Sine Qua Non

Indispensable Resources for Ed Tech Professionals

By Kate Conley

Subject: Professional development, technology integration

Audience: Technology coordinators, technology integration specialists, technology facilitators, staff developers, administrators, teachers, teacher educators

Standards: *NETS•T* V; *NETS•A* I, III (http://www.iste.org/standards/)

Part 3

Technology Integration

This is the third and final article in our series on indispensable resources compiled from suggestions provided by ISTE members and affiliates; staff; and board, committee, and advocate network members. The first article (*L&L*, March 2004, pp. 10–13) included resources related to Educational Technology, and the second article (*L&L*, April 2004, pp. 22–24) focused on Leadership. In Part 3, we get down to the nitty-gritty level at which many of our members and readers work. These essential resources deal directly with the challenges of designing successful instructional activities incorporating technology to engage our students and improve learning.

Technology Integration Tools

Articles & Reports

Beyond Drill and Practice: Expanding the Computer Mainstream by S. J. Russell, R. Corwin, J. R. Mokros, & P. M. Kapisovsky. (1989). Reston, VA: The Council for Exceptional Children.

Richard Alan Smith, PhD, lecturer in instructional technology at the School of Education, University of Houston—Clear Lake, said the report listed below from NCREL "provides an excellent background for the reader in the distinct phases and expectations of instructional technology implementation."

Computer-Based Technology and Learning: Evolving Uses and Expectations by G. Valdez, M. McNabb, M. Foertsch, M. Anderson, M. Hawkes, & L. Raack. (n.d.). North Central Regional Educational Laboratory. Available: http://www.ncrel.org/tplan/cbtl/toc.htm

Connecting the Bits: A Reference for Using Technology in Teaching and Learning in K–12 Schools by the National Foundation for the Improvement of Education. (2000). Washington, DC: Author. Available: http://www.nfie.org/publications/connecting.htm

First Principles of Instruction by M. D. Merrill. (2002). *Educational Technology Research and Development, 50*(3), 43–59.

One Hundred Book Titles: A Twelve-Foot Shelf of Basic References for Instructional Design and Development by R. A. Braden. (1981). *Educational Technology, 21*(9), 41–45.

Power On! New Tools for Teaching and Learning by the U.S. Congress, Office of Technology Assessment. (1988). Washington, DC: U.S. Government Printing Office.

In recommending the first article below by Arthur Luehrmann, Glen Bull, PhD, Ward Professor of Education in the Curry School of Education at the University of Virginia, said Luehrmann's work:

> had a profound influence on my conceptualization of the role of technology when it was published in 1980. I thought it might be instructive to query him about his views 30 years later [he presented his paper "Should the Computer Teach the Student or Vice Versa?" at a conference in 1972]. Examining how well we've done in predicting the future in the past is a useful exercise as we look to the future.

Luehrmann responds to this question in the second article below.

Should the Computer Teach the Student or Vice Versa? by A. Luehrmann. (1980). In R. Taylor (Ed.), *The computer in school: Tutor, Tool, Tutee* (pp. 129–135). New York: Teachers College Press.

Should the Computer Teach the Student?—30 Years Later by A. Luehrmann. (2002). *Contemporary Issues in Technology and Teacher Education* [Online serial], *2*(3). Available: http://www.citejournal.org/vol2/iss3/seminal/article2.cfm

Teacher Collaboration Supports Instructional Change. *Notes & Reflections, 5* (Summer/Fall 2003). Available: http://www.ncrel.org/info/notes/fall03/

Teachers and Technology: Making the Connection by the U.S. Congress, Office of Technology Assessment. (1995). Washington, DC: U.S. Government Printing Office.

Technology and the New Professional Teacher: Preparing for the 21st Century Classroom by the National Council for Accreditation of Teacher Education. (1997). Washington, DC: Author.

Technology Meets Constructivism: Do They Make a Marriage? by D. N. Perkins. (1991). *Educational Technology, 31*(5), 18–23.

A tech leader's reading material should "include technical journals and Web sites because it is difficult to make decisions about integration if you don't have an idea of where technology is now and where it is headed."

—Michael K. Russ, director of technology at Evansville-Vanderburgh School Corp. in Evansville, Indiana

Ten Ways to Integrate Curriculum by R. Fogarty. (1991). *Educational Leadership, 49*(2), 61–65.

The Power of the Internet for Learning by the Web-based Education Commission (December 2000). Washington, DC: U.S. Department of Education. Available: http://www.ed.gov/offices/AC/WBEC/FinalReport/

What Conditions Encourage Technology Use? It Depends on the Context by J. Willis. (1993). *Computers in Schools, 9*(4), 13–32.

What Constructivism Demands of the Learner by D. N. Perkins. (1991). *Educational Technology, 31*(9), 19–21.

Books

10 Easy Ways to Use Technology in the English Classroom by H. Firek. (2003). Portsmouth, NH: Heinemann. ISBN 0325005478.

Bringing the Internet to School: Lessons from an Urban District by J. W. Schofield & A. L. Davidson. (2002). Jossey-Bass. ISBN 0787956864.

Integrating Computer Technology in the Classroom by G. R. Morrison & D. L. Lowther. (2nd ed., 2001). New York: Prentice Hall. ISBN 0130323969.

Integrating Educational Technology into Teaching by M. D. Roblyer. (3rd ed., 2002). New York: Prentice Hall. ISBN 013042319X.

Integrating Technology for Meaningful Learning by M. Grabe & C. Grabe. (3rd ed., 2001). Boston: Houghton Mifflin Co. ISBN 0618042911.

National Educational Technology Standards for Students—Connecting Curriculum and Technology by the NETS Project. (2000). Eugene, OR: ISTE. ISBN 1564841502.

NETS•S Curriculum Series—Multidisciplinary Units for Prekindergarten Through Grade 2 by J. A. Carroll, M.G. Kelly, & T. L. Witherspoon. (2003). Eugene, OR: ISTE. ISBN 15648420002.

NETS•S Curriculum Series—Multidisciplinary Units for Grades 3–5 by L. Hannah. (2002). Eugene, OR: ISTE. ISBN 1564841766.

NETS•S Curriculum Series—Multidisciplinary Units for Grades 6–8 by S. O'Hara & M. McMahon. (2003). Eugene, OR: ISTE. ISBN 1564842061.

National Educational Technology Standards for Teachers—Preparing Teachers to Use Technology by The NETS Project. (2002). Eugene, OR: ISTE. ISBN 1564841731.

Palm Handheld Computers: A Complete Resource for Classroom Teachers by M. Curtis, B. Williams, C. Norris, D. O'Leary, & E. Soloway. (2003). Eugene, OR: ISTE. ISBN 1564841979.

Raw Materials for the Mind: Teaching & Learning in Information & Technology Rich Schools by D. Warlick. (3rd ed., 2002). Raleigh, NC: The Landmark Project. ISBN 0966743202.

Spreadsheet Magic: 40 Lessons Using Spreadsheets to Teach Curriculum in K–8 Classrooms by P. Lewis. (2001). Eugene, OR: ISTE. ISBN 1564841723.

Teaching Digitally: A Guide for Integrating Technology into the Classroom Curriculum by L. A. Tomei. (2001). Norwood, MA: Christopher-Gordon Publishers, Inc. ISBN 1929024274.

Teaching with Technology: Creating Student-Centered Classrooms by J.H. Sandholtz, C. Ringstaff, & D. C. Dwyer (1997). New York: Teachers College Press. ISBN 0807735868.

Tech-Savvy: Educating Girls in the New Computer Age by the American Association of University Women Commission on Technology, Gender, and Teacher Education. (2000). Washington, DC: AAUW Foundation. ISBN 1879922231. Executive Summary Available: http://www.aauw.org

Using Technology in the Classroom by G. G. Bitter & M. E. Pierson. (5th ed., 2001). New York: Allyn & Bacon. ISBN 0205332471.

Virtual Architecture: Designing and Directing Curriculum-Based Telecomputing by J. Harris. (1998). Eugene, OR: ISTE. ISBN 1564841308.

Periodicals

Michael K. Russ, director of technology at Evansville-Vanderburgh School Corp. in Evansville, Indiana, advocates that you "read, read, read." He adds that one's reading material should "include technical journals and Web sites because it is difficult to make decisions about integration if you don't have an idea of where technology is now and where it is headed."

Edutopia (from the George Lucas Educational Foundation): http://www.glef.org

From Now On: http://www.fno.org

Macworld: http://www.macworld.com

PC World: http://www.pcworld.com

T.H.E. Journal (Technological Horizons in Education): http://www.thejournal.com

Technology Review: http://www.techreview.com

Threshold: http://www.ciconline.org/AboutCIC/Publications/threshold.htm

Web Sites

Some of the Web sites listed below align their resources with particular state standards. However, many of the lesson plans, suggestions, and activities can easily be adapted to fit your requirements.

Cable in the Classroom: http://www.ciconline.org

California Learning Resource Network: http://www.clrn.org/home

Connecting Student Learning & Technology: http://www.sedl.org/pubs/tec26/flash.html

Dave Moursund's PBL Web site: http://darkwing.uoregon.edu/%7emoursund/PBL/

Education World: http://www.education-world.com/#Technology

Educause: http://www.educause.edu

Educational Technology Clearinghouse: http://etc.usf.edu/

FOLDOC (Free On-Line Dictionary of Computing): http://foldoc.doc.ic.ac.uk/foldoc/

Gateway to Educational Materials (GEM): http://www.geminfo.org

George Lucas Educational Foundation: http://www.glef.org

International Reading Association's Reading Online: http://www.readingonline.org

Lesson Plan Builder: http://www.lessonplanbuilder.org/lessons/

Mid-Continent Research for Education and Learning (McREL): http://www.mcrel.org/lesson-plans/

MirandaNet: http://www.mirandanet.ac.uk

National Educational Technology Standards (NETS): http://www.iste.org/standards or http://cnets.iste.org

National Council for Accreditation of Teacher Education (NCATE) standards: http://cnets.iste.org/ncate

Regional Education Laboratories (RELs' main Web site): http://www.relnetwork.org/

WebQuest Page: http://webquest.sdsu.edu/

White Papers on Technology Issues for Educators: http://lrs.ed.uiuc.edu/wp/. These white papers focus on several issues affecting ways in which new information and communication technologies are changing schools. Graduate students in the Curriculum, Technology, and Educational Reform online master's program at the University of Illinois, Urbana-Champaign developed them in 1999.

Conclusion

Once again, I'm drawn to the words of Don Hall, CIO for the Kent, Washington, School District, *L&L*'s For Tech Leaders column editor, and SIGTC's vice president, who has defined so articulately some of the problems facing many educators. He said,

> One of the things I find is that too few tech leaders read broadly enough. They tend to stay in a narrow selection of journals, which then tend to rehash the same issues or perspectives. Ultimately, this repetitive process leads to minimal professional growth.

His comments point us back to Part 1 of this article series, in which we identified a lack of time as a key culprit in why you may not be reading as extensively as you could. *And,* there is even less time to collect a *broad range* of resources. But Don's comments also issue us a challenge. We hope this three-part series on essential resources will assist you in your efforts to seek out new ideas, to invigorate your leadership and technology integration activities, and to meet that challenge. Keep it handy, so that when you do find the time for professional development, you'll know where to start.

L&L's editor, Kate Conley, taught English and writing at the secondary and community college levels for eight years before pursuing a career in journalism. She holds a BA in English from the University of the Pacific and an MS in journalism from the University of Oregon.