Understanding Dynamic Change and Creation of Learning Organizations

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INTRODUCTION

In a letter to the editor of the *New York Times,* Mark Peck (May 6, 2007), a 10th grade student, notes "it's too bad that students have to take the rap for old-style teachers who are still not comfortable with the computer as an educational tool" (p. A22). Mark's comment was in response to a front-page article that highlighted how little substantive change had occurred in the learning environments of schools that instituted laptop programs. In succinct terms, Mark identifies a major barrier to meaningful adoption of new technologies by stating that "computer-based learning initiatives are not going to take off until teachers are just as excited about them as their students" (p. A22). Mark's experience as a learner is echoed in a recent report (Education Week, 2007).

For the past 10 years, *Education Week* and the Editorial Projects in Education (EPE) have collaborated to complete the annual *Technology Counts* report, and its supplement the *State Technology Report*. The *State Technology Report* is based on 14 indicators, collected by the EPE, and then used to assign an overall grade to the 50 states and the District of Columbia (State Technology Report 2007, About This Report, Grading the States, ¶ 1). While the 2007 *Technology Counts* report notes impressive growth in access to technology, our nation's overall grades are still not impressive; access to technology is a C, use of technology is a C+, and capacity to use technology is a C. To move educational technology nationwide beyond an overall grade of C+, and generate the level of excitement described by Mark, requires overcoming the following two barriers:

- **Barrier 1:** Professional development is frequently based on an incomplete understanding of the nature of complex change and the necessity for a new paradigm of change that mirrors the culture of a learning organization.
- **Barrier 2:** Professional development is not consistent in making explicit that the teacher-centered

pedagogical cultures common to P-16 schools are in direct conflict with using technology to support a knowledge construction environment.

BACKGROUND

In the following quote, Fullan (1982) creates a powerful case for the existence of Barrier 1. He explains that:

One of the most fundamental problems in education today is that people do not have a clear, coherent sense of meaning about what educational change is for, what it is, and how it proceeds. Thus, there is much faddism, superficiality, confusion, failure of change programs, unwarranted and misdirected resistance, and misunderstood reforms. (p. 4)

In developing his own definition, Fullan used the work of Hord, Rutherford, Huling-Austin, and Hall (1987) to develop a graphic representation of the change process. For Fullan (1982), the most important idea arising from this conceptualization was that "change is a process, not an event" (p. 41). He continues that while " . . . dealing with change is endemic to the post-modern society" (Fullan, 1993, p. 3), this is not true for the educational system. Fullan (1993) highlights that:

The way that teachers are trained, the way that schools are organized, the way that the educational hierarchy operates, and the way that education is treated by political decision-makers results in a system that is more likely to retain the status quo than to change. (p. 3)

Fullan's conclusion is that attempting change in a system that supports the status quo is unrealistic. He (1993) believes that "you cannot have an educational environment in which change is continuously expected, alongside a conservative system and expect anything but constant aggravation" (p. 3). According to Fullan (1993), for the educational system to move beyond the

status quo, it is necessary to ". . . make the educational system a learning organization---expert at dealing with change as a normal part of its work, not just in relation to the latest policy, but as a way of life" (p. 4). The need for a ". . . learning organization is related to the discovery that change in a complex system is nonlinear; full of surprises' (Fullan, 1993, p. 3). Fullan (1993) describes teachers as requiring the mindset described by Stacey that ". . . can help us 'manage the unknowable' " (p. 4). Fullan (1993) also has a strong message for teachers and their willingness to engage in complex change:

*Today, the teacher who works for or allows the **status quo** is the traitor. Purposeful chance is the new norm in teaching. It has been bouncing around within teaching for the past thirty years. It is time we realized that teachers above all are moral change agents in society—a role that must be pursued explicitly and aggressively.* (1993, p. 14)

While Fullan's work focuses on how schools deal with complex change, Cuban's (1993) research specifically examined the degree to which complex change takes place in teaching practices.

Cuban's research supports that stability of teaching practices in K-12 schools creates the conditions for Barrier 2, that is, that use of technology to create knowledge construction environments conflicts with teacher-centered pedagogical cultures common to P-16 schools. Cuban's investigation into teaching practices since the 1890s documents the staying power of teacher-centered instruction. According to Cuban, it continues to dominate elementary and secondary classrooms, ". . . but a hybrid version of student-centered practices, begun in the early decades of this century, has spread and is maturing" (p. 272). His research indicates that today, student-centered practices are more common in elementary school classrooms, while high school instruction has remained teacher-centered. The historical overview of the Apple Classroom of Tomorrow (ACOT) project (Haymore, Ringstaff, & Dwyer, 1997) documents a clear relationship between the staying power of teacher-centered pedagogical practices and slow progress of powerful technology integration.

A key finding of Haymore, Ringstaff, and Dwyer (1997) is that "technology in and of itself will not change education; what matters is how it is used" (p. 10). These authors described that ACOT's vision for education was

in direct conflict with the traditional teacher-centered instruction described by Cuban (1993). However, Haymore, Ringstaff, and Dwyer (1997) describe that when teachers were able to evolve their beliefs and values from a teacher-centered to a constructivist perspective, they were successful in integrating powerful new uses of technology in the learning environment. For this evolution to take place, these authors recommend: (1) making explicit teacher's beliefs and values about teaching and learning, and (2) conduct professional development in a context that creates direct connections between the teaching and learning environment and the learning of technology skills.

What implications does the work of Fullan (1982, 1993), Haymore, Ringstaff, and Dwyer (1997), and Cuban (1993, 2001) have for professional developers charged with initiating technology-related professional development?

MAIN FOCUS: UNDERSTANDING CHANGE

An argument can be made that the first step in designing a technology-related professional development program is developing a deep understanding of the culture of one's educational system including understanding-the nature of change, how to create dynamic changeand the current state of pedagogical practices. In 1993, Fullan described eight basic lessons for how to create a culture "dynamic change" (pp. 21-22). He notes that each of the lessons:

. . . is somewhat of a paradox and a surprise to our normal way of thinking about change. They go together as a set, as no one lesson by itself would be useful. Each lesson must benefit from the wisdom of the other seven. (p. 21)

These lessons were updated in 2001 (p. 18), and are summarized in Table 1.

The work of Fullan (1982, 1993, 2001) makes clear that one cannot mandate what matters, and that anxiety and fear of the unknown are intrinsic to substantive change. According to Fullan (1993), change is inevitable, but that our reaction to change is one that either embraces or fights it. Fullan's insight needs to be front and center when infusing technology in P-16 environments. Applying Fullan's insights to technol-

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