

# How a Blended Approach for Job-embedded Learning has led Teachers to Recognize and Reflect upon the Unique Intersections of Content, Technology, and Classroom Practice in the Advanced Broadband Enabled Learning (ABEL) Program.

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**Abstract:** Since its inception in 2000 the Advanced Broadband Enabled Learning (ABEL) program has developed a blended learning service that enhances teacher and faculty professional practice and improves student achievement. Using award winning methodology ABEL provides school districts and post secondary institutions with a collaborative platform, an instructional design approach for professional learning that uses information communications technologies (ICT), a proven implementation strategy and ongoing research and evaluation. While it continues to maintain its focus on transforming teacher and faculty practice through the use of broadband technology in schools, research into best practices in delivering professional development and the impact of its implementation has led ABEL to focus more fully on the impact of job-embedded learning. This paper focuses on ABEL's program strategy for teacher training and professional growth that models the compelling intersection of content, technology and pedagogy and transforms practice.

## Introduction:

Since the beginning of this century, there has been increasing academic discussion and formal research into teaching and learning 'with ICT' and much speculation and research on the transformative impact that ICT is having on teacher and learner perceptions and on classroom practice. Girod and Cavanaugh (2001) speculate that technology-rich classrooms will lead teachers to push new boundaries of knowledge, resources and content by using technology, move teacher belief towards a problem-solving, constructivist view of learning, empower students by providing them with a freedom to learn, explore, and critique knowledge, and create new innovative "learning communities" in the classroom. Much evidence exists to prove that in spite of barriers to change inherent in subject disciplines (Sutherland, Armstrong, et al., 2004) and teacher mindsets (Baker and Baker 2004), change does occur in classrooms which are technologically rich when the experience of teaching and learning is intensive, contextual, and relevant to both teacher and learner needs (Swann, et al., 2005). We know that teachers who construct knowledge in their classrooms with students recognize the value of technology as a tool for engaging students in deep learning. We are convinced that offering professional development to teachers through ICT can have a strong transformative influence on teacher philosophy and classroom practice, particularly if the professional development is job-embedded. Because we deliver professional development to teachers through ICT, we model its use and make the intersections of technology, pedagogy and content more explicit and more relevant to teachers.

As is true of the physical classroom, the impetus to transformation seems to lie in the quality and relevance of the learning. Levin and Wadmany (2006) point out that change is not generated in the classroom by the technology itself, but by the restructured collective vision of the teacher and the students, after experiencing new modes of learning in appropriately designed, relevant, and technologically rich *classroom learning* environments. When teachers in the ABEL community experience new modes of learning in appropriately designed and technologically rich *professional learning* environments, they engage in collaborative reflection, analysis and sharing within the context of daily work experience and begin to focus on the important intersections between content, practice, and technology for teaching. It is within this intersection that teachers offer transformed curriculum design that result in student engagement, authentic learning and ultimately success. They develop and demonstrate an instructional aptitude that is more complex than subject or pedagogical expertise. In fact the dynamics of the classroom shift and the teacher/student relationship is deepened as the teacher actively facilitates learning and students take more responsibility for their learning. Teachers and faculty in the ABEL program have

documented the impact of the reciprocal relationship that occurs when this compelling intersection of content, classroom practice and technology comes together. Students are able to complete units of study faster and achieve a deeper level of understanding and engagement in learning. Koehler and Mishra (2006) have identified this transactional relationship in their TPCK framework as Pedagogical Technological Content Knowledge.

## **The Evolution of ABEL Program**

The Advanced Broadband Enabled Learning (ABEL) program in the Office of the Vice President Research and Innovation at York University in Toronto is a pan-Canadian program that uses broadband networks to transform teacher and faculty professional practice. ABEL follows a mandate to build a knowledge sharing and collaborative culture through technology-enhanced learning. ABEL provides a means for learner collaboration through professional services that advance the sharing of information (content) and expertise (pedagogy) and optimize the use of communications technology. First reported on in an SITE paper (Owston, Wideman, Morbey, and Murphy, 2004), the program has retained its original structure, but added to its foundational goals factors such as scalability, capacity building, sustainability, and leadership. As Owston, Wideman, Moberly and Murphy reported in 2004, the program still

- maintains a learning platform that makes use of IP-based videoconferencing and other collaborative applications,
- delivers a large number of videoconference and video streaming events throughout the year,
- offers a range of technological tools, support and resources of value to teachers,
- offers an wide-range of professional learning opportunities including an annual summer institute,
- maintains its original implementation strategy that focuses on change management and innovative practice, and
- includes a research and evaluation focus for continuous improvement.

ABEL leverages technology to deliver a proven job-embedded professional learning service that enhances teaching practice and improves student achievement. This is achieved through building collaborative learning communities, implementing blended learning environments for classrooms, schools and districts, using interactive web-based learning resources, developing sustainable inter-jurisdictional and inter-institutional collaboration, and understanding institutional change.

The uniqueness of ABEL is its professional learning strategy and methodology where the context is much more focused on a job-embedded approach using an instructional design that leverages the collaborative platform and other ICT applications. The program offers a variety of staff development learning experiences that both delivers content and models the effective use of a wide range of technology applications for learning. As teachers/faculty access these programs within their day-to-day work/classroom experience, they begin to apply their new understanding to their curriculum design and classroom implementation. The result is an adoption of innovative teaching practice and a creation of new ways of learning through video-streaming, video conferencing, pod casts, blogs and wikis that provide teachers/faculty with a wide range of instructional strategies to support curriculum.

## **How ABEL Supports Job-embedded Learning:**

The *ABEL* program uses a variety of ICT applications to move professional learning into the classroom, supporting just-in-time situated learning. This model demonstrates for the participants the intersection of the content, pedagogy and technology for professional growth and learning. Using this delivery model and through their own professional growth experiences teachers and faculty are then applying and developing learning experiences for students that demonstrate effective ICT instructional strategies.

This is achieved by:

- Offering collaborative workspaces for teachers/faculty to support their learning and to engage through a collective focus and intelligence

- Providing pedagogical expertise that is available either synchronously or asynchronously to support the teacher and faculty professional learning goals. Interactive resources and content are also available.
- Designing job-embedded learning delivered through videoconferencing and video streaming that includes job-sharing, mentoring, coaching and opportunities for expert-in-the-classroom. For example, in order to leverage inter-institutional collaboration the Education Faculty at York University is available to support the teachers in the classroom along with subject matter experts and community expertise and support.
- Providing a program structure that supports pedagogy, technical and content knowledge that is available for the individual participants and site-based teams as they participate in the professional growth programs and then move to apply their learning to their own classroom practices. The support is distributed across program partner institutions, and is customized for local needs.
- Offering annual Summer Institutes that provide opportunities for face-to-face collaboration, technology training, pedagogical understanding and content development. These events include the intersection of teacher and faculty and a student as the program includes student participation. The ABEL program places value on student voice and uses it to inform program development. Based on the latest research on technology and students' attitudes and disposition towards its use, ABEL is convinced that including students at the institute increases the efficacy of ICT use in education. It also supports the teacher/student reciprocal learning relationship that develops through the intersection of content, pedagogy and technology.
- Ensuring research and evaluation informs the ongoing evolution of ABEL's vision of job-embedded learning. This has been guided by the on-going research conducted at the Institute for Research on Learning Technologies (IRLT) at York University.

This combination of blended learning design and job-embedded approach has had significant impact on the ABEL participants as they actively support the innovative implementation of technology in the classroom. Our research into this impact tells us that teachers are honing their classroom practice and their use of technology for greater student engagement and increased student achievement at the same time as they are expanding their students' access to knowledge through carefully designed use of technology in their classrooms.

## **The ABEL Program and the TPCK Framework**

ABEL is thus a multifaceted and complex program. In its implementation model, it has been strongly influenced by current research into implementation and change (Fullan, 2005). In its professional learning model, it has been influenced by current research into effective professional development and adult learning (Sparkes, 2002). In its promotion of collaboration, it has been influenced by current work on communities of professional practice (Earl and Katz, in press). In its concern for student engagement and student achievement, it has been influenced by current research into how students are using technology to learn for the classroom and outside of it (Levin and Wadmany, 2006, Prensky, 2006). And in the manner in which it promotes the use of technology for learning, ABEL believes that once teachers have used ICT to learn professionally, particularly when the professional learning is designed specifically to be job-embedded, they will understand the significance and relevance of using ICT for learning in the classroom, use appropriate technology for their content and appropriate pedagogy for their technology, and engage in powerful learning and transformative teaching.

To this end the TPCK Framework serves the ABEL program well. It is a significant lens through which teachers/faculty in the ABEL community can view and reflect on the transformative teaching in which they are engaged. The TPCK Framework provides valuable terminology for analysis and discussion and helps teachers/faculty to articulate and document their professional growth. This framework will be in evidence during ABEL teacher and faculty presentations at this year's ABEL Summer Institute 2007. Teachers/faculty making presentations on their use of ICT for student engagement and learning will showcase the benefit of this framework in action as they demonstrate what they do, how they do it and the resulting impact on student achievement.

## **ABEL Program Shapes New Visions of Curriculum and Instructional Design**

The ABEL experience promotes blended learning as a strategy for enabling job-embedded professional development, and adds value through its use of broadband technology and its recognition of the role that technology

now plays in student learning. Through its portal ([www.abelearn.ca](http://www.abelearn.ca)), its annual summer institutes, and ongoing professional learning programs, ABEL expands the walls of the classroom and the school to connect teachers and leaders in an innovative knowledge community where together they can expand their understanding of how students learn and achieve.

The TPCK paradigm offers a valuable lens through which teachers and university faculty are able to analyze their professional growth. ABEL provides opportunities for them to use ICT to increase student engagement and achievement, reflect upon instructional design and its impact, hone their skills in integrating ICT, and discuss their successes and failures with teachers and leaders in the ABEL community. This activity and support provides the foundation for building new knowledge and strengthening the transactional relationship between all components

We know from the research conducted by the Institute for Research on Learning Technologies at York University that through our innovative communities of professional practice and our job embedded program, teachers in the ABEL community have developed a deeper understanding of curriculum content and a finer sense of curriculum design, an expanded appreciation of student potential and student achievement, a broader range of instructional options, a keener appreciation of student engagement through ICT, and a stronger sense of their own professional efficacy. The new understanding that emerges and impacts relationships between teachers, faculty and learner is energizing and compelling, and has led to capacity building within ABEL institutions and sustainability for the ABEL program. (Visit [www.abelearn.ca](http://www.abelearn.ca) and view the video presentation highlighting the ABEL program and its impact.)

As the ABEL program has recognized the significance of job-embedded learning in building capacity and sustaining innovation, it has continued to document and research the impact of its professional development program, and move forward. ABEL is organizing a summer institute, scheduled for August 2007, called *Intersections: Where Learner, Literacy and Technology Meet*. While keynote speakers at this institute will be emphasizing the significance of collaborative communities and network learning in building capacity and sustaining innovations (Earl and Katz, in press), teachers and leaders in the ABEL community will be facilitating discussions that attempt to define those intersections with greater clarity, presenting workshops that demonstrate these intersections, and articulating the impact they have on teacher growth and student achievement. Through this institute ABEL will continue to fulfill its commitment to education that engages learners through the use of quality curricular content and pedagogy that provides authentic learning opportunities, that empowers teachers through a culture of collaboration, and that uses networks and ICT to reflect today's learning realities.

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