



Microsoft in Education:

Getting to anytime
anywhere learning for all



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There has been much discussion in the media lately around the state of the educational system across the world. While some markets fare better than others, as a rule, the world has an education problem to solve. Students are not graduating from primary (high school) or secondary (university) schools at optimal rates. Many countries' unemployment rates are high, yet skilled jobs in each of those countries remain unfilled, affecting businesses in nearly every industry and region around the globe. As a result of the 2007 economic crisis, unemployment rates for youth soared from 13 percent in 2008 to 18 percent in 2010, the sharpest rise on record for any part of the world, with some countries like Spain and Greece having a youth unemployment above 50%. The International Labor Organization reports nearly 75 million youth are unemployed around the world, an increase of more than 4 million since 2007. As a result, education's greatest challenge and opportunity is to prepare students for the jobs of tomorrow and be personalized enough to help each student reach their full potential. If this is accomplished, logic assumes these same students will go on to pursue skilled jobs that will ignite countries' economies and competitive edge.

As with all areas of reform, technologies are key to transforming the learning environment. Too often technology is bolted on and not integral to enhancing and assessing learning within schools. Schools need access to technology for all students and teachers in order to support anytime anywhere learning, personalization and 21st century skills.

In difficult economic times, minds are easily distracted with short term fixes, we are seeing many institutions where short term technology fixes like parachuting a certain device, like an iPad, a Chromebook, a PC for that matter, into the classroom with no guidance or regard for what really needs to be fixed in the system and time and time again we are seeing them fail. With schools left with defending technology spends that are not impacting outcomes. The good news is that we have found

that technology coupled with an honest look at changing and innovating teaching practices in combination can have an impact to increase learning outcomes.

Cutting costs today often means postponing fundamental investments and opportunities that are fundamental to increasing education outcomes and providing better learning opportunities to our students. Private organizations like large technology companies and the education industry at large must join forces to provide these opportunities through innovation and efficiencies with real impact regardless of the amount of money available to us. I wanted to take this opportunity in our unique position of leading the marketing of one of these companies, Microsoft, to singularly focus on what we can do to help effect this change.

In education, Microsoft is more than a services, software and devices company. We're a company deeply vested in and committed to doing our part to solve this problem. Our approach to accomplishing this is unique. We believe technology has an important place in the classroom but, most important, we believe teachers are central to helping students succeed. This is why we have invested over \$750 million dollars and countless hours of human capital to train teachers, provide them with professional development opportunities, and connect them with each other to inspire classroom best practices.

We believe, when implemented correctly, technology has the power to inspire and motivate students to learn, and the ability to empower teachers to teach and prepare students. When a school is ready to integrate technologies into classrooms, our approach is unique still.

- We believe technology solutions ought to be as unique as the teachers and students in each classroom. We fundamentally disagree there is a one-size-fits-all technology solution.
- Hence, the emphasis we place on partnership with schools: We commit early to partnering with schools for the long haul because the hard problems don't stop surfacing after an initial technology investment.

We believe increasing graduation rates requires everyone's involvement – parent, community, government and private sector. And we believe it requires, in addition to these aforementioned investments, an emphasis on curriculum design, assessment, school leadership, inspiring learning environments, and teacher capacity.

Our vision is to truly bring Anytime anywhere learning for all to light.

So now that we have clarified Microsoft's position, let's now turn and look at what education systems could do to effect change and a few suggestions on how to go about making these changes. It has long been understood that education is central to the development of individuals and to creating socioeconomic opportunities in communities around the world. Yet many nations find that their current educational systems are not engaging students or preparing them for the future.

Sparking the natural curiosity of young people and enabling them to be successful in the workplace often involves changing an entire education system, rather than just tinkering with its parts. Systems, whether biological or organizational are comprised of interconnected sets of sub-systems. Changing just one or two parts of the system may be helpful, or it may be harmful or have no discernable effects, depending on how the change interacts with other aspects of the system.

Similarly, transforming education is traditionally challenging, and there is often a discrepancy between policymaking and true change in the student learning experience. We live in a time of constant technological change and innovation, which affects nearly every aspect of our lives, from the way we communicate to how we do our jobs and spend our leisure time. Yet in a world of education comparatively little has changed. Classrooms across the world look much as they always have, with a single teacher in front of a blackboard imparting lessons to students seated at rows of desks. The school day is divided into periods that correspond to specific subjects in a fixed curriculum. Through this traditional model, some schools might add in a bit of technology as a way to increase efficiency or access to information.

Compare this to the lives that young people lead outside of school. In increasing numbers all over the world, they browse the web, download music, visit chat sites, upload homemade videos, and communicate with friends using instant messaging, watching multi-channel digital TV, blog about their experiences and read books, magazines and articles online. Much of this activity happens simultaneously and on portable devices. In this increasingly interconnected world, young people have an expectation that experiences, services and products can be configured to their individual needs and preferences.

The challenge for education in the 21st Century is to create an approach that is agile, adaptable and in tune with young people lives outside of the classroom and their future employability. The answer lies in innovation, but the question is what kind of innovation, and how should it be implemented?

The solution is complicated, and using technology as the only solution will not solve these challenges. Even when introduced in schools with the necessary physical infrastructure, simply giving each child a computer will typically not produce superior learning without additional changes in the nature of the school's teaching, learning and assessment practices (M. Dynarski, 2007). In this example, effective change would require a more holistic approach to completely transform the learning experience of the learners.

Through Microsoft's work with innovative schools, which are a set of 100 schools around the world that have been selected for their innovative moves in education we have identified four areas for systematic innovation to get us to the school of the future. Below the surface of a successful school is a system of connections and interrelationships that enable transformation in a focused and coordinated way. A helpful framework for thinking about systems innovation is adapted from the work of Knapp, Copeland and Talbert (Knapp, 2003) The goal of the framework is to help coordinate changes so that they complement rather than compete with one another. The framework highlights four top dimensions:

1. Fostering Leadership and a Culture of Change
2. Teaching, Learning & Assessment
3. Building Capacity with Educators
4. Learning Environments

Many innovative attempts to introduce student-centered, problem-based learning and technology rich learning environments have not succeeded today because they collided with existing, and sometimes outdated-assessment practices, or because professional development for teachers and leaders was underemphasized (J. Roschelle, 2008) Using these critical areas for reflection helps innovators think through each of the pieces of reform and how they interrelate, to drive forward change.

How can the school develop a culture that is conducive to innovation? First, by fostering leadership and a culture of change.

At the heart of the innovative process is a school culture that is dynamic, forward –looking and empowered. In Michael Fullan’s book *The Six Secrets of Change*, one of the elements of successful change is understanding that learning is the work. As he says, “Learning is not workshops and courses and strategic retreats. It is not school improvement plans or individual leadership development. These are inputs. Rather learning is developing the organization, day after day, within the culture.”

An innovative school is not one person’s creation but rather the product of enabling whole school to help design new processes and procedures. This requires successful management of relationships at all levels across the school and beyond to include parents, community and other stakeholders. A particular focus is on leadership development, preparing administrators to be instructional leaders, supporting a distributed group of leaders rather than a select few, and devising plans for developing leaders and leadership at all skill levels. These leaders are responsible for promoting a school-wide learning community that keeps all stakeholders working together on the common goal of improving student learning.

In addition to the development of individuals, a culture of innovation depends on organizational development and management. Another way to facilitate innovation is changing school structures such as facilities, programs and use of time. Finally providing time during the school day for staff collaboration and school networking can enable effective change.

Continuous evaluation is necessary for developing and sustaining a culture of innovation. Successful innovation requires that schools use technology-based analytical tools that help them measure student outcomes and identify those who are struggling academically and their areas of underperformance. By using such systems, educators can more effectively deploy resources and intervene at appropriate points. At the school level, measures of progress can range from student attitudes and achievement to overall school metrics to attendance and drop out rates.

The next area we should look at is teaching, learning and assessment. How should curriculum be designed, and how should students be assessed? How can student directed learning be encouraged?

In most countries, school curricula and instruction are mostly didactic based on subject-based knowledge transmission and large amounts of rote learning. This ignores many skills that are increasingly necessary for life and work and often fails to engage students. Of course, schools implement and work accordingly to national standards and other learning requirements, but they can also consider more effective teaching and learning strategies and encourage student centered learning and assessment processes.

Many innovative schools actively engage students in their learning and in the co-design of the learning process. There are a variety of ways of doing this, from the use of student councils to students as researchers within schools, to online student feedback on the quality of teaching and learning. Technology skills are crucial in the 21st century, but technology should play a bigger role in the transformation of learning practices. High-level ICT integration increases the possibility of personalizing learning processes, and making learning accessible to students anytime and anywhere.

Thirdly we need to build capacity with educators. How can teacher skills be identified, taught and measured? What kinds of training and development are needed and how can their effects be measured?

Just as student learning must evolve beyond a transmission model to actively engage students, teacher-learning means more than attending required workshops and teaching in isolated classrooms. Experts agree that true professional development involves establishment of a professional community focused on learning.

Teachers need continuous training and supportive assessment to cope with the demands of the changing educational landscape. One route is for schools to develop their own models for training and apply these consistently. Professional development includes peer-to-peer coaching and mentoring not only for newly hired teachers, but as an ongoing practice for all teachers. As with other areas of reform, technologies offer opportunities to transform teaching and the support of teaching learning.

Finally, we must address learning environments. How can the school use technology for management, learning and communication? Can the school personalize its offerings and measure outcomes using technology?

One dimension to consider is the design of physical spaces for rich and diverse educational experiences, including space for oral discussion, project work (creations in art, science, etc) and performance. Learning opportunities can be extended by considering virtual spaces for simulations, role-playing and networking.

The learning environment can be developed so that it supports learning in and out of school through such options as leveraging technology to extend the classroom, community service and work internships, and by involving community members as mentors and coaches. In this way, education is unconstrained

by time and place. The good news is we already have many of the transformative solutions that we need. It is now the time to accelerate adoption.

1. **Moving to the cloud** – Keeping in house systems up to date is both expensive and time consuming allow your IT staff and teachers more time to work on things that matter in the classroom. Cloud Computing lowers overall costs, increases access, and provides scalability and elasticity to the delivery of educational services
2. **Do more with communication and collaboration** – through communication services like the Office 365 service you can offer your students and teachers new ways to collaborate online through voice, video, documents, and many more rich and powerful ways. This also gives you the basis to establish a digital identity for your students that can empower among other things powerful analytic systems that are key to change. This is a complementary service that Microsoft offers to education.
3. **Manage key relationships** – provide end-to-end student, vendor, and facilities management with relationship management software. Software like this can provide very good insight into the reams of data that an education system produces and identify things before they become problematic or systemic.
4. **Increase insight and data visualization** – Intuitive, Interactive dashboards delivering relevant views of information at the right level of detail make it easy to identify and remediate struggling children and can help inform on how the school system is performing as a whole
5. **Embracing new technologies such as mobile computing and natural user interfaces.** New, lightweight, portable, devices are coming onto the market at an alarming rate and more intuitive and natural user interfaces can help bring education closer to home. Imagine using Kinect to watch and interact with your classroom or help an child with accessibility issues or opening up the classroom through your laptop, tablet or mobile device from anywhere at any time.
6. **Unlocking new and rich media types through apps** – make textbooks come alive or check your national standards on the fly from your device anytime and anywhere. With the thousands of educational apps that are coming online in short form there is a limitless amount of material available to educators to engage and delight their students.
7. **Integrate technology training into curriculum to produce workforce ready students.** Programs such as IT Academy from Microsoft provide the curriculum necessary for students to graduate and step into the technology jobs that the job market is demanding.

All of this is possible today in 2013, by looking at what is currently possible in the technology landscape change in education we can make large systemic changes in education that will increase educational outcomes for all.

“Emerging technologies and approaches in online education enable all instructors to practice what the very best teachers have always known: that students are enabled or limited by their

prior knowledge and that the fine art of teaching involves discovering the multiple pathways that will move students from where they are to the desired learning outcomes.”

(Matthew Prineas, 2011)

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