



## EDITORS' REMARKS

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# **Breaking News: TPCK Becomes TPACK!**

For those of us interested in the construct Technological Pedagogical Content Knowledge and the clarity it brings to our work with preservice and inservice teachers, the acronym TPCK has been somewhat problematic. The consonant heavy, TPCK is difficult to say and even getting the letters in the correct order is a challenge for most of us. It is not surprising, thus, that both undergraduate students and inservice teachers tend to be put off when confronted with this unfriendly set of consonants. We have found ourselves apologizing every time we introduce the idea because it does tend to suggest the type of educational jargon for which we educators have received much (justifiable) criticism. TPCK is actually a simple, yet powerful idea and the complicated name and acronym does disservice to its utility and power.

Since many of us have had similar challenges with the TPCK acronym, one of the agenda items at the recently convened 9<sup>th</sup> Annual National Technology Leadership Summit was to revisit the name for this important concept. In fact, we asked each of the teacher education association leaders and journal editors attending the summit to create a new, friendlier terminology for TPCK—one that captured its essential qualities and yet was easy to use and remember. During the two-day conference, participants created suggestions for a new name and after much deliberation, the name TPACK (pronounced “tee-pack”) emerged as a substitute.

The new name does much more than just buy a vowel for TPCK. We see TPACK as capturing two key aspects of our work with technology integration. First, it emphasizes, through the letters, the three kinds of knowledge (Technology, Pedagogy And Content) that we believe are essential building blocks for intelligent technology integration. Second, and as important, it captures the fact that these three knowledge domains should not be taken in isolation, but rather that they form an integrated whole, a “Total PACKage” as it were, for helping teachers take advantage of technology to improve student learning.

Previous approaches to helping teachers learn to take advantage of technology have focused on teaching teachers about technology. We believed (erroneously, as the research increasingly indicates) that after teachers learned to use technology, they would naturally figure out how to use the technology to teach their content area. What is clear now is that we need to go beyond simplistic technocentric approaches because knowledge of technology does not necessarily lead to effective teaching with technology (see Sahin in this issue). Effective use of technology, we have learned, involves the ability to make informed decisions on how to take advantage of the affordances of technology (with a sensitivity to the concomitant constraints technologies bring to the table) to support specific pedagogies within a particular content area. Thus, teachers need the Total PACKage: the knowledge that lies at the intersection of knowledge of Content, Pedagogy And Technology i.e., TPACK.

If all goes well, we will begin to see TPACK appear as our shared descriptor of the powerful ideas involved in creating a synergy among

technology, content and pedagogy that honors the interdependence of these three important parts of teacher education and teaching. Emphasizing creating the total package for effective teaching and teacher education will help bring clarity and simplicity to developing knowledge of the most effective ways to help teachers take advantage of technology.

Products from the 9<sup>th</sup> Annual NTLs will go far beyond the renaming of TPCK and will include the publication of a new ISTE book on the use of digital video in classrooms (developed within the TPACK framework), a new agenda for legislative advocacy for funding for technology in education, and suggestions for new directions for research and practice with TPACK. Readers will see the unveiling on these products in editorials and articles in each of the major journals in our field.

Three of the four articles in this issue of JCTE directly relate to the TPACK framework. In “Collaborative Dialogue in a Synchronous CMC Environment? A Look at One Beginning English Teacher’s Strategies,” author Susan L. Groenke provides an in depth description of the pedagogy used by an English instructor in a synchronous CMC environment. The emphasis on pedagogy, as well as content and technology, in this article illustrates our movement toward TPACK. Similarly, authors David R. Parker, Linda Robinson and Robert Hannafin emphasize pedagogy in their article “Blending” Technology and Effective Pedagogy in a Core Course for Preservice Teachers.” Based in Adult Learning theories, the article provides recommendations for college faculty members designing blended courses. Both articles focus upon selecting and implementing pedagogical approaches that highlight the affordances of the technology used. I believe that the unspoken emphasis on TPACK in these articles provides two good examples of research that is moving away from studying the effects of technology toward research defining studying the complex interactions of technology, pedagogy, and content.

On a directly related note, in “Faculty Instructional Computer Use Model: Differentiating Instructional and Mainstream Computer Uses,” Ismail Sahin presents results from a quantitative study that suggest that faculty instructional computer use and faculty mainstream computer use form two distinct variables. Sahin’s results reinforce the idea that faculty development work in the area of technology needs to go beyond teaching faculty to use technology toward helping faculty develop TPACK.

The final article in this issue, “The Role of Electronic Portfolios in the Hiring of K–12 Teachers” by Jane Strawhecker, Ken Messersmith, and Amanda Baicom directly addresses an issue of concern for teacher educators who are integrating electronic portfolio work into their programs. In a mixed method study, the authors investigated employers’ views and preferences on the use of electronic portfolios in the hiring process. Results will be helpful to teacher education programs working to help students create electronic portfolios with an employer audience in mind.

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the decision-making process in all phases" (p. 405). This suggests that even K–12 students would be involved in commenting "on the findings and, together with the researcher, develop more effective models of schooling" (p. 405).

*Getting Started With Action Research in Educational Technology.* Nolen and Putten encourage preparing "school professionals to be researchers from the beginning of their coursework" (p. 405). I was able to identify several references that relate specifically to action research in educational technology, including Royer (2002) who provides an overview of the action research process. Schnorr and Painter (1999) describe a model for involving preservice teachers in collaborative action research projects during their field experiences, with an example focused on integration of technology in the curriculum. This model describes an active (vs. passive) role for preservice teachers in examining research-based practice, including assisting with data collection and summarizing the literature to inform and to reflect on the teaching-learning process. Pan (1999) describes one approach for working with inservice teachers in a "Technology-Based Action Research Model" implemented during two computer courses. Both Pan (1999) and Royer (2002) outline a variety of technology-related research questions that are still relevant for teachers today.



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What is our role in the action research process? In their study of three iterations of teacher action research involving ICTs, Ham, Wenmoth, & Davey (in press) found that self-study and critical inquiry was challenging for all involved, especially in terms of practical manageability. We can assist by helping teachers identify good research questions and related tools for data collection; supporting them in their analysis of and reflection on data; and finally increasing the meaning of their work through encouraging them to publicly share the results of their research (Altrichter, Posch, & Somekh, 1993; Royer, 2002). Rather than focusing on transferring our knowledge of ICTs or the action research process, we need to assume the role of mentors, being sensitive and responsive to teachers' concerns and needs (Ham, Wenmoth, & Davey, in press). Action research holds promise as a form of alternative assessment, triangulating data sources and enhancing our understanding of the complexity of technology-rich teaching-learning environments. Through the action research process, teachers can increase the use of technology in the classroom and investigate the impact of technology on the teaching-learning process.

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Taken together, all the articles in this issue demonstrate the movement of research in our field away from technocentric studies toward studies that emphasize the complex interactions of technology, pedagogy and content or, in our new language, emphasize the TPACK approach to working with teachers.