

## WORKING ACROSS DIFFERENT SPACES TO CREATE COMMUNITIES OF PRACTICE IN TEACHER PROFESSIONAL DEVELOPMENT

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Finding effective ways to provide professional development opportunities for teachers to develop innovative, inquiry-based technology-infused pedagogical practices is the work of the Galileo Educational Network. Our efforts are focused on creating both onsite and online job embedded learning environments that

- help teachers focus on teaching and learning by designing and implementing inquiry-based teaching and learning experiences for students,
- improve students' performance and the quality of their learning experiences through more responsive pedagogy,
- create a supportive environment for changes in teachers' thinking and practice,
- provide teachers with the knowledge, tools and support necessary to integrate teaching, learning and technology
- develop teacher and student fluency with technology through a culture of use rather than through a direct focus on technology training
- create a professional learning community

The research literature indicates that online environments are sufficiently different from face-to-face environments that skills in one environment do not transfer easily to the other. This has not been the experience of the Galileo Educational Network. Creating an online environment, *io*, that scripts the interactor at every stage of the process, we have research evidence that an online environment can complement an innovative face-to-face professional development environment. **TOPICS + KEYWORDS:** blended learning, collaboration, communities of practice, professional development. **PREFERENCE:** Oral Presentation.

### 1 Introduction

The arrival of new information and communication technologies (ICTs) has meant much more to teachers than finding new ways to deliver old content or finding old ways to introduce new technologies. For teachers and educational researchers alike, the introduction of ICTs requires all of us to revisit the industrial foundations upon which modern schooling is constructed.

Having spent a combined total of more than 55 years in classrooms, our own and other teachers', we know that precious little in the name of staff development or professional development ever actually enters the classroom door (1,5,12,13,15) Most of what has come to define professional development for teachers are episodic events removed from the context of teachers' lives (2,6). Teachers attend periodic professional development or "staff development" sessions to inform them of new policies, curricula or pedagogy. They, in turn, are expected to return to their classrooms to somehow implement those changes.

To understand the urgency of redefining professional development in both face-to-face and online environments, it is necessary to examine the foundations on which such a view of professional development is built. In the system of schooling that Edward Thorndike, Horace Mann and Frederick Taylor created in North America in the early 1900's, schools were designed as "assembly lines in which young masses could be efficiently processed and prepared for life as clock punchers by women with nothing better to do than following the orders of a few enlightened curriculum designers" (7). "Methods of teaching were imposed from without" (8). Such a system involved "specifying not only what is to be done but how it is to be done and the exact time allowed for doing it" (22).

Although the assumptions of industrial models of schooling remain dishearteningly pervasive in education today, the demands of a knowledge era require that educators, researchers, instructional designers and professional developers challenge them vigorously. Teachers can no longer be seen as unable or unwilling to be anything other than an implementer of someone else's curriculum, a deliverer of someone else's mail. "For a teacher to think of himself or herself as an agent of change or even as someone responsible for the shaping of curricula or the selection of books, the whole environment ...[has] to be transformed" (8). And that transformation demands fundamental re-examination of professional development that actually permits teaching to change.

## **2 Transforming Professional Development: The need for new and different spaces**

Teachers today are under significant pressure to create new and different learning environments for their students if they are to realize the potential of a knowledge society, environments that they themselves have not experienced. As co-founders, researchers and teachers of the Galileo Educational Network we have spent the past five years designing, creating, providing and researching such new professional learning environments for teachers—radically different professional learning spaces that provide continuous just-in-time learning, mentoring and support when and where it is needed are necessary for teachers.

Our own experience over the past ten years is in accord with developing trends in high quality professional development emerging in the research literature (1,2,3,4,6, 9,16,21). Such programs

- Have an explicit goal of improving student learning
- Are planned collaboratively with participants
- Occur over a sustained period of time (years, not days)
- Take place generally during the school day
- Provide access to alternative ideas, methods, and opportunities to observe these alternatives in action
- Involve direct mentoring of teachers in their own classrooms in subject content, teaching strategies and uses of technology

- Support on-going professional conversations between teachers

Opportunities for teachers to participate in professional development opportunities of this type are rare, despite the complexity of the learning task that faces them as they seek genuinely effective ways of transforming teaching practice. The challenge is clear. If teachers are to break the stranglehold of industrial models of pedagogy they, themselves, must be afforded opportunities to learn in new ways. And those new ways must be deeply embedded in the daily effort to change teaching practices in their classrooms (3,4).

### **3 Blended Teacher Professional Learning Environments**

Sometimes educators and policy makers assume that current practices in e-learning will solve such professional development problems. However, researchers note that many of these current practices simply replicate industrial images and structures of schooling (17,18). Course management systems (CMS) and learning management systems (LMS) remain the current, dominant view of on-line learning environments. These are, essentially, course delivery systems that integrate digital communication tools to facilitate discussion among teachers and students. In their fundamental structure, however, they reinforce the central image of the industrial-age classroom as the locus of learning. That is, e-learning environments tend to replicate the dominant features of face-to-face classroom structures. They do not help teachers make the required changes to pedagogy necessitated and enabled by the new digital technologies. CMS and LMS reinforce existing transmission pedagogies and assessment by replicating traditional classroom course delivery models in on line environments. Thus, even if the content of these systems deals explicitly with changing teaching practices, the way such content is presented to teacher-learners reinforces old paradigms of teaching and learning.

Innovative e-learning environments have a very different character. They position the learner as one who creates new knowledge rather than consumes and reproduces already-known information. Those at the forefront of e-learning research are developing new models of learning in which individual and teams of learners work to solve ill-defined problems through engagement with authentic tasks that permit and demand high degrees of interactivity and learner "pull" of relevant information (1,6,11,14,17,18,19,10). These environments do not look anything like conventional classrooms, nor do they resemble current CMS and LMS environments. One such environment is *io* (Intelligence Online) developed by Galileo Educational Network and Axia NetMedia.

*io* is a complex learning and planning environment that challenges the assumptions of conventional e-learning by discarding the root metaphor of course or content delivery on which so much professional development is premised. In *io*, teacher knowledge is not delivered; it grows in unpredictable ways because teacher-learners move through an e-learning space according to their own needs, intentionally connected to others. Participation in the space makes it grow for participants, over time and through their use and interaction. For each learner, the space becomes what it is because each learner uses it in the ways that make most sense to them.

*io* provides a range of asynchronous environments for teachers. The curriculum design process helps teachers think differently about creating robust learning experiences for students. Unlike conventional planning processes in which teachers work largely in isolation, *io* permits them to link intentionally with others at every stage of the planning process. In addition, this planning is directly linked to the daily work of their classroom. Teachers can share their planning with colleagues; communicate with other teachers; and collaborate with mentors and colleagues. That is, what has conventionally been the solitary work of isolated individuals now moves into a public, knowledge building space (20) in which teacher's ideas and plans can be debated, explored, built upon and synthesized.

Recent Canadian research (10) points to the importance of understanding the power of text-based online forums for professional development. First, conversations are sustained over time. Second, discussions are preserved, so that dialogue develops greater depth. Third, there is an accurate record of what has been said so that participants can re-read a discussion rather than rely on their memories. This time-delayed dialogue "provides participants with the opportunity to review and reflect on what has been said and make more considered responses" (10).

Moreover, *io* is structured to be part of a blended professional development experience that leverages effective face-to-face support. Within a blended environment, the face to face support that schools and school districts make available to teachers now becomes affordable, sustainable and scalable.

- Consultants and other experts who have conventionally been far removed from the daily work of the teachers to whom they deliver workshops and courses now have a way of keeping in contact with teachers before, during and after face-to-face sessions.
- Teachers can access the support they need, when they need it.
- Teachers can access mentoring from the Galileo Educational Network
- Teacher Institutes planned and delivered by professional developers in schools or in school divisions become embedded in a year-long process for continuous improvement
- School-wide use of *io* can be tied into support structures at the school level to facilitate effective teamwork and peer mentoring
- Professional developers receive mentoring and support for themselves.

#### **4 Creating Communities of Practice**

A Google search for communities of practice in education turns almost 4 million hits. There is great interest in describing both online and face-to-face initiatives that claim to create professional learning communities, communities of practice, or learning communities. It is less clear *what* structures and practices enthusiasts intend to change in order to turn rhetoric into reality. Lessons from conventional e-learning initiatives tell us that simply providing an online shell will make no difference. Lessons from

conventional professional development also tell us that heartfelt declarations and workshops will not do the job, either. What is needed are differences in professional development that actually *do* make a difference

As our experience shows, change becomes possible when knowledge is created rather than consumed. Rather than depending on “single pass knowledge creation” (10) so characteristic of courses and workshops, knowledge actually develops through collective engagement with issues and problems at the forefront of what teachers need to do differently.

Herod points to the importance of what Hargreaves calls the post-professional phase of professional development, which moves beyond personal and collective reflection to include

input from peripheral parties. That is, groups that have a "stake" in the conduct and outcomes of education such as learners, community and/or government representatives, and researchers are included in ongoing reflective dialogue in order to more fully inform practice. Other educators support the notion of involving stakeholders as the next step in the evolution of the profession (10).

*Io* permits researchers and professional development mentors from outside the school to participate with teachers in building public knowledge around questions and issues of daily urgency to participating teachers as they strive to create new learning environments for students. Conventionally, teachers’ access to peripheral partners (when they have had it at all) has been through expensive face-to-face sessions or email and private correspondence. In *io*, Galileo mentors and researchers participate fully in the community, doing daily what Hargreaves calls the next step in the evolution of the teaching profession.

## 5 Conclusion

Education in the developed world is shaped by its industrial roots—and our schools remain tethered to subterranean assumptions about how people learn best, assumptions that no longer hold true for a knowledge era. Creating professional development opportunities that permit teachers to create genuinely new learning environments for students who live in a digital age is a formidable challenge. Information and communication technologies provide both the impetus for this change, and also opportunities to create new interactive professional learning spaces that blend innovative thinking in both e-learning and face-to-face environments. These environments are characterized by their ability to permit learners to solve ill-defined problems of practice; by high degrees of interactivity; by opportunities for deep and considered reflection in a public, knowledge building context; by learner “pull” of relevant information rather than a course-like “push” of content; and by communities of practice that turn the rhetoric of collaboration into the reality of personal and collective reflection in which input from peripheral stakeholders such as researchers can more fully inform practice.

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