

Research Papers Available at ERIC

TITLE: Assessing the Impact of Instructional *Technology* on *Student Achievement*.

AUTHOR: Sherry, Lorraine; Billig, Shelley; Jesse, Daniel; Watson-Acosta, Deborah

ABSTRACT: Explains a Vermont Web project that incorporated multimedia *technology* into K-12 curriculum and describes an evaluation that measured the impact of the project on *student achievement*. Describes evaluation methods used and concludes that teachers should emphasize metacognitive skills, application of skills, and inquiry learning as they incorporate *technology* into the curriculum. (LRW)

AVAILABILITY: Available electronically:

<http://www.thejournal.com/magazine/vault/M2629.cfm>

or at ERIC <http://ericit.org/plweb-cgi/obtain-fulltext.pl>

TITLE: Using *Technology* to Improve Instruction and Raise *Student Achievement*. Outstanding Practices.

ABSTRACT: The 2000 "High Schools That Work" (HSTW) Assessment showed a definite payoff among career-oriented students who used *technology*. In their 2000 annual reports to the Southern Regional Education Board, many HSTW sites listed *technology*-related accomplishments: getting students to use the Internet to gather information; teaching students to use computers, printers, scanners and digital cameras in completing challenging projects; and earning awards for student accomplishments in *technology* use. National studies have revealed that students who have access to computer-assisted instruction and other *technology*-related experiences show achievements gains on various tests. This Outstanding Practices publication contains 21 examples of how educators are using *technology* to improve instruction and raise *student achievement* in academic and career/technical courses. These are just some of the exemplary practices from the more than 1,100 HSTW sites in 26 states. The reports from schools are divided into three sections: "Academic Courses," "Career/Technical Programs," and "Integrated Academic and Career/Technical Studies." (AEF)

PUBLICATION_DATE: 2002

AVAILABILITY: At ERIC <http://ericit.org/fulltext/IR021084.pdf>

TITLE: *Teaching*, Learning, and Computing: What Teachers Say.

AUTHOR: Heath, Marilyn; Ravitz, Jason

ABSTRACT: This paper examines the results from the "*Teaching*, Learning and Computing" (TLC) survey (Becker, H.J. & Anderson, R.E., 1998) administered to the "Applying *Technology* to Restructuring and Learning" (ATRL) project participants. The ATRL project was a five-year project funded by the U.S. Department of Education, Office of Educational Research and Improvement, and carried out by the Southwest Educational Developmental Laboratory's *Technology* Assistance Program. The primary purposes of the project were to document how teachers and their *teaching* practices changed as they integrated *technology* in their classrooms and to document the role that *technology* played in that process. A major activity of this project was the design, development, and delivery of 72 hours of professional development that modeled constructivist learning environments supported by *technology*. The TLC results were examined to shed light on the benefits of the ATRL professional development intervention and also to help inform the three research questions under consideration in this study: (1) What do constructivist learning environments supported by *technology* look like in practice? (2) How can teachers be assisted in developing constructivist learning environments supported by *technology*? (3) How

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does *technology* facilitate the development of a constructivist learning environment? (Contains 6 references.) (Author/AEF)

PUBLICATION_DATE: 2001

AVAILABILITY: At ERIC <http://www.ericit.org/fulltext/IR021238.pdf>

CLEARINGHOUSE_NO: IR021301

TITLE: Analysis of Navigation in a Problem-based Learning Environment.

AUTHOR: Williams, Douglas C.; Liu, Min; Benton, Denise

ABSTRACT: Research has shown the potential of a problem-based approach to enhance students' learning. The interactive nature of hypermedia *technology* and its ability to deliver information in different media formats can provide unique capabilities for implementing problem-based learning (PBL) environments. Yet, little is known about the types of tools that are effective in supporting learning in hypermedia supported PBL environments. The purpose of this exploratory study is to investigate both the use of tools and design features in a piece of PBL software and their effectiveness on middle school students' learning. Specifically, the following research questions formed the focus of the study: Do any navigational profiles emerge among the student teams, and if so, how do they compare usage of the tools embedded in the PBL environment? If navigational profiles exist, how do they compare in terms of the external criteria: science aptitude, recall and transfer measures, and attitude toward the environment? If navigational profiles do not exist, what is the relationship between tool use and *student achievement* and attitude? (Contains 15 references.) (Author/AEF)

PUBLICATION_DATE: 2001

AVAILABILITY: <http://www.aace.org>. and at ERIC <http://ericit.org/fulltext/IR021301.pdf>

CLEARINGHOUSE_NO: IR020656

TITLE: Convergent Analysis: A Method for Extracting the Value from Research Studies on *Technology* in Education.

AUTHOR: Norris, Cathleen; Smolka, Jennifer; Soloway, Elliot

ABSTRACT: The objective of this paper is to present a method for extracting value from the research literature that should benefit educational practitioners. This method, called Convergent Analysis (CA), comprises the following steps. First, this focused question must be posed whose answer can benefit educational practitioners: under what conditions do computers lead to increased *student achievement*? Second, the empirical studies in the literature need to be reviewed and put into a standardized format. Third, all the studies in that standardized format should be looked at in order to compare and contrast the issues in each study. This paper highlights the steps of the CA process and provides examples of the "nuggets of wisdom" the authors have extracted from the literature on writing education and *technology* using the CA method. Issues and tools needing future research and development are then identified. Finally, curricular, instructional, and infrastructural issues are identified. (Contains 17 references.) (AEF)

PUBLICATION_DATE: 1999

AVAILABILITY: At ERIC <http://ericit.org/plweb-cgi/obtain-fulltext.pl>

TITLE: Managed Chaos: Learning in *Technology* Enhanced Environments.

AUTHOR: Scharf, Meg; Smith, Karen L.

ABSTRACT: Learning and information management in *technology* rich environments is a

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nonlinear process that teachers cannot pretend to control. The University of Central Florida's (UCF) teaching and information management strategies build on metaphors and models borrowed from Dynamical Systems and Complexity Theories to help teachers and others understand learning processes and effectively guide students in complex environments. UCF The Faculty Center for Teaching and Learning and the UCF Library are tracking and analyzing the processes students use for information acquisition, management and application in order to identify strategies that lead to successful learning and those that break down. The result has been a faculty development process that has moved faculty away from a lecture/information distribution model to one that actively engages *students* in the *learning* process. Through the use of templates and guidelines, negotiated outcomes, team roles, and phased deadlines, students have begun to accept responsibility for their own learning and are shifting from passive recipients of information to explorers, discoverers and experimenters. Some faculty embrace the notion of chaos in the classroom, while others fear it. By understanding the teaching approaches that support dynamic learning and the type of students who can benefit from this environment, UCF has been able to create learning alternatives and to maximize the use of high tech environments, making the most flexible available only to those faculty who are prepared to use them. The UCF model for helping faculty maximize the dynamic learning environment can help other institutions move toward a philosophy that embraces students' ability to discover and apply knowledge that is not only contained in a textbook. (AEF)

PUBLICATION_DATE: 2000

AVAILABILITY: For full text: <http://www.educause.edu/conference/e2000/proceedings.html>;
<http://www.educause.edu/asp/doclib/abstract.asp?ID=EDU0023>.

TITLE: Assessing the Role of Educational *Technology* in the *Teaching* and Learning Process: A Learner-Centered Perspective.

AUTHOR: McCombs, Barbara L.

ABSTRACT: This paper argues that it is time to think differently about assessing the role of educational *technology* in the *teaching* and learning process. The first section addresses the question, "What is learning?" The second section examines the purpose of education. The third section discusses the knowledge base needed to apply educational *technology* appropriately to the *teaching*-learning process, including the learner-centered principles as a framework, the learner-centered psychological principles, defining "learner-centered," and using *technology* to provide qualities of learner-centered teachers. The fourth section considers the implications of the learner-centered framework for the application of *technology* to support learners and learning, the assessment of *technology* in service to learners and learning, building learner-centered learning communities, and expanding the notion of collaboration and transforming the educational system. An author biography is included. (Contains 49 references.) (MES)

PUBLICATION_DATE: 2000

AVAILABILITY: Full text: http://www.ed.gov/Technology/techconf/2000/white_papers.html
and at ERIC <http://www.ericit.org/fulltext/IR020670.pdf>