

Bull, G., George, M., Shoffner, M., Bolick, C., Lee, J., Anderson, J., Slykuis, D., Garofalo, J., Angotti, R., McKenna, M., West, E., Dexter, S., Herring, M., Hofer, M., and Brown, A. (2012). Editorial: Implementing the teacher education initiative. *Contemporary Issues in Technology and Teacher Education*, 12(2), 115-121.

Editorial: Implementing the Teacher Education Initiative

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Representatives from ten specialty professional associations affiliated with the National Technology Leadership Coalition (NTLC) are collaborating with Microsoft Corporation to develop an innovative professional development opportunity for teacher educators—the Teacher Education Initiative (TEI). The goal of the initiative is to enhance preparation of future teachers to use technology in effective ways to teach students across grades and academic disciplines. This effort builds upon initiatives such as Preparing Tomorrow’s Teachers to Use Technology (PT3) and Microsoft’s Partners in Learning (PIL) program.

The goals of TEI are described in more detail in a previously published overview, [“Preparing Teachers for Tomorrow’s Technologies”](#) (Dilworth et al., 2012). The current article describes planned implementation strategies designed to advance more effective integration of technology in teacher preparation. TEI is grounded in the framework of technology, pedagogy, and content knowledge (TPACK; referred to as technological pedagogical content knowledge in Mishra & Koehler, 2006). Representatives of teacher education associations from a number of academic disciplines have assumed responsibility for the development of teacher education resources for each discipline. Representatives from associations related to special education, instructional technology, and teacher education at large are developing resources for non-discipline-specific teacher educators. In order to facilitate a systematic, coordinated approach within each TEI college or university representatives from the American Association of Colleges for Teacher Education (AACTE) are developing related materials for the leaders of schools, colleges and departments of teacher education.

A number of resources and activities are being developed in parallel to facilitate dialog regarding effective approaches to technology integration in teacher preparation. These include

1. modules and online resources to be made available to schools or programs of education,
2. teaching cases illustrating effective examples of using technology for teaching,
3. associated video clips depicting effective uses of technology in K-12 classrooms and in teacher education courses,
4. regional workshops bringing together teams of teacher education faculty members,

5. workshops at national and state teacher education conferences
6. peer-reviewed publication opportunities, and
7. evaluation methods with benchmarks for assessing the impact of the initiative.

Intended Audience

Teacher education faculty members, leaders, and other stakeholders involved in the preparation of teachers are the intended audience for TEI. In particular, teacher educators who teach courses that focus on instructional strategies and curriculum development will benefit from participation in TEI. Faculty members whose work focuses on instructional technology are also encouraged to participate, as they will have the opportunity to collaborate with faculty from multiple content disciplines. Materials for educational leaders are also being developed to facilitate college-wide integration that goes beyond isolated islands of excellence.

Support for regional workshops will permit interaction between leaders and faculty members within teacher education programs and schools, as well as across a geographic area. The TEI program offers the opportunity to bring together technology integration leadership teams from participating teacher education programs. These teams may include

1. teacher education faculty members within specific academic disciplines;
2. faculty members from areas such as foundations of education courses, special education, and educational technology;
3. instructional technology support personnel; and
4. educational leaders, such as deans of education, directors of teacher education, and department chairs.

This multifaceted and interdisciplinary approach will permit teams from teacher preparation programs to meet with others who share an interest in effective approaches to integration of technology in teaching. Participants in TEI workshops or conferences will have opportunities to engage with online resources that have been developed and implemented by other teacher educators and to discuss approaches to effective integration of technology in different contexts and settings.

Workshops at national teacher education conferences will focus on technology integration in specific disciplines or areas of practice. For example, workshops at the conference of the Association for Science Teacher Education (ASTE) will focus on integration in science education courses. In contrast, workshops at AACTE conferences will focus on effective leadership to support such efforts.

Regional Conferences

The first regional conference was held at the University of North Carolina at Chapel Hill in May 2012. The theme of the conference was Possibilities and Challenges of TPACK in Teacher Education. Our focus on TPACK recognizes the importance of having a theoretical framework for organizing the TEI program. TPACK is a framework for teacher knowledge that describes the transactional pedagogical reasoning in which teachers engage when using technology in the classroom (Mishra & Koehler, 2006). Teacher educators from colleges and universities from that region (North Carolina and bordering states) gathered to participate in this pilot regional conference.

Participants attending the pilot conference were asked to bring the following to anchor the discussion:

1. an inquiry question (or questions) related to TPACK, technology integration, or contemporary technologies;
2. stories about their own experiences with the integration of technology in teacher education courses.

Participants in some of the sessions also brought a syllabus or assignment focusing on instruction from one of their courses (typically, a methods course). Participants worked toward the following outcomes:

1. a vision for integration of technology in the preparation of teachers in the school overall, as well as within the respective disciplines represented if attending as a team;
2. enhanced expertise with discipline-specific tools grounded in the context of the pedagogy and content of their disciplines (i.e., TPACK);
3. a revised syllabus/assignment that more effectively prepares teachers to use educational technologies in their instruction;
4. a plan for creating the instructional and technical support conditions the team identified as necessary for technology integration within disciplines;
5. a foundation for partnership with other teacher educators interested in collaboration in research to answer their inquiry questions; and
6. a range of stories and shared experiences from colleagues in the field of teacher education regarding the possibilities and challenges of technology in teacher education.

The workshop included a plenary session focusing on TPACK in general terms as well as interactive workshops focusing on TPACK in specific content areas (such as English/language arts, social studies, mathematics, and science), and the technology leadership needed to foster TPACK. In addition, content that addresses the needs of diverse learners was incorporated throughout.

Participants met in intra-institutional inquiry teams to consider how technology can help them revisit and rethink their course syllabus or course assignments. In many instances, instructional technology faculty members collaborated with their colleagues from specific subject areas during the workshops. Finally, participants formed connections for ongoing learning in cross-institutional, interdisciplinary, or specific technology-based networks.

Relevance of the Experience

As most faculty members know, “professional development in higher education is often lonely work” (Ness, George, Turner, & Bolgatz, 2010, p. 88). Establishing program coherence for implementation of TPACK across program areas and disciplines has been identified as an important goal of TEI. Another related goal is development of affinity groups across institutions that face comparable challenges.

When professionals attend conferences, much of the time may be spent passively listening to colleagues’ research presentations, attending meetings, or browsing the acres of professional materials available in exhibit halls. Although professional conference attendance is clearly one effective form of professional development, teacher educators and educational leaders need more opportunities to meet together to develop technological expertise, discuss problems of practice, and explore ways to solve those

problems. This interaction best takes place in intimate and collaborative settings. In fact, research indicates that the most effective forms of professional development are voluntary, ongoing, and collaborative (Brancato, 2003; Cochran-Smith & Lytle, 1999; Rogers et al., 2005; Smith, 2003). It is no surprise, then, that the 21st century has seen increasing attention paid to higher education faculty involved in collaborative professional development endeavors (Brancato, 2003; Fecho, 2000; Richlin & Essington, 2004; Rogers et al., 2005; Sandretto et al., 2007).

Participation in TEI will give those charged with teacher education an opportunity to collaborate with peers around the issues of technology integration, not only in their specific disciplines, but also across disciplinary boundaries. Participants will be challenged to reconceptualize existing activities and assessments to integrate technology in order to foster transdisciplinary thinking, allowing for richer experiences for students within and across disciplines. Ongoing collaboration will be encouraged through opportunities for presentations, publications and a created virtual community of higher education professionals.

Ongoing Efforts over Time

Future regional activities will bring teams together and raise awareness of available national resources that support efforts to more effectively integrate technology into teacher education. However, ongoing support and interactions over an extended period of time will be required to bring about lasting change. The range of approaches that can be discussed within a 1-day experience is, of necessity, limited and intended as illustrative exemplars.

To encourage continued engagement, several kinds of opportunities for presentation, peer-reviewed publication, and dissemination are being developed. Representatives of the Association for Educational Communication and Technology (AECT) and the Society for Information Technology and Teacher Education (SITE) are in the process of developing standards for both written and video-based teaching cases. Once these guidelines have been developed, a call for teaching cases will be issued by the journals affiliated with these associations, including the CITE Journal (*Contemporary Issues in Technology & Teacher Education*).

Microsoft is developing a virtual community on the Partners in Learning Network (<http://www.pil-network.com/>) to house TEI resources. The TEI site will enable discussions with colleagues around the development, utilization, sharing and extension of TEI around the world. All TEI resources will be made available as open source materials for support of teacher preparation, allowing teacher education associations and individual teacher preparation programs to repurpose and repost the materials in ways best suited for specific disciplines and programs.

The multifaceted efforts of TEI will be designed to encourage, support, and disseminate exemplars of effective teaching practice in teacher preparation programs. Other strategies that emerge from the initial set of meetings will also be incorporated as they are suggested.

Assessment and Evaluation

A method for evaluating the impact of these professional development efforts will be implemented. The NTLC editors, who include the editors of peer-reviewed journals published by the associations affiliated with NTLC, have agreed collectively to constitute a

research and evaluation panel for these efforts. The work of the panel will have two objectives: (a) refinement of desired objectives and goals that may occur as a result of these efforts and (b) identification of benchmarks that may be used to measure whether these objectives are being achieved.

Once these assessment methods have been identified, participating schools of education will be able to track the current status of efforts in their respective institutions. This data may be useful to individual institutions for documentation of progress in this area related to accreditation. Taken collectively, this could eventually be used to develop an annual report card tracking such efforts.

Conclusion

Tom Carroll (2000) outlined a vision for reconceptualization of teacher preparation at the beginning of the PT3 program. He described the challenge in this manner:

Our schools may become marginalized as learning places if they continue to focus only on knowledge transmission, while our workplaces, communities, and homes begin to take full advantage of modern communications and information technologies for knowledge adaptation and generation. (p. 119)

The proposed solution to address this challenge included the following strategy:

We will develop tools and technology that are specifically designed for learning, and we need to collaborate with business partners to develop those resources and to develop the web as a learning environment. We will deploy interactive learning media in place of textbooks, hand-held personal digital assistants, simulation, visualization, and modeling. We need to work with industry to do that. (p. 119)

The PT3 program resulted in significant advances in the way in which technology is integrated into teacher preparation programs. The TPACK frame that is widely used today in both K-12 schools and teacher preparation programs was developed through a PT3 initiative, for example.

However, the challenge that Tom Carroll posed is as relevant today as it was in 2000. The need, if anything, is even greater today. The TEI initiative represents a renewed effort to build on the foundation of the PT3 program and harness the power of emergent technologies to better prepare future teachers and the students they will teach for a changing workplace.

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