

Innovative Teachers: Understanding, Developing and Managing Innovation A Report on the Innovative Teachers Forum

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“...the advent of knowledge-based economies demands that we not only understand innovation, but that we also increase our capacity to develop and manage it.” (Cumming & Owen, 2001, p.1).

Participants in the 2005 Innovative Teachers Forum insisted that our knowledge society demanded that education change. “Today,” the 2005 Forum report, concluded “students need to learn *how* to access, manage, and make sense of information; communicate and collaborate with others; and build knowledge and understanding. In short, they need to learn how to learn so they can go on to lead fulfilling and productive lives.”

In November 2006, 175 educators from 32 countries gathered to celebrate their successes as innovators and to help other educators understand more about the key themes of the Innovative Teachers Forum: building community, collaboration with colleagues and access to quality content. Microsoft convened the Forum as part of its Partners in Learning initiative.

More than 100 countries participate in this initiative, which brings together education and government leaders to offer schools and administrators a spectrum of education resources—tools, programs, and practices—that empower students and teachers to realize their full potential.

Sixty-seven teams of educators attending the 2006 Forum presented their classroom best practices, offering other participants the opportunity to learn from these innovative teachers. The intense discussion about these classroom learning activities helped lay the foundation for ongoing collaboration among this new community of learners. Participants also engaged in a hands-on demonstration; learning how other educators used tablet PCs to support innovative classroom activities.

Participants in the Forum had the opportunity to visit the School of the Future, a partnership between Philadelphia’s Public Schools and Microsoft, to learn about moving from individual innovative practices toward school-wide innovation. Following this visit, participants engaged in a series of activities that helped them to begin to define the characteristics of innovative educators, classroom innovation, and the school environment essential to develop and sustain innovation. The results of this work, their “Keys to Innovation” are part of this report. These “Keys” are designed to assist other educators moving along the path of innovation.



Innovative Learning

What type of classroom activities will prepare today's learners for the future? If you listen to the sixty-seven teams of educators who presented learning activities at the 2006 Innovative Teachers Forum, you would hear very similar themes repeated time after time. The examples below illustrate the type of projects that were shared at the Forum and highlight many of the characteristics of learning these innovative educators believe will prepare their students.

Revitalization of Cipoaba Stream

Two of the educators who presented at the Forum asked junior and senior high school students from an economically poor neighborhood to convince their community and the local government to clean up a badly polluted urban stream that flowed behind the school. The school principal, who conceived this project after she attended ICT leadership training, hoped that the learning process would change the local environment, and convince her students of the value of civic engagement. Students captured digital images of the stream, researched the source of the pollution, outlined a clean up strategy and planned a tree nursery for the banks of the stream. They used Movie Maker to present images of the stream, added music, and the script they wrote to make their case to the local community. The students' use of voice, images, and music was a success. Using ICT to present the problem and their solutions, they engaged the community and captured the attention of the local government. The students' success at using ICT to create and share their ideas about the fate of the stream helped them to develop a sense of social inclusion and responsibility.

Natural Disaster Youth Summit

Educators from another high school asked students to create the history of a great earthquake that had devastated their community ten years earlier. They used Internet Explorer to gather information about the event and used Word to create a personal history of their community's experience during this natural disaster. To share their stories and their community's history with students living in other countries, the students utilized PowerPoint to publish their work on the Web. Once published, they used an electronic discussion forum to discuss their findings with students in other countries. Two of the students who participated in creating this history project were chosen to represent their school at an international program, "The Natural Disaster Youth Summit." They presented their history project and plans for natural disaster preparedness to students in countries all around the world. Information and communication technologies were key to this project's success. Without ICT, the students would not have been able to gather important resources, present their stories and findings to peers in other countries, and gain feedback from that real world audience.

Characteristics of Innovative Teaching and Learning

What characteristics of innovative teaching and learning do these projects share? The educators who attended the 2006 Forum outlined the key characteristics of innovative teaching and learning. The “Keys to Innovation” they defined are highlighted in the discussion of classroom learning activities below. The characteristics of innovative learning activities described in the “Keys to Innovation” closely align with the traits of 21st century student skills being developed by many countries around the world. One example of these types of student skills can be found at www.21stcenturyskills.org/.

Students in the environmental and historical projects described above were involved in **engaging** learning activities. Their learning tasks:

- Were authentic for the learners and had value to them outside of school.
- Actively involved students in learning.
- Provided them with real world feedback on their work.

These learning activities were also **problem-based**. The tasks they completed led the learners to:

- Form a reasoned judgment.
- Solve a problem.
- Plan a course of action.
- Persuade or convince someone else.

Global Dreamers

At another school, students in the fifth through eighth grades were encouraged to develop their language, communications and geography skills by participating in a variety of online learning activities with students from other countries. Students engaged in projects about pets, favorite foods and recipes, the weather, winter holidays or shared stories about their family and people in their community. The students from these various countries not only developed the content for the Web site where they share their learning, they also worked with learners from other countries to create the Web pages where other students could post their work. Students from each country took responsibility for a different aspect of creating the pages. To date, learners from 90 schools in 37 countries have participated in one or more of the learning activities that comprise this project. Without ICT, this project would have only been a dream in the mind of educators. The tools ICT made collaborative learning possible for students scattered around the world.

What is innovative about this project? Like the two projects described earlier, this learning activity is **engaging** and **problem-based**, but it is more. These additional attributes are important innovations in classroom learning activities.

- Clearly, it is **authentic**. The tasks were designed to have meaning in the learners’ lives.
- The learners took **pleasure** in learning. As one noted, *“I learned a lot about computers and an important thing I learned is how hard it is to manage a successful site ...When you work with human beings, your work must be on time or else someone gets hurt. This teaches us to keep a schedule and be considerate of all the kids in the project. Sometimes it is hard, but most of the time it is pure fun.”*

- As the quote above points out, the learners also developed some unique **collaboration** skills as they worked as a team on this project. Another learner pointed this out when they said, *“The site is very impressive and I am very proud of our work. I think we were great as a team and it brought us all together.”*
- These projects also put the **learner in a new role**. They were not dependent on their teacher; they were teaching each other. The students understood they were creating and growing together as they helped each other learn. As one of the participants observed, *“Everybody helps to build the site. ‘One teaches the other, and the other teaches somebody else.’ Whether it was a software program... everyone wanted to learn and everyone helped each other. That is the best way for a class to learn by coming together and sharing.”*

Each of these three projects shared two other traits that are critical for innovative learning: they are **standards-based** and they **use information and communications technology (ICT) to enhance academic achievement**.

As standards become a more powerful force driving classroom instruction, it is critical that learning activities are shaped by these standards. The projects above clearly were.

- The educators who created these projects identified two or three key curricular standards or learning objectives they wanted the learners to master and defined how the students would demonstrate knowledge of these standards.
- The educators clearly identified how student mastery of the standards would be assessed. Before the learners began working, their teachers explained to them the various methods they would use to assess the students’ work.

While these projects were standards-based, they were not designed to focus on narrowly defined content standards. Instead of relying on serendipitous learning, the classroom activities were created to intentionally cross artificial boundaries that schools often use to separate content areas. They were interdisciplinary. As one learner involved in a project that was designed to promote English language communications skills noted, *“We are not learning just English. We are learning about the world, and about different cultures.”*

The projects used ICT to **enhance academic achievement**.

- Learners used ICT to access quality information or points of view that otherwise were not available in the classroom.
- Through the use of ICT, the learners could share ideas, present their conclusions and communicate with remote groups.
- ICT helped students receive feedback on their work from communities outside their classroom.
- Students involved in these projects might tell you that ICT helped them participate in democratic processes.

Each of the learning activities used ICT to fuel innovation, but none of the innovative educators assumed that they would achieve innovation by simply using ICT. Technology became an innovative tool because educators paired it with innovative instructional strategies.

Reviewing the classroom learning activities this group of innovative educators presented at the 2006 Forum paints a very different view of the role of teachers. These best practices demonstrate that if they are to prepare students for the knowledge society, innovative educators need to be “knowledge-building teachers” (Hartnell-Young, 2006).

Islands of Excellence with No Ferry Service

What conditions need to exist in the classroom, the school and the minds of educators to move from individual innovation and boutique projects to successful school-wide innovation? Many of the educators at the 2006 Forum are like other innovative educators world-wide in one important respect: they work in isolation. Without any formal mechanism to collaborate, they are in effect “islands of excellence with no ferry service” (Hartnell-Young, 2006). While attending the Forum, these innovative educators demonstrated their understanding of innovative classroom activities. They also engaged in activities that asked them to share their knowledge about the environment and culture needed to develop and sustain an innovative school.

What conditions need to exist for a school to have the capacity to develop and manage innovation? The following example of one innovative classroom learning project presented at the Forum helps explore the answer to these questions.

Reading and writing? With Computers!

As one group of innovative teachers looked at classroom evidence of learning, they realized a number of their third grade students were “unmotivated” and not working up to standards. They were not reading, writing or communicating at their grade level. The teachers hoped to address the issue by motivating their students with a series of challenges, which learners found as they opened a number of “boxes.” One of these boxes was physically present in the classroom; the remainder were “virtual” boxes that students went online to open. All of the boxes contained challenges that encouraged the learners to develop reading and writing skills, and to create a PowerPoint-based story that demonstrated their mastery of these skills. Each of these stories was “published” and collectively, they formed a learner-created book.

As the teachers noted, the learning activity they created was both “fun, and challenging” for the learners. It was also effective. In reflecting on the activity, the teachers observed that the learners were more motivated to learn, their self- esteem grew, and their communication skills improved. As you can tell from the title of the project, the educators who shaped this learning activity believe ICT plays a critical role in learning. Clearly, it plays a role in motivating students. These educators understood that each of their students had different needs and they used ICT to differentiate learning to meet these unique needs. As important as ICT was for student learning, it was even more important for the educators involved.

For educators interested in innovation, there is much more to this story. Initially, the project involved two teachers and their peer coach. Other teachers who faced similar challenges in their classrooms expressed an interest in participating and they, along with the school’s librarian and computer lab instructor, joined the team that had initiated this project. Together, this team collaborated to create and implement new learning activities. The school’s peer coach facilitated a series of eight meetings where the team reflected the problems they faced, discussed solutions and constructed the learning activities found in each of the “boxes” the third grade students would open. The process of creating these learning activities was truly collaborative. One teacher offered content knowledge. Another sparked their creativity by asking challenging questions that helped the team rethink their ideas. A third teacher provided tech

skills. Working together, the project came to life, and the educators' confidence grew. With the work they had done together, and the support of the team, each of the educators involved were willing to try something new and innovative in their classrooms.

At the conclusion of the learning activities, the team came together again to reflect on the implementation and impact of the classroom activities. In addition to the gains in student achievement, this project led to half of the teachers in the school using ICT in innovative practices.

A common classroom issue created the impetus for sustained collaboration among peers. In fact, the need to address this classroom challenge was so pervasive that the collaboration grew beyond one school. Innovative educators in the original project shared it with 18 schools across the country that were in this school's collaborative network. Today, more than 300 teachers and 6,000 students are engaged in the project. The majority of their collaboration is virtual. Participants in the network access classroom resources created by others using the Web, and utilize an electronic forum to learn from other teachers about how to use these resources.

In reflecting on the project, the original participants concluded that they had developed a "collaboration culture among teachers." Their group had created a new culture. "We are part of a huge network, a school community that has developed the culture of thinking, the culture of creativity and the culture of meaningful knowledge." In creating this community, they have also created and enhanced the school's capacity for innovation. They have created the "ferry service" to join together and expand the "islands of innovation."

Conditions Essential for Innovative Learning

What can other schools that want to offer their students innovative learning opportunities learn from this school's experience? Through their visit to the School of the Future and in other activities at the Forum, innovative educators went beyond thinking about innovation in their own classrooms. They focused on the personal characteristics of innovative educators, innovative classrooms and innovative school environments. In short, they identified conditions necessary to foster school-wide innovation. The characteristics they felt were critical for innovation are consistent with research on innovation from Australia, Belgium, Great Britain, the Netherlands, and the United States.

If you asked the educators who were involved in the third grade reading and writing project to describe the conditions at their school that supported the creation of their innovative project, they would likely argue that educators at their school:

- Held a **shared vision** for innovation.
- Maintained **high expectations** for all students' achievement.
- **Used classroom data** to shape instruction.
- Understood that they would have to **adapt new methods if they wanted to insure success** for all learners.



A deeper look into the project, and other classroom projects presented at the 2006 Forum, reveals some critical aspects of the school culture and school environment. These teachers were **risk takers**. The fact that the **school provided time and resources** for the teachers to work together to develop these learning activities indicates that **innovation is encouraged** at this school. By encouraging innovation, the school helped teachers understand there **would not be repercussions for trying new things and perhaps even failing**. In this school, educators had the **supportive leadership** needed for innovation to flourish.

The teachers identified the problem they wanted to address and started to work collaboratively on a solution, demonstrating another practice that is critical for innovation to succeed. The school leaders **empowered these teachers** to take the lead in addressing the literacy challenge. The educators, working with their coach, had the **cognitive skills**, the knowledge and expertise needed to address the issue the school faced, and the desire and willingness to share this knowledge with other teachers facing similar challenges. The school administration recognized the benefits derived from **encouraging leadership at many levels in the organization**. By **providing time and resources** for the group to work, and a peer coach to facilitate the development of these learning activities, the school also showed that it understood that it could **promote change through sustained professional development**. This school was developing the prerequisites required for innovative schools, “increased autonomy, an innovative capacity, and transformational leadership” (Van den Berg, Vandenberghe & Slegers, 2000, p.327).

Schools that are beginning the process of innovation required to assist learners to develop the skills they need for their future, face a journey down a difficult road. The road toward innovative schools has in the past been littered with unsuccessful efforts. By working collaboratively to utilize the ideas raised by educators who participated in the 2006 Teachers Forum and current research, educators will have tools they can use on this journey.

Additional Resources

In addition to the report on this conference, three additional resources were created based on the work of innovative educators attending the conference. Each of these three will be found on the following pages.

Keys to Innovation Chart

The educators’ “Keys to Innovation” referred to in the report above have been gathered into a chart, which considers personal characteristics of innovative educators, the attributes of innovative classroom learning activities and the traits that need to be in place in the school’s environment for innovation to develop and flourish.

Innovation in Education Literature Review

Many schools want to support their efforts at innovation by accessing the scholarly research on a variety of topics of innovation, but they lack the time or other resources to locate this research. In an effort to provide some access to that valuable material, this report also contains a summary of research on several key topics in educational innovation. The research cited in this brief review comes from universities in Australia, Belgium, Great Britain, the Netherlands, and the United States.