

Relevant Strategies

- 1) Mathematics courses that emphasize **small-group processes, analyses of real-world situations, the use of computational tools, and incorporate adaptive tutoring software into the curriculum** can result in improved mathematics skills as measured by standardized assessments. These types of courses also result in improved problem-solving skills and enhanced ability to translate between equivalent representations of algebraic content.

Koedinger, K., Anderson, L.k Hadley, W., & Mark, M., (1997). *Intelligent Tutoring Goes to School in the Big City*. Pittsburg, PA: Human-Computer Interaction Institute, Carnegie Mellon University.

- 2) **Consistent use of computers and software across grade levels** can positively influence student performance on standardized tests.
- 3) **Integrated learning programs should be considered as a supplement for the systematic development of basic academic skills** but should not replace project-based activities that are designed to teach students the relevance and application of the basic skills as they are mastered.

Mann, D., Shakeshaft, C., Becker, J., & Kottkamp, R. (1998). *West Virginia Story: Achievement gains from a statewide comprehensive instructional technology program*. Santa Monica, CA: Milken Exchange on Educational Technology.

- 4) Classroom **networking has the potential to dramatically impact the fundamental nature of the classroom environment, but only when the networking is of sufficient magnitude (e.g., adequate numbers of computers and Internet connectivity, teachers and staff are provided adequate professional development, and students have access to problem-solving tools such as spreadsheets, databases word processor programs, and multimedia presentation software.**
- 5) To enable students to become “engaged learners,” **at least one high-end networked computer is required for every three or four students.** Less powerful computers are also useful, for the editing and printing of documents. The use of low-end computer to supplement more extensive high-end computers is an effective means to stretch an educational technology budget.

- 6) Generally speaking, **the better the relevant professional development of a given teacher, the more students will use computers in that class.** Spending large sums on equipment but small sums on professional development is not a cost-effective method of using educational technology funding.
- 7) Tools such as word processing programs, multimedia software and spreadsheets are excellent, relatively low cost alternatives to expensive, specialized educational software.
- 8) **Students need access to adequate storage space on the computer network.** This requires careful monitoring of network security, and general supervision of the network's overall organization.
- 9) The physical distribution of computers throughout a classroom can have dramatic effects upon how the computers are used by students. Deciding upon a particular configuration depends primarily upon students' learning styles, and teacher; instructional style.
- 10) **Student expectations should be clear from the beginning of the course.**
- 11) **Student assessment should be an ongoing and frequent activity.**
- 12) Student assessment should include considerable student participation and feedback. Peer assessment is a potentially useful adjunct to teacher and student assessment procedures.

McKenzie, J. (1998). *Creating technology enhanced student-centered learning environments*. **From Now On: The Educational Technology Journal**. 7(6).

- 13) Community Technology Centers had a positive impact on participants' job skills, access to employment opportunities, education and outlook on learning, technological literacy, academic skills and knowledge, personal efficacy, use of time and resources, civic participation, and social and community connections.

Mark, Cornesbise, & Wahl (1997)