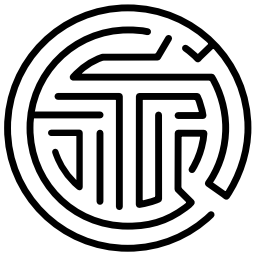
KEY FINDINGS FROM YEAR ONE OF THE EDC/CCT EVALUATION OF INTEL® TEACH TO THE FUTURE

CENTER FOR CHILDREN & TECHNOLOGY



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This overview presents key findings from Year One of an evaluation of the U.S. implementation of Intel Teach to the Future, a professional development program designed to help teachers make effective use of technology in their classrooms. The program uses a train-the-trainer model to deliver a 40-hour curriculum, during which teachers develop technology-rich unit plans that are organized around essential questions and sustained exploration of content. The goals of Intel Teach to the Future are to improve the integration of technology into K-12 classrooms, and to improve mathematics and science education in particular. For more information about Intel Teach to the Future, please visit www.intel.com/education/teach.

A complete reporting of findings from this evaluation can be found in "2000-2001 Evaluation Report: Intel® Teach to the Future".

How did teachers respond to the training?

Teachers' responses to Intel Teach to the Future were extremely positive. Highlights include:

- 97% of teachers participating in Intel Teach to the Future trainings reported that the ideas and skills they learned through the program would help them to successfully integrate technology into their students' activities.
- 94% of these teachers said that they would "definitely" recommend the Intel Teach to the Future training to a friend or colleague.
- 91% of these teachers reported that after completing their training, they felt "well prepared" to integrate educational technology into the grade or subject they teach.

Who is the training reaching?

- Math and science specialists were under-represented among survey respondents, suggesting that they were not being targeted for this training. Of the 8,008 teachers who completed end-of-training surveys, 7.7% are math specialists and 6.8% are science specialists, while 19% of respondents are English/Language Arts specialists. 27% are generalists (K-6 classroom teachers), who teach some math and science. 48% of these teachers teach grades K-5; 25% teach grades 6-8; and 27% teach grades 9-12.

- Teachers with all levels of technical skill participated in Intel Teach to the Future, including many novices.
- The profile of schools reached by the program, by student socio-economic status, is roughly comparable to the national profile. However, although targeting schools with relatively lower socio-ecoomic status within participating districts is a goal of the Intel Teach to the Future program, these schools are not the focus of recruitment at the district level.
- The Intel Teach to the Future program seeks to extend its impact by establishing a "critical mass" of teachers in individual schools within participating districts. Our research suggests that there are benefits to creating these "critical mass" groups, but that they are not being systematically planned as a part of district-level implementations of the program. Instead, these groupings are generally serendipitous.

Initial evidence of program impact

- 51% of survey respondents reported that they had implemented the unit plan they developed in their Intel Teach to the Future training. Over 75% of those who had not implemented their unit plan report that they expect to do so in the next school year.
- Teachers who had implemented their unit plans felt very strongly that their unit had been effective in helping them to meet their learning goals for their students. Specifically:
  - 99% reported students were "motivated and involved in the lesson."
  - 89% reported "student projects were more creative" than other, comparable work.
  - 80% reported "student projects showed more in-depth understanding" than other, comparable work.

Factors that affected the impact of the training on classroom teaching

- Teachers who reported using student-centered, project-based teaching strategies were more likely than others to implement their unit plans. These teachers also felt more strongly than others that their students' work produced in the unit was "more creative than work produced for other, similar assignments", and that their students' work on this unit showed a deeper level of understanding of content than work done on other, similar assignments.
- Teachers' prior beliefs about their students' abilities had a major influence on teachers' motivation to build on what they learned in their Intel Teach to the Future training. Teachers who felt confident that their students could master technology skills and produce high quality projects were more likely to implement their Intel Teach to the Future units than those who doubted their students' abilities.

- Teachers who implemented their unit plans differed from those who did not in several ways:
  - They had significantly more computers in their classrooms (7.5 versus less than 5).
  - They were significantly more likely to have classrooom computers connected to the Internet,
  - They reported fewer obstacles to unit plan implementation,
  - They were less likely to report that standardized testing has changed how and what they teach.
- Early elementary grade teachers (K-3) were less likely than others to implement their unit plans. When they did implement them, they frequently did not have their student use the software — instead, they used one or more applications (such as PowerPoint) to present content to students or to crate a single product representing the work of individual students (such as a story illustrated with pictures drawn by students).
- The Intel Teach to the Future training was more effective for Participant Teachers who had at least some basic level of technology skills. However, some Master Teachers were able to work effectively with classes with a wide range of skill levels but this required an extra level of skill as a trainer. One Master Teacher commented that Participant Teachers need not be comfortable with technology, as long as they were "hard workers who love their curriculum."

Factors that affected the efficacy of the implementation model

Intel Teach to the Future is designed to provide training that moves beyond offering technical skills training to inviting teachers to think about how technology can be used to support a student-centered, inquiry-driven curriculum. Our evaluation demonstrates that this program's role as a transitional training is most effectively realized when teachers, and the districts they work in, have certain preconditions in place to provide a foundation for the training, and expect to build upon the experience with further experimentation and professional development in the future.

- Teachers are best prepared to translate their experience with this training into concrete changes in their classroom practice when they have adequate technology available in their classroom (multiple computers for student use), confidence that their school and district administration is supportive of experimentation and innovation in the classroom, and a belief that project-driven curricula and student-centered pedagogy are valuable teaching strategies.
- Effective implementation of Intel Teach to the Future depends on districts' willingness and capacity to do three things:

  1] appropriate the program's structures and goals,

  2] effectively position the program within a process of building local capacity for high-quality use of educational technology, and

3] establish a coherent relationship between the program structures and local priorities, resources and constraints.

- Four district-level factors prominently influence how the training is delivered:

  1] the level and extent of existing professional development, which influences what goals the district associates with their participation in the program;

  2] the quality of the district technology plan, which influences their goals for the training;

  3] the motivation and expertise of the LEA liaison, who adapts the program to bridge any gaps between the program model and local priorities and constraints; and

  4] the quality of the Participant Teacher recruitment strategies, which shape who attends the training and the motivations and attitudes they bring to the experience.

Who we are:

The Center for Children and Technology is part of Education Development Center, Inc. EDC is one of the world's leading research and development groups addressing education and health issues worldwide. EDC is a nonprofit institution that conducts research and creates tools and contexts for learning for people of all ages, backgrounds and abilities.

The Center for Children and Technology has been at the forefront of educational technology research and development since its founding in 1981. We seek to create and understand new ways to foster learning and improve teaching through the development and thoughtful implementation of new technologies in a wide range of educational settings. CCT's work is centered in three areas: research: basic, formative, and program evaluation; design and development of innovative technology prototypes and products; and the implementation of large-scale technology integration efforts. The mission of the Center is to investigate the roles technology can play in children's lives in general and in the classroom in particular, and to design and develop technology applications that support engaged, active learning.

Based in New York City, the Center's staff of forty is made up of former teachers, technology and curriculum designers, producers and programmers, developmental psychologists, anthropologists and sociologists. This evaluation was conducted by Katie McMillan Culp; Shalini Shankar, Andy Gersick and Sara Pedersen.

For more information about EDC and CCT, visit www.edc.org, or www.edc.org/CCT.

What we did:

This report summarizes evaluation research conducted between June, 2000 and June, 2001. This evaluation provided a rare opportunity to examine closely an ambitious, large-scale professional development initiative, and to study a diverse population of teachers and administrators as they experienced and implemented this program.

To evaluate the program's success in meeting its goals, we paid careful attention to four topics: teachers' responses to the training; the kinds of teachers the program reached; factors that affected the impact of the program on classroom teaching; and factors that affected the efficacy of the implementation model. Methods employed in this evaluation include end-of-training and end-of-school-year surveys, site visits to participating school districts, and interviews with teachers, program staff, and district personnel.

The second year of this evaluation will examine the impact of program participation on the classroom, examining changes in teachers' curricula and teaching strategies and their impact on students' math and science learning,