



Teaching and Learning with Technology

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Goal of Bibliography

The role of the librarian often encompasses teaching a broad range of skills that may include areas such as information literacy, cyber-literacy, computer application, and technological literacy.

The intent of this bibliography is to identify literature that will assist librarians in understanding the evolving educational theories and issues and their applicability to the library community. We have also identified some useful tools for instruction.

Glossary

Here is a glossary that contains the characteristics of current educational concepts to assist you in understanding and differentiating between the nuances of overlapping concepts.

Active Learning

- Learner Centers
- Intrinsic Motivation
- Learner involved in fashioning content

Behaviorism

- Based upon Skinner's theory of stimulus and response
- Teachers formulates specific objective and success is measured by the learner achieving the desired behavioral response

Cognitivism

- Focus is on learning inputs and outputs
- Concerned with how the brain processes information. Information is presented, processed and recalled information
- Reasoning, problem solving contain rules than can be mastered

Cooperative Learning

- Positive interdependence (working as a team)
- Individual Accountability (assessment by an instructor)
- Group Interaction (sharing of information)
- Social Skills (needed to interact and learn from each other)
- Results in enhanced individual and group learning

Constructivism

- Learner-built content based upon the belief that the learner has some prior knowledge and experience to build upon
- Instructor as catalyst or coach
- Learner-centered procedures
- Knowledge viewed as relative

Discovery Learning

- Learning is more effective when the concept is self discovered and applied; looks for the student to experience an “aha!” moment
- Encourages students to ask and then answer their own questions

Humanism

- Concerned with the development of the “whole human being”
- Based on the concept of free will, the ability to make choices
- Learning is based upon the personal learning experience

Problem Based Learning

- Requires students to apply their knowledge to realistic problems
- Emphasizes group work to attain higher levels of comprehension
- Presents “messy” problems that students need to research to solve

Books

Brandt, D. Scott. *Teaching Technology: A How to Do It Manual for Librarians*. New York: Neal Schuman, 2002.

§ Focuses on teaching Internet skills; book is practical in its scope.

Bransford, John D., Ann L. Brown, and Rodney R. Cocking, Eds. *How People Learn: Brain, Mind, Experience and School*. Washington, DC: National Academies Press, 2000.

§ Contains a summary of current and past learning theories and how they can be applied in the classroom.

Committee on Developments in the Science of Learning. *How People Learn: Brain, Mind, Experience and School*. Washington, DC: National Academies Press, 2000.

- § Deals with both with the science of learning and how information can be utilized in a teaching environment.

Weigel, Van B. *Deep Learning for a Digital Age: Technology's Untapped Potential to Enrich Higher Education*. San Francisco: Jossey Bass, 2001.

- § Discusses and advocates the use of digital classroom management system as the most effective tool to deliver education; includes a section on the digital library and the role of the librarian in the process.

Periodicals

Change

<http://www.aahe.org/change/>

- § Published by the American Association for Higher Education; “deals with contemporary issues in higher learning, ... spotlights trends, provides new insights, and analyzes the implications of educational programs. Articles cover influential institutions and individuals, new teaching methods, curriculum, finances, governance, and public policy.”

Knowledge Quest

<http://www.ala.org/ala/aasl/aaslpubsandjournals/kqweb/kqweb.htm>

- § Published by the American Association of School Librarians, a division of the American Library Association. The audience for the periodical is the school library media specialist. The “articles address the integration of theory and practice in school librarianship and new developments in education, learning theory, and relevant disciplines.”

Portal: Libraries and the Academy

http://muse.jhu.edu/journals/portal_libraries_and_the_academy/

- § The periodical is published by the Johns Hopkins University Press; is a “journal that presents research findings and provides regular coverage of issues in technology, publishing, and periodicals, portal is written by librarians for librarians.”

Tech Trends

<http://www.aect.org/Intranet/Publications/techtrends/4806.asp>

- § Published by the Association for Educational Communication and Technology; focuses on “practical application of technology in education and training.”

Periodical Articles

Campbell, Sandy and Debbie Fyfe. "Teaching at the Computer: Best Practices for One-on-One Instruction in Reference at the University of Alberta." *Feliciter*. 2002 Vol. 48 No. 1 p. 26.

§ An interesting discussion of best practices utilized with college students.

Cheney, Debora. "Problem Based Learning: Librarians as Collaborators and Consultants" *Portal: Libraries and the Academy*. Oct 2004 Vol. 4 No. 4 p. 495.

§ Focuses on librarians not only as instructors, but as instructional designers. Problem based learning is discussed as an active learning tool that assists students in becoming information literate. The emphasis is on technology-based resources. Several examples of the technique are provided.

Hall, Michael. "Web Profile." *Knowledge Quest* May/June 2000 Vol. 28 No 5 p. 34.

§ Article advocates an integrated approach to teaching technology and research skills. The librarian is identified as the educator best able to provide this learning.

Ladner, Betty, Beagle, Donald, Steele, James R, Steele, Linda. "Rethinking Online Instructions: From content Transmissions to Cognitive Immersions." *Reference and User Services Quarterly*. Summer 2004 Vol. 43 No. 4 p. 329.

§ The changing nature of online instruction describes the need for the library to provide active online instruction. A technique called the classroom flip is advocated as a method to engage the student in learning.

Meola, Mark, "Chucking the Checklist: A Contextual Approach to Teaching Undergraduates Website Evaluation." *Portal* July 2004 Vol. 4 No 3 p. 331.

§ The author, from the College of New Jersey, questions the usefulness of the checklist criteria (authority, accuracy, objectivity and coverage) as a tool for the evaluation of web pages. He offers suggestions to improve students' skills by utilizing critical thinking.

Snavey, Loanne. "Making Problem-Based Learning work: Institutional Challenges." *Portal: Libraries and the Academy*. Oct 2004 Vol. 4 No 4 p. 521.

§ The advantages of using problem-based learning to develop information-literate students are discussed in this article. Methods of assessment are considered as well as the requirements for effective instruction.

Web Sites

Teaching with Electronic Technology

<http://www.wam.umd.edu/~mlhall/teaching.html>

- § Michael Hall, of the University of Maryland, has assembled an extensive web site of educational links. The link on this page leads to his bibliography of online articles that discusses teaching with electronic technology.

Educause: Transforming Education through Information Technology

<http://www.educause.edu/>

- § Educause is an organization that supports the use of technology as a tool to deliver and transform education. It describes its mission as “focuses on understanding learners, aligning learning principles and practices together and integrating learning technology—all with the goal of improving student success.” Forty-five colleges in New Jersey belong to this organization.

Infosearcher

http://www.infosearcher.com/active_learning.htm

- § Infosearcher is associated with Pam Berger and is aimed at the K-12 librarian. The site focuses on technology in education.

Library Instruction

<http://www.libraryinstruction.com>

- § Michael Lorenzen, head of reference services at Central Michigan University, produces a website that contains a number of resources, articles about library instruction, articles about information literacy, library lesson plans and information about active learning in library instruction.

Digital Library Federation

<http://www.diglib.org/>

- § The organization promotes the use of electronic information technology to transform libraries. They are a division of The Council on Library and Information Resource. They are working to expand the concept of the library.

Personalization Tools for Active Learning in Digital Libraries

<http://wings.buffalo.edu/publications/mcjrnl/v8n1/active.pdf>

- § Champa Jayawardana and his colleagues describe how libraries serve the learning process in this reprinted article from *MC Journal: The Journal of Academic Media Librarianship*.

Implementing the Seven Principles by Ehrmann, Stephen
<http://www.tltgroup.org/Seven/Introduction.htm>

- § “A Library of Ideas for Using Technology as a Lever;” in other words, to increase student time-on-task, student-to-student cooperation, and other behaviors.

MERLOT

<http://www.merlot.org/artifact/BrowseArtifacts.po?catcode=60&browsecat=58>

- § Merlot is an open source site that contains links to learning materials. Its focus is primarily higher education, but it contains library resources also.

Learning with Technology Profile Tool

<http://www.ncrtec.org/capacity/profile/profwww.htm>

- § The North Carolina Regional Educational Laboratory has created this evaluation tool that allows you to assess your use of student-centered learning and your effective use of technology.

Characteristics of Programs of Information Literacy that Illustrate Best Practices: A Guideline

<http://www.ala.org/ala/acrl/acrlstandards/characteristics.htm>

- § ACRL describes the elements of an effective information literacy program in your library.

Practices Evident in Good Models of Teaching with Technology (GMOTT)

<http://knowledgeloom.org/practices3.jsp?location=1&bpinterid=1163&spotlightid=1163>

- § The Knowledge Loom provides tips for technological accessibility, along with information on multiple learning strategies.

Best Practices in Higher Education

<http://cte.udel.edu/bestpract.htm>

- § Resources for teaching in large classes, teaching with instructional technology, tips for good practice, and more.

Best Practices for Online Information-Literacy Courses

<http://www.ncolr.org/jiol/archives/2004/spring/03/>

- § Thomas J. Tobin of Southern Illinois University provides details about the types of "independent" teaching methods that work best for library users, including information on stand-alone tutorials and users' mental models.