THE FACT THAT THE PRESCRIBED ‘HOLE’ SIMPLY ISN’T SHAPED LIKE THE STUDENT ‘PEGS’ WHO ARE BEING PUSHED INTO IT, NOR DOES IT RESEMBLE THE NEEDS OF A HIGH-TECH, KNOWLEDGE-BASED WORKFORCE.”

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IT'S LIKE TRYING TO FIT A TRIANGULAR PEG INTO A ROUND HOLE

while both the hole and the peg continually change shape and size. Sound a little crazy? That's just what industry thinks about the current global “one-size-fits-all” concept of education. The perception from business, government and education leaders of 50 nations at the Bahrain 2010 Global Education Conference held last December, is that the global achievement gap between what industry expects and what education delivers is not caused by a lack of content. It is caused by a failure to provide opportunity for creativity, collaboration, context and practical application. Our antiquated assembly line model of education fails to grasp the fact that the prescribed “hole” simply isn't shaped like the student “pegs” who are being pushed into it, nor does it resemble the needs of a high-tech, knowledge-based workforce.

The problem stems from the fact that institutions mistakenly interpret rigor as adding more difficult coursework rather than demanding mastery of existing content at all levels. They are also mired in an archaic industrial revolution system that fails to deal with the requirements of an agile, pull-oriented, media-rich and increasingly accessible knowledge-based economy. Productivity is less time and space dependent. Knowledge and information are commodities. Geographic and job mobility have increased. These shifting conditions leave students at all levels feeling increasingly unprepared to meet the challenges of a 21st century workplace.

According to Mona Mourshed, partner and co-leader of Global Education Practice of McKinsey and Co.:

- 30 percent of available jobs internationally remain unfilled because companies are unable to find qualified talent.
- 70 percent of students leaving school at all levels lack practical experience.
- 56 percent of students leaving school lack any specific career training.
- 58 percent lack a sense of work ethic and professional conduct.
- 62 percent lack the ability to adequately communicate in both oral and written form.
- Students entering the workplace (including those leaving university and graduate schools) are generally unable to produce immediate results.

Only 20 percent of the unfilled 7.2 million jobs require a four-year degree. Most of the unfilled postings are high-paying positions that require a high degree of experience and relevant technical skill. Again the perception is that many educators and educational pundits have little concept of what is required and how it is acquired. Typical examples are the misguided attempts to add more technology without revamping teaching methodology, and adding more difficult content without applying it in context or allowing for the fact that very few careers require it.

Sir Kenneth Robinson, who in 1998 led a national commission on creativity, education and the economy for the UK government, cited a McKinsey study that indicates: “American spending on educa-



▲ Dan Shine, president of the 50x15 Initiative, demonstrates live classrooms of the future at the Global Education Conference held last December in Bahrain. The 50x15 Initiative seeks to use technology to create new opportunities in areas like education in the world's vulnerable communities.

tion since 1980 has increased 73 percent in real money. Class sizes have gone down to historically low levels. But on the indicator of literacy there has been no change. Dropout rates are increasing and graduation rates are declining.”

According to Robinson, the problem is we are “trying to lead the future by doing what we did in the past. Along the way we are alienating millions of kids who don’t see any purpose in going to school.” Unfortunately most efforts to move education into this century are focused on adding more science and math for all students. Although they are important for a select few, they have little relevance to the skills students need to function in today’s world.

Business leaders recommend several core competencies or “survival skills” necessary for success in a 21st century workplace. These universal requirements are in addition to mastery of job-specific

theoretical knowledge and technical skill.

Tony Wagner, co-director of the Change Leadership Group at Harvard Graduate School of Education, defines the core 21st century survival skills as:

1. Critical thinking and problem solving
2. The ability to create, collaborate and communicate across media-rich networks and systems
3. Agility and adaptability
4. Initiative and entrepreneurship
5. Effective oral and written communication
6. Accessing and analyzing information and
7. Curiosity and imagination

Areas of Global Concern

Increasingly, the worldwide challenges are remarkably similar. Wagner suggests three areas of global concern:

- **Global equity** must be achieved in the areas of basic literacy, access to education and availability of Web-based tools, access and infrastructure.
- **The methodology of teaching and assessing** knowledge and skills must be drastically overhauled to accommodate divergent learning styles as well as knowledge-based economy demands.
- The **understanding of what motivates the “net generation”** to excellence must be accurately understood and addressed.

According to John W. Scott, CEO of Bahrain Polytechnic, “Employability skills must take priority for both students and employers.” He suggests that in order to produce work-ready graduates, educators must collaborate with industry leaders to:

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▲ Tony Wagner leads a plenary discussion group.

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▲ Mobile technologies are keys to collaborative learning and access to information.

- In order to facilitate systemic transformation, the education community must alter a few perceptions.
- Employability skills can no longer be considered secondary “add-ons” or byproducts of the education process; they must be integrated into every level of teaching and learning.
- Education must be willing to reflect the face of change in business, industry and the professions. A knowledge-based economic system requires students and educators to prepare for a rapidly changing future. This preparation cannot be based on what is rapidly obsolete knowledge, pedagogy or technology.

Technology and pace have changed the workplace but not education. The world requires technology as a tool that facilitates learning. It is place neutral and time independent. In contrast, educational institutions are focused on locations and seat time. Furthermore the very mobility tools that are required for learning and success in the world are restricted or prohibited in most educational settings. This disparity demands a change in the traditional content. Meaningful change is inhibited by:

- Entrenched pedagogy and vested interest
- Lack of political will
- Lack of confidence in the new paradigm
- Uncertainty as to the implications with respect to international competitiveness
- Old World teachers and the lack of or interest in retraining
- Old World-designed curricula
- Inflexible facilities and a lack of resources to change and
- Unwillingness to accept that an entirely new approach to teaching and learning is required

- Determine the desired outcomes and employability skills.
- Develop behavioral descriptors that can be measured.
- Design a “universal curriculum” around competencies.
- Use learning strategies that develop

- competencies through problem-based learning opportunities.
- Create a transparent assessment methodology.
- Provide evidence of performance and industry-recognized portable credentials.

Understanding the Situation

Despite the scathing indictments of our current educational system, there is much that is positive. Changes are being made at local levels. In fact as Charles Leadbeater, consultant for innovation in education in the United Kingdom suggests, “Education + Skill training + technology = Hope.” According to Leadbeater, educators must realize that “most innovation comes from collaboration. Most effective learning occurs as a result of collaboration. Our current system of education can’t deliver the necessary outcomes with the current teachers and techniques that are in place.”

Systemic transformation will only occur when new attitudes and delivery techniques are universally used to address the needs of the workplace and the motivations of what is now being described as the “Net Generation.” The current generation of learners is very different from their teachers. They are accustomed to instant gratification. The “always on” connection has resulted in a physical rewiring of their brains. They use the Web for extending friendships, interest-driven learning and self-directed inquiry, and they view the Internet as a tool for self-expression.

They are constantly connected, creating and multitasking in a multimedia world everywhere except school. Young people ages eight to 18 spend seven hours and 38 minutes a day using electronic devices. If you factor in multitasking, that time increases to 13 hours. They have less fear than their predecessors. They have less respect for authority and want coaching or mentoring, not lecturing. They want and need to “make a difference.” In order to truly transform education, educators must reframe everything to address the needs of the world and its learners. That does not mean simply adding more advanced scientific and math coursework that the vast majority of learners will never use.

“ACCORDING TO LEADBEATER, EDUCATORS MUST REALIZE THAT ‘MOST INNOVATION COMES FROM COLLABORATION. MOST EFFECTIVE LEARNING OCCURS AS A RESULT OF COLLABORATION. OUR CURRENT SYSTEM OF EDUCATION CAN’T DELIVER THE NECESSARY OUTCOMES WITH THE CURRENT TEACHERS AND TECHNIQUES THAT ARE IN PLACE.’”

Seismic Systemic Shift

The current educational buzz surrounds the success in Finland. Jaana Palojarvi, director for international relations of the Finnish Ministry of Education and Culture, credits a “culture of trust in education professionals” as being a key component. In this environment, schools are autonomous. Community stakeholders are involved in collaboration. Assessment is school-based. There are no school

districts. The government’s responsibility is to ensure that schools and teachers have enough resources and technical skill to complete their mission and to ensure a balance between diversity and public standard. In this model, schools and teachers have enough skills and freedom to innovate. The focus is on teaching and learning not testing.

David Hogan, from Singapore’s National Institute of Education, suggests

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▲ Attendees see access to multiple modes of engagement as crucial.

that any improvement model must be “neither too tight or too loose.” That, of course, is a challenge, but the basic design principles are quite similar. A systemic improvement plan needs to:

1. Balance strategic top down movement with bottom up flexibility that provides room for innovation.
2. Reconcile relevance and rigor within the context of stakeholder partnerships.
3. Provide a consistent, sustained, task-oriented focus on improving instruction.
4. Focus on capacity building, distributed leadership and high-quality professional development.
5. Have a tolerance for failure as a matter of principle.
6. Tolerate downstream implementation.

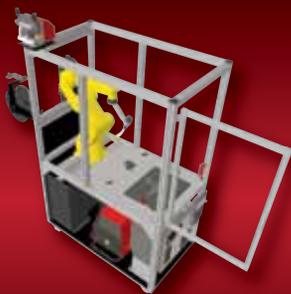
In order to implement whatever model is designed, Kevin Knight, director of School Improvement Services for the New Zealand Graduate School of Education, insists that teacher preparation is key. It must begin with the defining of the job. It is difficult to focus on outcomes when there are constantly changing and conflicting expectations.

Second, identify what a teacher should be doing. This includes examining skills, including management, workflow, collaboration, classroom management, delivery techniques, facilitating collaboration, structuring inquiry and developing relationships with students. Less time needs to be devoted to lesson plans and more to the art and skill of delivering those plans. This is best provided in a non-judgmental system of teachers helping teachers. Finally, recognize that teacher training is a

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specialty best practiced and learned in the practical classroom and not in the university laboratory.

According to Andrew Blair, president of the International Confederation of Principals, our current crisis of confidence is exacerbated by the fact that schools are given additional responsibilities of dealing with parenting, family dysfunction, basic care, health and student well-being. Furthermore, the process of teaching and learning is eroded by the proliferation of high-stakes testing and “perverse incentives” that serve to narrow curriculum. The general consensus is that “teachers have lost their long-term vision and lost touch with their goals.” Blair reiterates that educators have forgotten how to deal with the “What could be” in education because they are mired in the “What is.”

Call to Action

Minister of Education for the Kingdom of Bahrain HE Dr. Majid bin Ali Al Nuaimi outlines what must change.

- We must move from a system that is rigid to one that is flexible.
- We must reject a system of homogeneity in favor of one that provides for diversity.
- We must move from a system that fosters a culture of narrow theoretical knowledge to one that requires mastery, quality and professionalism at all levels and in all subjects.
- We must move from the old industrial model of rote learning and begin to foster innovation, creativity and collaboration across disciplines.
- We must stop taking things for granted and insist on self-evaluation and accountability.

- We must reject a culture of responsive behavior in favor of active behavior.
- We must reduce dependence on delivery by teachers in favor of self-dependence and responsibility.
- We must reject short-term learning in favor of lifelong learning.
- We must eliminate the culture of easygoing education in favor of one of reflective teaching and learning.
- We must cease teaching and learning focused on exams and encourage learning for being, knowing, working and living. **■**

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