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# Five Ways To Bring Technology into the Classroom Without the Gadgets

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When many hear the phrase "educational innovation," they immediately think about technology. It's true that education conferences, software companies and many TV commercials promote that connection -- and often benefit from it.

Technology was originally idealized as the panacea for our nation's "failing schools" and is now vilified as an expensive way of making antiquated practices and content "cooler." The reality is in the middle: Technology is not a panacea, but used effectively and implemented purposefully, it can help transform how our children experience school.

The standards that will drive changes in our schools, and the testing that will assess those changes, remain major areas of contention and controversy. But most people agree that what is taught -- and how students are learning in our schools today -- is not sufficiently and effectively preparing them for the world into which they will someday graduate. In order to fulfil their promise, schools must adapt and innovate to better meet the needs of today's students and society. So what does that look like if technology isn't at the center? Here are five low-cost ideas for innovating without the gadgets:

**1. Get clear about what your community needs and values.** What do you want for your graduates (whether they leave you in 5th, 8th or 12th grade)? Try to avoid the trap of doing what's always been done -- this is a different time and world from when you were in school (or likely even in college). What skills do students really need for success in today's (and tomorrow's) world? Their time at school is too valuable to focus on anything that doesn't help them develop those skills and doesn't underscore the value of play, failure and hands-on experiences (activities that are often seen as less "rigorous" or less "college prep"). Once you have determined what you value for your students, it is easy to avoid the trap of products that promise instant results or boxed solutions. For us, having our students engage in real-world learning experiences is a priority, so we utilized technologies like video-conferencing that enabled making those connections.

2. **Adjust your schedule so that students are spending time doing the things and having the experiences that you value.** We put much of the content students have to memorize in high school (e.g., parts of plants) into online courses so class time is spent having students engage in the application of

this content (e.g., what are the characteristics of plants that would make them ideal for our green roof?)

3. **Adjust teachers' roles and schedules so they can spend most of their time on activities that will help students achieve what you value for them.** There is a false assumption that all teachers must have the same kinds of schedules; at the iSchool we leveraged teachers' strengths by having some focus more on planning and curriculum development, some focus more on online course design, some on facilitating our challenge-based courses and some supporting struggling students.

4. **Look at your physical space, including school lay-out, room lay-out, furniture and equipment.** Are these things enabling or inhibiting the kinds of teaching and learning you want happening in your school? For example, if you value students being able to determine the best times and needs for technology, and feel that technology skills should be developed in the context of authentic tasks, then why are students still going to a computer lab? At the iSchool we created a "creative commons," open, multipurpose space that enabled collaboration and large-group video conferencing. In another room we created a "quiet commons" where students took their online courses or came for a quiet place to study. We were also strategic about which classrooms really needed interactive white boards, which faculty members needed and used the capacity of higher-end laptops and which rooms required video conferencing technology.

5. **Look closely at the culture you are building through your policies and systems.** How do they support or undermine your values? For example, if you want students to develop resilience and persistence, making rules that prevent them from retaking assessments may send a very different message (i.e., "you failed and there's nothing you can do about it").

And after you've thought about these non-technology-based innovations, consider these five solutions that will make your technology use transformative:

6. **By now you're probably feeling like there is not enough time to "cover" everything you want your students to learn.** As you look at the standards, your school's requirements, etc., think about how each type of content and concept could be learned in the most efficient way. For example, if students need to learn the parts of the cell, can they practice this using an app or software? When they need to experience and discuss how cells are transformed during the process of osmosis, they will most likely need a hands-on experience or a discussion. What content can be delivered and assessed online?

7. **Make more time for collaboration and problem-solving among students**. Provide the "lecture" content in video format prior to in-person class

sessions, a practice known as the "flipped classroom." For example, students can watch a video of you reviewing formulas to calculate perimeter and area at home. During class, they work with a group to develop a plan for a classroom garden.

8. **Provide more opportunities for exposure to the "real world," including the workplace experience and emerging career fields.** Invite experts to serve as clients, partners or evaluators for student projects. Through a variety of free video conferencing solutions, students can easily connect to outsiders. In a course where students were working on raising awareness of the humanitarian crisis in Zimbabwe, they were able to video conference with journalists from Zimbabwe to get first-hand accounts of what was occurring there and how it was being communicated in the American press.

9. **Collaborate with other schools to broaden your course offerings.** Schools can combine resources to offer more Advanced Placement or credit recovery courses. One teacher can work with a class on-site while another individual or group participates via video conference. Our students took AP Chemistry, AP U.S, History, AP Government and AP Language and Composition from teachers who were physically in another school teaching the same course to their own students. Our students communicated with the teachers through video conferencing technologies, significantly increasing the number of students who were able to enrol in these courses.

10. **Bring professional development to your teachers by exposing them to exceptional teachers outside your school through video conferencing.** A new or struggling teacher can co-facilitate a course with an exemplary teacher at another school. They can watch each other teach and discuss plans without ever having to leave their classrooms. The feedback is effective because it focuses on helping the struggling teacher in his or her daily context.

The ideas presented here represent just the beginning of what's possible with technology but prioritize deeper thinking about pedagogical needs. When schools become more willing to question -- to ask "why" and "what if" -- and to innovate around the challenges of educating every child for the 21st century world, then they can truly leverage technology to its full potential.

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