

Creating a Vision of the Digital Classroom

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Abstract

Undoubtedly the first ten years of the new millennium have exploded with technological innovation that has permeated into all aspects of our education system. Taking into account the pivotal stage of current pedagogy, it becomes important that the voices of those who drive this ever escalating and fast paced change are a key consideration in the process. In the York Region District School Board, we believe that students are a key stakeholder in this digital learning. With new media constantly being incorporated into lessons, it is important that the experiences of today's learners are taken into account. This paper examines some aspects of current classroom practice from the perspective of students and suggests that technology use can help shape a vision for how to enhance engagement of teachers, students, and school and system leaders to further support the digital classroom of the future.

Background

Our students are living in the era of the Information Age and escalating social connectivity. The dissemination of information and the use of technology in the process have profoundly affected the communication and learning process. In the York Region District School Board, the board's Mission Statement underscores that it is the responsibility of all teachers and administrators to prepare our learners for life in our changing world community.

We are seeing that technology has permeated many of our district's classrooms and that technology as a tool used wisely and strategically can positively enhance and support this learning. It should also be pointed out that technology used unwisely can negatively impact student learning (Technology and the Learner, p. 8). As pointed out by Sandholz et al (1997), 'technology is a catalyst for change in classroom practices because it provides a distinct departure – a change in context that suggests alternate ways of operating'. They further point out that 'it can drive a shift from a traditional instructional approach to a more eclectic set of learning activities that include knowledge-building situations for students'.

Methodology

Discussions with students and educators throughout the York Region District School Board have formed the basis for the ideas presented in this paper. Through the York Region Presidents' Council, a body of all elected student council leaders in York Region secondary schools, an ongoing consultation between schools and student leaders was compiled into general all-encompassing themes and recommendations. Specific discussion topics focused on:

1. Positive and negative uses of Advanced Broadband Enabled Learning (ABEL) Moodle
2. Innovative uses of technology
3. How technology and education will co-exist in the future

In addition, raw data was gathered through a student survey. In a 2010 survey conducted at one secondary school in the district, student opinion was measured concerning interest in learning as a result of the use of technology, and the link between in-class use of technology and real-world skills. This secondary school has a well-diversified student body of approximately 1200 students. As one of the most technologically progressive schools in the York Region District School Board, the students at this school enjoy a learning environment that promotes constant renewal and new applications of digital literacy. Over the past few years, staff and students at this secondary school have set a goal of reducing environmental impact by going paperless. Consequently, much of the learning experience has shifted to Advanced Broadband Enabled Learning (ABEL) environments.

These circumstances proved harvestable for two key study questions:

1. Does innovative use of technology cause students to be more interested in what they are learning?
2. In addition to being taught a curriculum, are students also learning skills that prove useful in a 21st century setting outside of the classroom?

The entire student body was surveyed. (See table below) Students were provided with the following information and asked the two related questions:

Our school has gone paperless! We're using class Moodles, online resource databases, and more digital media such as videos and graphics. Do you feel that this new focus on technology has had a positive or negative impact on your interest in learning, and has it prepared you better for living, learning, and working in the 21st century?

1. I'm more interested in what I'm learning(Yes/No)
2. I'm picking up on 21st century skills I can also use outside of school(Yes/No)

Student Survey Results

Question	Response	Number of students	Percentage of Students
1	Yes	333	59%
	No	225	40%
	No Answer	5	1%
2	Yes	372	66%
	No	187	33%
	No Answer	4	1%
Both	Yes	256	45.5%
Total Respondents:		563	

In total, there were 563 respondents. The results in the table above show feedback provided by a combination of students from grades 9-12. An overwhelming 66% of students felt that technology use in the classroom also added a skill set that they could use outside of school, and 59% of students indicated that using technology makes them more interested in what they are learning. Nearly half of all students (45.5%) answered yes to both questions, indicating that technology increases interest and also has practical benefits.

Interpreting Feedback

There are two main ideas suggested by the results of the survey and reinforced through consultations with students. Firstly, there appears to be wide realization among students that technology used in conjunction with learning does not only serve an educational purpose, but a practical purpose as well. Students generally assert that the future will only become more

immersed in technology, and learning to incorporate it in their everyday lives will prepare them better for contributing to the world community. Skills such as critical thinking, resourcefulness, and varied means of expression are among some of the examples cited as useful concepts taught through the use of technology. Secondly, technology has proven to be relevant to students' interests. A statement such as this cannot be all-encompassing, but it is certainly true that various forms of digital tools offer enough variety for students to adapt them to their individual learning styles, thus resulting in self-directed education. As new tools become available, students look forward to using them in classroom settings to explore new ways of acquiring information and applying curriculum directives. With these perspectives in mind, it is important to consider the pros and cons of current use of Information Communications Technology in class settings and future uses.

Current Practice

To show the current classroom setting as it extends throughout the system would be impossible. The extent of Information Communications Technology uses differs greatly between teachers, but also between students and their own adaptation to how they learn. As a general recognizable base, most classrooms rely on increased access to portable tools such as laptops, netbooks, and tablets, whether they are school-provided or student-owned. Observations and discussions have all pointed to welcoming attitudes towards these tools; students enjoy the ability to connect directly to their lessons, providing feasibility, convenience, and possibilities to reach beyond what is being taught.

Portable Computers

Another secondary school in the district began a program in September 2010 providing netbooks to all grade 9 students. Financial aid plans were offered where appropriate. The benefits of this pilot capture what student-owned technology can achieve in other schools, and all students are placed on an equal playing field with direct access to the same technology. The effects of this program have yet to be fully analyzed, but the immediate issue addressed is one of equity. School-based programs that offer technology to students directly ensure that nobody is left behind because of accessibility.

Wireless

To enhance the use of student-owned or school-distributed portable computers, wireless technology in schools is becoming more commonplace. Students have been very supportive of having access to the Internet throughout the school. It makes it much easier to have direct access to lessons that are already incorporated into the internet with Advanced Broadband Enabled Learning (ABEL) Moodles. Quite often wireless internet has been said by students to be an easy way to pull up lesson notes and relevant materials while doing in-class work, and they also have the ability to reach beyond and do further research as they are learning.

Advanced Broadband Enabled Learning (ABEL)

Interactive technologies have revolutionized how we communicate, collaborate and generate ideas and knowledge. The question for educators becomes one of deciding how these changes can impact and affect classrooms? How can educators stay ahead of the learning curve to prepare students for their future? ABEL in the York Region District School Board is serving to create an environment where classroom resources can be shared and discussed collaboratively, and can be accessed individually by students. Through the use of the Moodle, students have easier access to in-class lessons and can use the set-up to organize and pace their learning.

Recently, the ABEL Program launched its new website and online community providing an opportunity to continue discussions and stay connected online once professional learning and networking sessions have ended. (www.abelearn.ca)

ABEL Moodles are used on a class-by-class basis to schedule lessons, organize resources, provide discussion forums, and link to additional course-related information. Students have access to class handouts, which usually minimizes in-school printing, and can share web resources such as videos, articles, and websites with their teachers and classmates. The least engagement appears to be when ABEL technology is used only on a one-dimensional basis; i.e., lectures and notes are posted up for students to access, and students are expected to submit assignments into ABEL dropboxes. Class Moodles are seen by students as more useful when the information provided has already been taught efficiently in class, and teachers engage them in-depth through additional learning materials, curriculum content presented in more modern ways (video, computer programs, websites, games), and discussion forums.

Short-Term Goals

Enhancing ABEL

Issues identified with these emerging trends should not be ignored. Since its inception in 2000, the ABEL program has developed a blended approach enabling teacher learning and enhancing student engagement in the process. Using award winning methodology, the ABEL platform provides an innovative and engaging approach that supports opportunities for enhanced instructional design. The York Region team, in collaboration with its partners at York University, continues to build on these promising beginnings. The article by Janet Murphy in the attached link provides some solid background for the purposes of this paper.

<http://www.yorku.ca/abelearn/documents/BlendedApproachforJob-EmbeddedLearningLedTeacherstoRecognizeandReflectUpontheUniqueIntersectionsofContentTechandClsmPracticeinABEL.pdf>

ABEL technology in particular is facing a paradoxical state as it is becoming more commonplace. Students felt very passionately that when not used properly, class Moodles can have a detrimental effect to in-class learning. Quite often students do not get the most out of their classroom experience because lessons are deferred to Moodle. Instead of being used as tools to expand horizons and offer access to external resources, the experience has been that class Moodles become only collections of curriculum material posted for easy access after school, but not easily understood during school. Convenient access to notes and lessons is definitely a benefit, but not when it is the only way students are expected to learn the material mandated in the curriculum. Students are interested in learning more according to their own interests, and ABEL environments can be great tools for providing those resources. The purpose of such technology should explore enrichment, not just serve as a replacement to photocopying classroom handouts. A digital learning environment has the potential to be a hub of activity where students and their teachers can share resources collaboratively, compiling multimedia and academic sources, and serve as discussion forums for students to follow up on class activities. Traditional classroom walls have already been demolished with an online component to classes, but connectivity can increase further with more opportunities for communication between students. In a network such as ABEL, course content finds a convenient place for students to access easily, but students also have the power to interact with their peers and apply their

learning. Course content can be used to strengthen pathways between schools by enabling students to connect socially and educationally with their peers studying the same courses in other schools. By breaking down barriers and allowing for easy channels of communication, information sharing can become part of a student-driven digital community.

Piloting New Tools

The convenience of accessing enabled learning on a regular basis is a valuable breakthrough, and its successes should be heightened in school as well. By introducing new technologies as resources available to all students in the classroom, everyone can participate equally and use available tools to suit their own needs. Tablets and other portable devices are emerging trends that have the potential to be convenient and enriching mediums of teaching lessons and introducing activities. Tablets can bring Smartboard technology into the hands of students for self-driven learning with greater room for individualization. In addition to the instructional benefits, new technologies have the power to capture the interest of students who may be otherwise disengaged in traditional methods of learning.

Incorporating Wireless

Wi-Fi Internet is available in more than 110 schools in York Region, bringing together digital learning environments, a broadened definition of curriculum materials, and collaborative learning opportunities. With more schools working towards full access to wireless Internet, the ways in which it is used are important factors to consider. Positive uses include diversified ways of presenting curriculum-mandated information in the form of new media. Videos, graphics, and interactive programs can enhance how content is taught and how it is learned. By exploring new ways to present information, students are given the chance to challenge conventional learning such as note-taking, lectures, and written work. Wireless itself makes these resources more accessible to the school community.

Long-Term Vision

In this fast paced and ever changing environment, it is suggested that describing a vision for the longer term is problematic. Because of the very nature of the process involved it must be

supported by an emergent design. With this in mind, some clear understandings of the process going forward can be framed. To this end, the York Region District School Board is moving forward to bring alignment of key initiatives so as to provide more seamless access, build capacity and engage the stakeholders (students, educators and community) in the process. What this means is that, for the first time at the system level of the district, these processes will be aligned to support the learning needs of both teachers and students.

As pointed out in the board's document on Technology and the Learner (2003), critical to the process of successfully integrating information communication technology in our schools is the need to build a culture of teaching and learning in our classrooms. This culture must be willing to redefine learning on a 'regular basis' (p. 20) and then use the emerging ICT tools to enhance that learning. The document further points out that this process is about much more than simply using the new technology. It is about change; change that addresses the way teachers teach and change that enables each student to learn. As noted by Eric Hoffer (Reflections on the Human Condition, p. 32), 'In times of drastic change it is the learners who inherit the future; the learned usually find themselves beautifully equipped to live in a world that no longer exists'.