

Connecticut State Department of Education

***Enhancing Education
Through Technology***

**2003 - 2004
Program Evaluation
Final Report**

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Program Evaluation Data Analysis Research Services

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Executive Summary

Introduction

This report summarizes the findings from evaluation activities conducted between January and August 2004 related to the Connecticut Enhancing Education Through Technology (CT EETT) program. The purpose of the evaluation has been to coordinate and systematize evaluation activities among the CT EETT component projects and to determine initial effects through collection and analysis of evaluation data.

The Connecticut Enhancing Education Through Technology program, administered by the Connecticut State Department of Education's Office of Curriculum, Instruction and Assessment, supports local initiatives to improve student academic performance through the use of technology in elementary and secondary schools. CT EETT's goals include 1) ensuring that every student is technologically literate by the end of eighth grade, regardless of race, ethnicity, gender, economic status, or disability, and 2) encouraging effective integration of technology with teacher training and curriculum development to establish research-based instructional methods that can be implemented as best practices by state and local educational agencies. Grants under the statewide program are awarded in four areas:

- **Blue Chip School Grants** support the development and implementation of comprehensive plans to integrate multimedia technology into student-centered and inquiry-based instructional practices that result in improved student performance, increased parent involvement, and enriched instructional effectiveness. The grant period for Blue Chip Schools was November 2002 through June 2004. During the 2003 – 2004 academic year, Blue Chip initiatives were under way in 16 schools. Duration of program implementation among the schools varied, with as much as one year of implementation completed as of June 2004.
- **Category A Grants** support programs to achieve one or more of 10 objectives in the following grant categories:
 1. Establish or expand partnerships
 2. Adapt or expand technology
 3. Acquire courses and curricula that include integrated technology
 4. Promote meaningful parental involvement
 5. Prepare technology leaders
 6. Acquire applications of technology to support school reform
 7. Acquire connectivity linkages, resources, and services
 8. Use technology to collect, manage, and analyze data
 9. Implement performance measurement systems
 10. Develop information technology courses

The grant period for Category A awards was November 2002 through June 2004. During the 2003 – 2004 academic year, Category A programs were active in 20 educational agencies and partnerships. Duration of program implementation among the projects varied, with as much as one year of implementation completed as of June 2004.

- **Local Competitive Grants** support programs designed to achieve one of six objectives:
 1. Prepare elementary and secondary school courses for delivery via distance learning to aid in reducing racial, ethnic, and economic isolation
 2. Use technology to promote parental and family involvement
 3. Develop a cadre of technology leaders among educators and non-instructional staff
 4. Purchase or upgrade technologies for district-wide information systems that assist in data collection, management, and analysis to inform and enhance teaching and school reform efforts
 5. Develop and implement information technology courses for middle and secondary schools
 6. Assist districts in maintaining effective educational technology infrastructure to expand technology access for the learning community

The grant period for Local Competitive awards is November 2003 through June 2005. During the 2003 – 2004 academic year, 39 grants supported projects through 24 educational agencies or partnerships. For most projects, implementation was in planning stages or just beginning in June 2004.

- **The Statewide Professional Development, Educational Technology Systemic Evaluation, and Educational Technology Development Grant** supports 1) provision of technology-related professional development for teachers and administrators, 2) evaluation of statewide educational technology activities – including review of proposals for Category A and Local Competitive grant projects – and 3) technology development, including technical assistance for districts and schools and coordination and collaboration activities to promote local efforts to increase educational technology capacity. During the funding cycle that began in September 2003 and continued through August 2004, this grant was awarded to the Connecticut Alliance of Regional Education Service Centers (RESCs).

The CT EETT evaluation was guided by three Connecticut State Board of Education goals related to improving academic performance and access to and use of educational technology. The Connecticut State Board of Education Performance Goals are as follows:

1. By 2013 – 2014, all students will reach high standards, at a minimum attaining proficiency or better in reading/language arts and mathematics;
2. All limited English proficient students will become proficient in English, and reach high academic standards, at a minimum attaining proficiency or better in reading/language arts and mathematics; and
3. By 2005 – 2006, all students will be taught by highly qualified teachers.

Seven framing questions were developed in collaboration with the CT EETT coordinators to form the basis for evaluation activities and reports. These questions incorporated the performance goals listed above and the CT EETT program goals and performance indicators.

The CT EETT evaluation design included collection and analysis of both qualitative and quantitative data. CT EETT evaluation activities began in January 2004. The first year

evaluation focused on Blue Chip School implementation and initial outcomes. Sources of evaluation data included project documents; Blue Chip School site visits, focus groups and interviews; the Connecticut Strategic School Profiles; the University of Connecticut Husky Educational Technology Assessments; CT State Department of Education CAPT and CMT reports; Alliance of RESCs initiative documentation including Alliance evaluation reports, and the Gates Foundation Taking a Good Look at Instructional Technology survey (TAGLIT).

Evaluation Findings

The following summary of the evaluation findings is organized by evaluation topics and questions.

1. In what ways did CT EETT initiatives affect access to educational technology in schools in high-need districts and districts statewide?

Finding: All Blue Chip Schools and most Category A and Local Competitive projects reported increased access to educational technology as a result of CT EETT. Many cited this outcome as the most successful aspect of their projects thus far. Increased access most often involved desktop and laptop computers, mobile laptop laboratories, SMARTboard information display/data input devices, data projectors, and network equipment such as hubs and servers. State-level quantitative data related to technology access during the 2003 – 2004 academic year was not yet available for this report. In the 2002 – 2003 school year, most Blue Chip Schools provided greater than average access to technology compared to schools statewide. However, a majority of the teachers responding to the TAGLIT survey considered current levels of access to technology inadequate or somewhat adequate. Most students and teachers responding to the TAGLIT survey reported having access to computers at home. District technology staff, surveyed by the Alliance of RESCs, consider support for technology, such as technical assistance and professional development, to be nearly as important to successful technology integration as access to technology itself.

2. Is there evidence that CT EETT initiatives increased teacher technology literacy competencies?

Finding: All Blue Chip Schools and many of the Category A and Local Competitive projects reported increased teacher technology competencies as a result of CT EETT initiatives. Almost all projects reported providing or planning activities intended to result in increased teacher technology competencies. Technology literacy professional development was provided in CT EETT projects and statewide through large and small group and individualized instruction, coaching, modeling, mentoring and general classroom technical support. The Alliance of RESCs reported providing a total of 1,231 days of professional development, regional training, and technical assistance related to technology use and integration. Alliance training requests changed over the first year of CT EETT from basic content to more advanced technology competencies. Eighty-four percent of those Blue Chip School teachers completing the UConn Level I educational

technology assessment passed, demonstrating possession of at least adequate technology competencies. However, less than half of district technology staff surveyed statewide by the Alliance believe that all staff in their district have an adequate base-level of knowledge related to technology. In responses to the TAGLIT survey, 43% of teachers reported participating in 4 hours or less of professional development related to technology per year. In TAGLIT survey responses, teachers were more likely to report being able to use technology tools than to report actually using those tools in teaching and learning.

3. In what ways did CT EETT initiatives contribute to the establishment of successful research-based instructional methods that effectively integrate educational technology?

Finding: The CT EETT initiatives have begun to contribute to the establishment of successful research-based instructional methods that effectively integrate educational technology. Blue Chip Schools initiatives included implementation of comprehensive school change models using technology as the impetus, involvement in action-research projects in conjunction with Gates Leadership training, and use of technology integration research in lesson design. Category A and Local Competitive projects reported beginning initiatives related to increasing research-based integration of technology in instruction that included distance learning, professional development, online research and curriculum development.

4. Is there evidence that CT EETT initiatives resulted in systemic change in the utilization of educational technology to support school improvement?

Finding: Most Blue Chip Schools reported evidence of systemic change in the utilization of educational technology to support school improvement. Many also reported systemic changes in other aspects of school and district operation. Examples included school-wide use of data to inform instruction, creation of schedules and protocols to coordinate technology use, closer relationships between school and district technology operations, and development of new curricula that integrate newly accessible technology. Several Category A and Local Competitive projects reported systemic changes across multiple districts. Systemic changes in these projects included broad-based use of data through data warehouse and student management software, instructional resource database development, and district policy development related to use of data. The Alliance of RESCs provided professional development and technical assistance activities that supported systemic change at the school level.

5. As a result of CT EETT initiatives were students more likely to be technologically literate by the end of eighth grade?

Finding: All Blue Chip Schools reported that students were more likely to be technologically literate as a result of CT EETT initiatives. Examples included increased mastery of technology tools such as word processors, presentation software, web-based research, handheld computers, video production equipment and science probes. Student work has become increasingly technologically sophisticated, according to students and staff in

some schools. Approximately two-thirds of Category A and Local Competitive projects reported completion of activities or preparation and planning for activities designed to increase technology literacy among students. Though planned, no state-wide quantitative measure of student technology competencies is yet available. Most district technology staff who responded to the Alliance survey reported believing that all students in their districts have an adequate, age appropriate, base-level knowledge of technology. Half or more of students responding to the TAGLIT survey reported being comfortable performing a variety of technology related tasks. Students were more likely than teachers to report being comfortable with technology, according to the TAGLIT survey.

6. Is there evidence that CT EETT initiatives resulted in increased student proficiency in reading/language arts and mathematics?

Finding: Initial qualitative data indicates that CT EETT initiatives have helped improve student achievement in Blue Chip Schools. Examples include teacher reports of improved quality of student products, such as written and electronically presented reports, and student reports of increased ease and greater enjoyment of learning. CAPT scores increased across the three Blue Chip high schools from 2002 - 2003 to 2003 - 2004. Many schools also reported that CT EETT initiatives resulted in student outcomes that may lead to improved student proficiency, such as increased motivation, increased engagement and time on task, and increased study time. It is important to note that implementation was in initial stages for many of the Category A and Local Competitive projects and student outcome data was not yet available. According to the Alliance survey, district technology staff believe that technology use in the classroom improves education and that their districts expect all students to attain improved academic outcomes through the use of technology.

7. To what extent did CT EETT outcomes for students vary by English proficiency, race, ethnicity, gender, disability status, and status as economically disadvantaged?

Finding: Available quantitative and qualitative data did not indicate variation in CT EETT outcomes due to English proficiency, race, ethnicity, gender, disability status, or economic status in Blue Chip Schools. Category A and Local Competitive projects reported initiatives to ensure equal opportunities for all students including peer mentoring, after school assistance, translation technology, and home language web resources. According to Alliance survey data, district technology staff believe technology use in the classroom increases learning opportunities for students with disabilities, different learning styles, and differing levels of English proficiency.

Conclusion

According to first year data, progress was made toward the CT EETT goals among recipients of all four types of sub-grants: Blue Chip Schools, Category A projects, Local Competitive projects, and the Alliance of RESCs. CT EETT initiatives intended to increase access to educational technology did so, expanding the availability of many types of current and emerging technologies. The initiatives also increased teacher technology literacy competencies,

though educators expressed the need for continuing professional development. In many cases, CT EETT initiatives contributed to the establishment of research-based instructional methods that began effective integration of technology into instruction. Systemic change in the utilization of educational technology to support school improvement was evident in many CT EETT projects at school and district levels. Many projects reported increased technology literacy, engagement and enthusiasm for learning among students, though quantitative data related to student outcomes is limited at this time. CT EETT projects described efforts to involve all students in technology initiatives and to use technology to meet the specific educational needs of students.

The 2003 – 2004 evaluation of CT EETT activities found that this was a period of project design, development, and initial implementation for most projects. In many cases, project activities involved planning and organization, procurement and installation of technology, professional development, and initial introduction of new technologies and instructional methods into their curricula. Though student outcome data is limited thus far, the initial effects of the CT EETT initiatives - new knowledge and skills among teachers, increased access to technology in the classroom, curricula and lessons in which technology is effectively integrated, and new tools for measuring technology needs and usage - are likely to impact student achievement in subsequent years.

