

The Multimedia Project: Developing New Skills for the New Economy

After years of unprecedented spending in school technology, investors are now looking for results. “Does technology really make a difference?”

Yes. Researchers at SRI International have found educational results when technology investment includes teacher training, technical support staffing, and curriculum materials development. In a five-year evaluation of the \$6.6 million Challenge 2000 Multimedia Project in California’s Silicon Valley, SRI evaluators showed that technology-using students surpassed their non-technology-using peers in developing some of the most critical skills for the new economy of the 21st century. In addition, these same students equaled their non-technology-using peers in learning the basic skills measured in standardized tests. In short, students in technology-using classes not only “got the basics,” they got more.



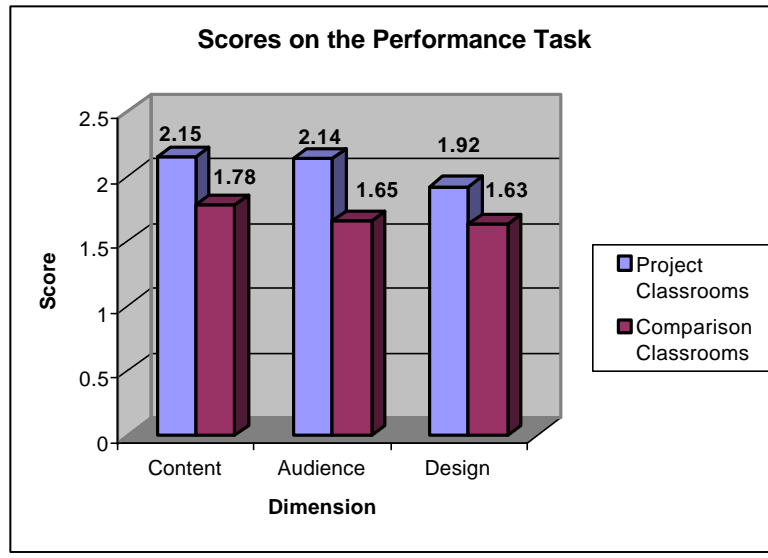
The extra edge that the Department of Education’s Technology Innovation Challenge Grant bought for these 4500 students from 45 schools focused on skills of *communication*, *teamwork* and *problem-solving*. These are the very skills identified by the U.S. Department of Labor (1999) as fundamental to the new technology-based workplace of the future, but not tested in the familiar standardized tests in our classrooms today.

Results of the Multimedia Project

Growth in communication skills, team work, and solving complex problems is not measured by the typical multiple-choice achievement test. To measure student learning in these areas, SRI gave Multimedia Project students and a matched comparison group of middle-school students a project, and studied how they completed it. Working in teams, students had to produce a brochure targeted at school officials to inform them about the problems faced by homeless students. Students were given documents about homeless youth; then asked to use this information in their brochure. Judges who were blind to the students’ participation in the Multimedia Project scored the brochures on three dimensions: how well they accurately represented the key content of the documents provided, how well they addressed the likely concerns of their audience, and how well their design integrated text and graphics into an eye-catching and convincing presentation.

Figure 1 gives an example of growth in communication skills. The Multimedia Project students outperformed the comparison students on all three dimensions of good communication and presentation skills: content mastery, sensitivity to their audience, and coherent design integrating multiple graphical and textual elements.

Figure 1

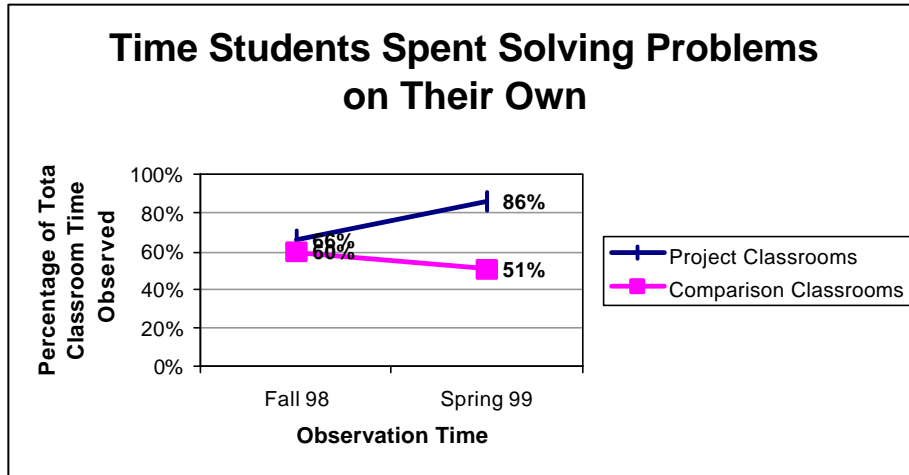


Even people who applaud results such as these nonetheless worry that time spent on projects will detract from students learning basic skills. On the contrary, SRI's results show that students in the Multimedia Project made the same progress as their counterparts in comparison classrooms on standardized test scores. Multimedia Project students learned the basics and more: they learned the kinds of skills that are most sought-after by employers and that will contribute to students' development as life-long learners.

What Was Happening in the Classroom

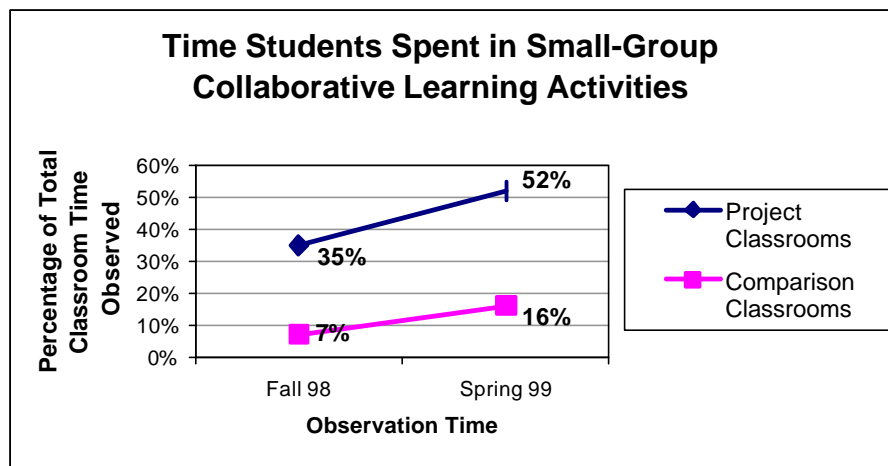
In systematic observations, SRI researchers found that the teaching in Multimedia Project classrooms looked very different from teaching in comparison classrooms. In project classrooms, teachers were more likely to take the role of facilitator or coach. They spent less time lecturing, and they asked more open-ended questions and let students discuss ideas. They encouraged students to solve problems independently, assisting students in developing their own expertise in subject matter and helping them integrate that content into their multimedia presentations.

Figure 2



Students in Multimedia Project classrooms were more likely to be actively engaged in small-group collaborative activities. They were more likely than students in comparison classrooms to be engaged in long-term assignments that lasted a week or more and therefore gave students an opportunity to explore a topic in depth. They were also more likely to participate in small group discussion led by one of their peers. Finally, they were more likely to be engaged in solving problems that people face when they are designing something that will be reviewed by others.

Figure 3



Students in Multimedia Project were working on high-level reading and presentation skills. They also thought deeply about the audience for their presentations and discussed

issues such as audience interests, knowledge, and preferences. In short, the observational study found that students in Multimedia Project classrooms were doing extensive “higher-order” thinking—that is, planning, problem solving, and making decisions—all focused around their involvement in project-based learning with multimedia.

How the Multimedia Project Got Its Results: Investing in Teacher Professional Development

Investing in teachers is at the core of the Multimedia Project’s strategy for transforming teaching and learning. The investment takes several forms. Teachers receive *professional development* in the form of an intensive summer institute and release time to attend follow-up activities during the school year. Teachers who develop project proposals are eligible for *competitive mini-grants* for specialized hardware and software needed to do multimedia projects. Teaching colleagues with expertise in project-based learning and multimedia provide *technical support and personal coaching*. *Rewards and recognition* are provided through cash honoraria and an annual multimedia exhibition and festival. Teachers can tap *on-line resources and support* from the Multimedia Project’s award-winning Web site (<http://pblmm.k12.ca.us>) and take advantage of regional networking opportunities designed to foster the development of a *learning community* among the teachers and ensure the *sharing of best practices* across schools and districts.

How You Can Be Involved

The Multimedia Project has shown that technology, used well by thoroughly prepared teachers, can add significant value to students’ education. Well-designed project-based learning that capitalizes on new multimedia applications can lead students to excel at teamwork, communication, and problem-solving while still mastering traditional basic skills. Realizing these benefits for all students in Silicon Valley requires additional investment of cash, equipment and human resources. Find out how you, your company or organization can help more Silicon Valley students reap the benefits of technology.



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