

ATE Chicago 2005

ATE Technology Commission Brief Report

A New Era: Increasing Technology Places in the Association of Teacher Educators

The role of the Commission is to provide recommendations to ATE leadership regarding processes for how ATE can provide technology resources/services/tools to benefit P-16+ education, and to influence the organization as a whole to adopt, extend, and disseminate the processes.



Inside this report:

Chris Dede's Message	2
Paul Resta's Message	3
Commission Charge	4
Technology Activities	6
Technology Use in ATE	7
Commission Members	8
Acknowledgements, Supporters, and Partners	12

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Technology workshop ATE Boston.

Technology's Role in Fostering Distributed-Learning Communities for Teacher Educators

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Emerging devices, tools, media, and virtual environments offer opportunities for creating new types of learning communities for students, teachers, and teacher educators (Dede, 2004). Examples of "learning communities" include a national mix of kids working together to create an online encyclopedia about Harry Potter's fictional world, or groups of mentor and novice teachers in Milwaukee sharing ideas about effective instruction. More formally, Bielaczyc & Collins (1999) indicate that:

"The defining quality of a learning community is that there is a culture of learning, in which everyone is involved in a collective effort of understanding. There are four characteristics that such a culture must have: (1) diversity of expertise among its members, who are valued for their contributions and given support to develop, (2) a shared objective of continually advancing the collective knowledge and skills, (3) an emphasis on learning how to learn, and (4) mechanisms for sharing what is learned. If a learning community is presented with a problem, then the learning community can bring its collective knowledge to bear on the problem. It is not necessary that each member assimilate everything that the community knows, but each should know who within the community has relevant expertise to address any problem. This is a radical departure from the traditional view of schooling, with its emphasis on individual knowledge and performance, and the expectation that students will acquire the same body of knowledge at the same time."

Learning communities are a model of teacher/educator professional development that enables a shift from the traditional transfer and assimilation of information to the creation, sharing, and mastery of knowledge. As an illustration of this principle in educational improvement, learning communities, involving active collaboration among researchers, teachers, and policymakers to develop insights about educational innovation, are more powerful than simply transferring data to educators about the outcomes of research and evaluation studies conducted elsewhere. Evolving beyond communicating information from experts to novices towards instead collaboratively extending and sharing knowledge increases both the speed and the effectiveness of applying, refining, and generalizing research and evaluation findings. Also, professional development processes based on learning communities mirror the types of shifts desired in educational practice, moving from passive assimilation of information to active construction of knowledge, so that the innovation process is consistent with its content (Dede 2001).

Professional associations such as ATE have implemented a powerful model of longitudinal face-to-face learning communities at their conferences and workshops. However, this model for learning communities is limited in several respects:

- At ATE meetings, the limited technology infrastructure available does not facilitate the rich exchange of ideas made possible when complex multimedia representations (such as video case studies) are discussed and when distant archives or experts are accessed via the Internet.
- Because interactive media are not utilized routinely within the organization, the learning community functions intensively only infrequently, at the gatherings themselves. Members typically do not engage in year-round collaborative knowledge building experiences, nor is the effectiveness of face-to-face meetings heightened by pre- or post-conference activities.

In particular, the infrequent convening of the learning community substantially undercuts its transformational power. A major challenge in professional development is helping teacher educators "unlearn" the beliefs, values, assumptions, and cultures underlying schools' standard operating practices. Altering deeply ingrained and strongly reinforced rituals of schooling takes more than an informational interchange of the kind typical in conferences and "make and take" professional development. Intellectual, emotional, and social support is essential for "unlearning" and for transformational re-learning that can lead to deeper behavioral changes to create next generation educational practices (Dede 1999). Such support is best delivered continuously rather than semi-annually.



Technology Workshop

"Distributed learning" is a term used to describe educational experiences that are distributed across a variety of geographic settings, across time, and across various interactive media. Professional development via distributed learning involves an orchestrated mixture of face-to-face and virtual interactions, often centered on a learning communities model. Research shows that, in general, the integration of interactive media into educators' professional development profoundly shapes the learning (*Continued on page 10*)

Technology and the Future of Teacher Education

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Commission Members at work.

Teacher education faces greater challenges today than ever before. In the coming decade, the United States will need over 2.2 million new teachers, and this next generation of teachers must possess the skills and knowledge necessary to enable students to be successful in a dynamic, rapidly-changing, technology-based world of the future. Technology is changing schools in profound ways, just as it has transformed virtually all other professions. Huge gains have been made in the infusion of computer hardware, software, and connectivity in classrooms across the country. And while schools and communities expect teachers to be prepared to use these new tools to enhance their students' learning, many teachers struggle to keep pace with the astonishing rate of change in technology. Teacher educators must confront the challenges that technology poses and prepare teachers who can seize its benefits to improve teaching and learning.

In recognition of the demands and opportunities that technology brings to teacher education, the Board of Directors of the Association of Teacher Educators President established in 2001 a National Commission on Technology and the Future of Teacher Education. The Commission was asked to provide a national forum on trends and opportunities related to technology and teacher education, and to advise ATE and the broader teacher educator community on ways to respond to these issues.

In addition, the Commission was asked to help ATE strengthen its national leadership role in technology in a variety of ways, including:

- Increasing the presence and role of technology in ATE conferences
- Increasing the Web presence of ATE
- Developing online professional development resources for teacher educators
- Identifying, examining, and sharing information on major issues, trends, policies, and research in technology and teacher education.

This executive summary provides an overview of the progress and accomplishments of the Commission as it has worked to achieve its goals. ATE has made great strides in infusing technology into its own activities and in helping teacher educators more effectively understand and use technology for learning. The members of the Commission are proud to be a part of these endeavors.

The Commission identified five critical areas that could drive ATE's future strategic technology plan or the Commission's agenda for the next three years. In the proceeding pages, look in this section for the critical issues and a summary of the issue.



Dr. Paul Resta at MIT, ATE Boston summer 2004.

CHARGE OF THE COMMISSION

The Commission's charge was to assist the Association of Teacher Educators in addressing the potential impact of current and future technologies on teacher educators and teacher education programs using the principles of distributed learning communities (Dede, 2004). Many teacher educators are being left behind in this new era of rapid technological change. The goal of the Commission is to engage the national community in dialogue about critical issues related to technology and the future of teacher education. To further this charge, the Commission advised ATE and the broad teacher educator community on how to address critical technology issues involved in teacher education and in the ATE organization.

During the past four years, the Commission advised ATE in ways to strengthen its leadership role in technology, including:

- Increasing the presence and role of technology in ATE conferences
- Increasing the web presence of ATE
- Developing online publications and journals
- Developing online professional development resources for teacher educators
- Developing papers and resources on topics such as the barriers to technology infusion, strategies and resources to overcome barriers, policy issues, etc.
- Conveying a vision of technology in education that projects emerging trends, enabling possibilities, and how these changes may affect education.

VISION AND GOALS

The Commission's focus began with broad strokes looking at the whole education continuum (P-16). Like ATE, the Commission is concerned with all constituent groups, the impact of technology in education on students, and the overall learning environment. During the last three years, the Commission initiated a process to begin attenuating the focus to specific critical issues. The most critical issue that the Commission decided to undertake was infusing technology into the overall infrastructure of ATE meetings and professional development to strengthen its leadership role in technology.

This effort expanded to include supporting the ATE governance and management, expanding the website presence into a virtual community, and serving as a model for other organizations that are grappling with how to create an agenda to keep pace with technological changes that impact educational environments. During this process, the commission established a rigorous agenda to lay the groundwork for supporting the direction of the continuation of this work in the future.

COMMISSION PURPOSE AND ACTIVITIES

The role of the Commission is to provide recommendations to ATE leadership regarding processes for how ATE can provide technology resources/services/tools to benefit teacher development in P-16+ education, and to influence the organization as a whole to adopt, extend, and disseminate the processes.

The Commission took initial action to plan meetings and conference activities that focused on technology integration, NCATE/ISTE technology standards, assessment, resources and strategies for educational equity. The Commission also enhanced technology access by hosting an e-mail room or Tech Demo Lab. As a result, the Commission was able to



ATE Members at MIT.

Critical Issue 1: NCATE accreditation standards.

Changes in NCATE accreditation standards and procedures will drive change in teacher education. Technology is integrated in both the requirements for development of the conceptual framework for College of Education units and in the NCATE standards themselves. COEs are struggling to address the technology and, in general, the demands for data-driven assessments providing evidence that the candidates meet the performance standards and that programs address the process standards.



Ed Pultorak with Summer ATE students.

take advantage of the existing groups [SIGs] within ATE that were interested in collaborating with the Commission to expand activities in the annual meetings and summer institutes. A strategy that worked well was “plant” the initial “seed corn”, “nurture it”, then “harvest the results” generating a completely new crop of “seed corn” plus the extra bounty... which was an expanded community of professional learners.

From formal evaluation data and informal observation, the Commission was able to observe and support members in their increased interests and understanding of the new tools for learning. This was evidenced by the increase in the number of sessions that began to include the use of technology and the increase in members visiting the Tech Demo Lab and sessions with their own laptops to use the wireless network or to explore the tools available in the Commission’s Technology Rooms.

Examples of “Seed Corn” activities included:

- Catalyzing efforts to integrate technology in the overall plan for ATE
- Creating connections to ATE initiatives and meeting agenda themes
- Creating the umbrella to provide structure in the form of models, criteria, standards and guidelines through workshops, general sessions, mentoring, and coaching
- Giving ideas and setting guidelines for the ATE website
- Providing collective expertise and identifying the issues and pointing the leadership and members to resources to increase awareness and understanding of how technology issues can be addressed
- Engaging in joint meetings to consider current thinking and projection towards future possibilities
- Participating in discussion of technology issues that affect teacher preparation and providing models for addressing those within the Commission sponsored presentations and the regular conference program (i.e., NCATE accreditation, federal funding emphases, national report card)

MEETINGS HELD TO MOVE AGENDA FORWARD

There were six annual and summer meetings held during the last three years to move the Commission’s agenda forward to complete the Charge. In the appendix you may view agendas for the Commission sponsored sessions and initiatives. There are also two supporting multimedia CD-ROMs that provide details on the agendas for these meetings.

1. ATE Planning 2002 Annual Conference - Denver
2. ATE Planning 2002 Summer - Williamsburg
3. ATE Planning 2003 Annual Conference - Jacksonville
4. ATE Planning 2003 Summer – Santa Fe
5. ATE Planning 2004 Annual Conference - Dallas
6. ATE Planning 2004 Summer - Boston



Dr. Joyce Pittman ATE Technology Committee Meeting.

Critical Issue 2: Teacher Shortage of Enormous Proportions.

A teacher shortage of enormous proportions is well underway. NEA reports that there is a growing concern that the shortage is even greater when we factor in student/teacher racial and ethnic balance. There is a steadily growing shortage of highly qualified minority teachers entering and successfully completing the teacher preparation. Students cannot be left without teachers; and it is important that minority students see teachers in their schools that look like them. However, we cannot sacrifice pedagogical and technological preparedness on the alternative commonly referred to as the “any warm body in the classroom” concept.



Technology in Action—Preservice teacher showing a student how to use a piano keyboard.

Summary of Technology Activities at ATE Conference

At the beginning in 2002, there was no technology presence at the annual meetings or summer institutes. The 2004 ATE Conference included 381 sessions. 36 sessions involved technology integration and online learning topics were listed in the program for 9.4% of the sessions in 2004. The 2003 Conference had 394 with 23 sessions highlighting technology or 5.6%. The Charge of the Commission to increase presence is evident in the 3.9 %.



Technology in Action—Preservice teacher showing a student how to build a computer.

Critical Issue 3: Crisis of leadership for technology in COEs and P-12 schools.

The influx of technology in schools and universities, coupled with the expectations that technology will be integrated in the university and school learning model, has resulted in the need for technology leadership.

2004 Participant Survey Returns

Event	ATE 2003	ATE 2004
	Jacksonville	Dallas
Email Only	36	36
Topical Sessions (5) Avg. 15.8 attendees per session	83	79
Topical Session and Email	8	36
Saturday	11	15
Total Attendees Accounted for	138	166
Total Evaluations	43 or 31%	>20% 79 or 47.5% 36 more returns or > 83%

Some session leaders submitted attendee numbers but did not submit evaluation forms. There is a difference of 15 due to Saturday sessions—no evaluations were collected.

Breakdown.

Total Participants = N = 166

Survey/Evaluation Return = 79

Change in Technology-Oriented Presence at ATE Annual Conference Two-Year Period: 2003-2004



ATE Technology workshop

ATE Annual Conference	Total Sessions	Technology	Percent	Change
Jacksonville 2003	394	23	5.6	> 3.9
Dallas 2004	381	36	9.4	41% overall
Composite	775	59	7.8	2.2%

Summary: Technology Use in ATE

Recently, ATE members were asked to participate in a survey developed by the commission to evaluate members' use of the ATE website. The survey was designed to investigate how users are currently using the site and how the site can be improved. Listed below is a brief summary of the findings. For additional information please visit the ATE website.

Question 1—Would you like to see online calls for proposals so that all proposals for presentations could be submitted electronically?

Yes	101
No	5
No Comment	4

Question 2—If you use the current ATE website which areas are the most useful to you.

	Response Total
Committee members	25
Governance	22
Links to states/units	30
Meetings/Conferences	82
Publications	56
Standards for Teacher Educators	51
Special Interest Groups	24
Teaching Jobs (with Ed. Week)	15
Other(s) (please specify)	6
Total Respondents	90

Question 3—Should ATE maintain an electronic mailing list (i.e. listserv)?

	Response Total
Yes	94
No	3
No Comment	12
Comments	14
Total Respondents	110

Question 4—Would you find any of the following additions to the web site useful?

	Response Total
Conference Registration (online)	90
List of ATE members	72
Teacher education grant funding opportunities	88
University Job Posting Board	60
PreK-12 job Posting Board	28
Legislative Updates	77
National/state policies impacting education	88
Teacher competency standards	68
Teacher education accreditation standards and processes	74
Issues of Interest	66
Editorial Page (with a follow-up discussions and feedback area)	44
Forum/Discussion Area	39
Online ATE Action Journal (Refereed)	69
Online Journal (Editorial Review)	61
Total Respondents	108



ATE Commission Meeting

Critical Issue 4. Critical need for good assessment systems that included performance-based models.

Teacher education assessments for Preservice candidate testing using Praxis 1, Praxis 2, content knowledge, and exit exam are a concern because they do not include the assessment or testing of technology skills. However, technology is used as a delivery system in the classrooms as pedagogical tools. High stakes testing is diminishing the willingness of teachers and teacher educators to adopt learning technologies.



Dr. Janel White-Taylor and Dr. Bette Bergeron conducting a workshop at ATE Boston.

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Acknowledgement for Supporters and Partners

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2003: **Frances van Tassell**, University of North Texas, Denton, TX

Corporate Friends

- Apple Computer Inc. <http://www.apple.com.au/>
- International Business Machines <http://www.ibm.com/us/>
- Inspiration Software, Inc. <http://www.inspiration.com/>
- Intel Corporation <http://www.intel.com/>
- Crane & Associates drtrcrane@aol.com

Professional Organizations

- Association of Teacher Educators (ATE) <http://www.ate1.org>
- George Lucas Educational Foundation (GLEF) <http://www.glef.org>
- The International Society for Technology in Education (ISTE) <http://www.iste.org>
- National Institute for Community Innovations (NICI) www.nici-mc2.org and www.edreform.net
- United Nation's Educational, Scientific and Cultural Organization (UNESCO) <http://portal.unesco.org>
- National Commission on Teaching and America's Future (NCTAF) www.nctaf.org
- The Society of Information Technology in Teacher Education (SITE) founded a cross disciplinary online journal 'Current Issues in Technology and Teacher' www.aace.org

Universities and Schools

- Arizona State University at the East Campus www.asu.edu
- The University of Cincinnati (PT3 CERTI Project) www.uc.edu/certi
- The University of Texas at Austin www.utexas.edu
- Bemidji State University www.bemidjistate.edu
- Emporia State University www.emporia.edu
- George Mason University www.gmu.edu
- Iowa State University (ISU) www.iastate.edu
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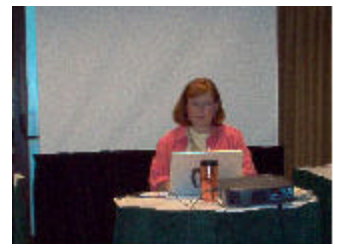
Our thanks to the ATE Governance and Membership for supporting the Commission to increasing technology places ATE, Teacher Education, and communities worldwide!



ATE Summer kids workshop.

Critical Issue 5. Crisis of access to technology and resources for all students.

Access to technology resources for all. Colleges of education without technology resources cannot adequately prepare teachers for technology-rich K-12 environments. Sometimes colleges of education provide a wealth of learning technology resources, but do not prepare future teachers to teach effectively in technology poor schools.



Dr. Kathryn Smith conducting a workshop at ATE Boson.

experiences of those involved (Dede, Whitehouse, & Brown-L'Bahy 2002). Many participants in distributed learning situations report that the use of asynchronous learning environments (such as threaded online discussions, which do not rely on posting at the same time for interaction) positively affects their participation and their individual cognitive processes for mastering knowledge and skills. In addition, participants indicate that synchronous virtual media (e.g., chat rooms and other interactive media requiring posting simultaneously) help them get to know members of the learning community with whom they might not otherwise individually interact and also provide a clear advantage over asynchronous media in facilitating the online work of small groups.

Learning communities based on distributed learning strategies ("*distributed-learning communities*") are a powerful mechanism for knowledge diffusion (Dede & Nelson in press) and for the transformation of professional roles. Professional development initiatives should include all the information necessary for successful implementation of an exemplary practice, imparting a set of related innovations that mutually reinforce overall systemic change. For example, communication and diffusion of research and evaluation findings about a promising technology-based learning environment would ideally include information about (1) the learning environment itself, (2) professional development strategies, (3) necessary shifts in organizational policies and practices, and (4) the requisite technological infrastructure and associated support services. This dissemination process would also include (5) evaluative data about the program's effectiveness and costs, (6) alternative strategies for generating resources to meet those costs, (7) ways to involve the community in the innovation, and (8) approaches for ensuring a positive impact on equity. Distributed-learning communities provide a vehicle for this type of rich knowledge adaptation.

To accomplish major changes in teacher preparation, induction, and professional development, professional associations such as ATE must "walk their talk." While valuable, activities such as issuing reports, holding conferences, and commissioning papers are inadequate to accomplish the scale of changes required for our society to rethink learning, teaching, and schooling. Especially if we believe that teaching should move towards educational models such as distributed-learning communities, then groups such as ATE should base their initiatives on similar processes, so that the medium of change reinforces the methods.

This report of the ATE National Commission on Technology and the Future of Teacher Education is a major step towards realizing this vision. Its recommendations provide a detailed plan for the evolution of ATE's human and technological infrastructure and provide the foundation for a distributed-learning community.

Beyond this, the Commission through its actions at a series of ATE conferences has modeled the effective use of information technology, thereby "walking its talk" and concretely affirming the value to ATE of moving in this direction. Further, beyond informing ATE the material in this report is a template many similar professional associations of educators could use to guide their evolution toward realizing the full potential of information technology in their operations. I have learned much from my participation in the Commission and commend its findings as useful for the entire field.

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