



Jefferson County Public Schools
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Program Evaluation

Computer Laptops Assisting in Student Success – Project 1st CLASS Year 1 Evaluation August 2004-September 2005

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1st CLASS Project Executive Summary

Background Information

- On October 27, 2003, a proposal for the 1st CLASS Laptop Project was presented to the Jefferson County Board of Education. The Board of Education made an unanimous approval for the 1st CLASS Laptop Project.
- Four schools were included in the 1st CLASS Project: Moore Traditional School (6-8 and 9-12), Western Middle, and Shawnee High.
- The official 1st CLASS Project years are the school years 2004-2005 through 2007-2008.
- Feeder schools were included with the intention to have an impact on the consistency and continuity of the Project.
- The JCPS Computer Education Support assumed the responsibility of implementing the project.
- The JCPS Accountability, Research, and Planning Department assumed the responsibility for the evaluation of the project.

Project Goal

To significantly improve student achievement as measured by CATS by providing a wireless laptop computer to every student and instructor as a tool to restructure access to resources, re-engineer instruction, and re-culture learning.

Evaluation Objectives

- What impact does the 1st CLASS Project have on student achievement when compared to the baseline year?
 - CATS Accountability Index
 - KCCT reading, math, science, social studies, arts and humanities, practical living, and writing
 - KCCT total academic index
 - CTBS (norm-referenced test)
- What impact does this project have on student non-academic indicators when compared to the baseline year? (Official 2004-05 data will not be available until August 2006)
 - Attendance, Graduation and dropout rates
- What is the impact of the 1st CLASS Project on technology scores?
- What are the perceptions of the key stakeholders about the project?
 - Students
 - Teachers
 - Parents
- What is the support of the 1st CLASS Project in terms of Professional Development?
- What is the impact of the 1st CLASS Project in terms of Security and Repairs?

Evaluation Methodology

- Formative and Summative Evaluation
- Descriptive, Correlational, and Comparative Research Designs
- Descriptive and Inferential Statistics

Evaluation Findings

The 1st CLASS Project has concluded the first year of implementation and has provided 24/7 *access* to laptop computers in the participating schools. Student, teacher, and parent perceptions supported the concept that access to computers facilitated more engagement in reading and writing, doing more homework, and doing more school-related research. Despite the typical “implementation dip” associated with the early difficulties of trying something new (Fullan, 2002), the more frequent usage of the laptop computers as a learning tool has contributed to overall gains in the CATS accountability index, KCCT and CTBS test scores.

- Impact of Project 1st CLASS on Student Achievement

Gains were observed in all laptop schools when comparing the CATS accountability index of 2004-05 against the baseline index (i.e., two year average of 2002-03 and 2003-04). The average gain for all laptop schools was a remarkable 5 point gain when compared to the baseline index; The gains of the 1st CLASS schools were higher than the district middle (gain = 3.5) and high (gain = 3.7) school growth. On average, the laptop schools demonstrated gains in the CATS accountability index when compared to the previous year (gain = 2.2). The laptop schools showed higher average gains when compared to the combined district-wide middle and high school level growth (gain = 1.5).

On average, the laptop schools showed gains in the KCCT total academic index when compared to the baseline year (gain = 2.4). On average, the laptop schools showed higher gains in the total academic index when compared to the combined middle and high school gain (gain = 1.6).

Three out of the four laptop schools showed gains in the total academic index (gain = 3.7); only one laptop school, Western Middle School, lost points in the total academic index. In reading, three out of the four laptop schools showed gains; only Western Middle School lost points in their reading index. Three out of the four laptop schools had gains in total writing and arts/humanities indices. However, in science and practical living, all laptop schools had gains in the KCCT indices. Only one laptop school had gains in the areas of math and social studies.

It must be noted that in terms of gains, Moore Traditional School had the greatest growth of all participating schools in both grades 6-8 (all content areas and the total academic index, except for social studies) and 9-12 (all content areas and the total academic index). Except for social studies and arts/humanities, Shawnee High increased test scores in all content areas and the total academic index. Western Middle improved in science, arts and humanities, and practical living.

The Comprehensive Test of Basic Skills (CTBS) showed that, on average, laptop schools had gains (1.4). Another academic indicator that was observed is the ACT test; the two high schools showed gains in their ACT composite scores (0.9). In summary, school data analyzed showed that the model has a positive effect on CATS criterion- and norm-referenced score gains.

- Impact of Project 1st CLASS on Non-Academic Indicators

KDE official attendance, graduation, and dropout data for the school year 2004-05 will not be available until August 2006. Enrollment at the laptop schools remained at similar levels when compared to the baseline year. In terms of suspensions, in three out of four laptop schools, there are fewer out-of-school suspensions. Data indicated an 18% decrease in out-of-school suspensions when compared to the baseline year (1,112 and 1,351, respectively).

- Impact of Project 1st CLASS Project on Technology Scores

The Computer Applications Skills Assessment (CASA) school scores are currently available for middle school students (grade 8). In the case of Western Middle School (N = 180), the technology scores increased by 3.6 points when compared to the baseline year (43.5 and 39.9, respectively). In the case of Moore Traditional School (Grade 8, N = 263), the technology scores decreased by 3.4 points when compared to the previous year (46.0 and 49.4, respectively).

- Key Stakeholders Perceptions about the 1st CLASS Project

Perceptions of students, teachers, and parents were obtained using pilot questionnaires. Randomized stratified sampling techniques were used. In general, there is excitement about the opportunity of having laptop computers available at the participating schools. Overall, survey results for students, teachers, and parents indicated that students were more engaged in reading and writing, doing more homework, and doing more research related to the different subject areas.

Student Survey (Spring 2005):

- ✓ Students reported use at home at night and on weekends (70%).
- ✓ On average, students rated their computer skills as apprentice or proficient/distinguished (86%).
- ✓ A majority of students reported the use of their laptops daily to complete homework, search for information, and communicate using email.
- ✓ Survey responses indicated an interest in improving keyboarding skills (66%).
- ✓ Students became frustrated when teachers failed to include the laptops in the instruction, resulting in some students discontinuing the practice of having the laptops with them in all classes.

Students perceived that the best aspect of the 1st CLASS Project is that it provides access to wealth of information while assisting students with research, homework, and portfolio writing. According to a student: “The best thing about having a laptop is that I can type my portfolio pieces when I need to. I don't have a working PC at home so it helps a lot with my research and homework.” Another student mentioned: “I think the best thing about having the laptop is that it keeps me so much more organized. With the laptop, I know when assignments are due and I can get my grades online. If I'm not in school I can work on my assignments at home, or e-mail my teachers to ask them something if I have questions. Overall I would say it does keep everything a lot more organized.”

Students perceived that the worst aspect of the 1st CLASS Project is that a few students abuse their privileges with them. For instance, students mentioned: “I think that a lot of students simply want to break the rules by hacking, downloading inappropriate things, etc.” Another student commented: “The worst thing is that a lot of people get in trouble for having them out and playing games and that cause the whole class to put theirs up.”

Teacher Survey (Spring 2005):

- ✓ Teachers appreciated that EVERY student, regardless of race, gender or ability, had access to the laptops and the resources made available to them as a result.
- ✓ The majority of teachers surveyed indicated that laptops have had a positive impact on student computer literacy as well writing and conducting Internet search.
- ✓ Teachers reported that they can and will conduct research for lesson plan development, develop instructional materials, and communicate with colleagues.
- ✓ Teachers found less success in the areas of producing homework assignments; assessing student progress; managing student information; and, communicating with students and parents.

Teachers believe that the best aspect of the Project is that it provides all students equal access to resources and information via technology, which they may not otherwise have. In addition, it helps with student learning and research with respect to reading, writing, and comprehension skills. For example, a teacher observed: “Students have greater access to information. Many of my students do not have the opportunity to go to the library to research...my students did not have access to computers at home. Now they can type and edit assignments.” Another teacher said: “Instant access to material. Evens the ‘playing field’ between students of different backgrounds.” Teachers also stated the need to increase training and assistance/guide for appropriate use of the computers. For example, one teacher mentioned: “more support personnel, more directed training where all staff is practicing the tools and software being used, stricter guidelines and consequences for the student use of the laptops.”

Parent Survey (Spring 2005):

- ✓ Parents responding to the survey indicated that their child was successful using the dial-up connection from home (60%).
- ✓ Parents reported (66%) that their son or daughter used the laptop at home to access information about things of interest to them as to the parent/guardian.
- ✓ Parents expressed that their children had more positive interactions with other students and/or teachers (44%).
- ✓ Parents reported little improvement in school behavior (29%).

Parents expressed that the laptop Project is providing assistance with homework while increasing computer access and knowledge. A parent expressed that “the program helped us all very much. We are not able to buy our own computer at this time so having one in the house daily is very helpful.” Another parent mentioned that “my child now has the ability to access a computer at home and school if needed for school work.” From an improvement perspective, the parents expressed the need of increased homework assignments. For instance, a parent said that “... I was expecting a lot more homework on the computer.”

- Professional Development Support for the 1st CLASS Project
 - ✓ Initial classroom observations showed little use of the technology to instruct lesson (20-40% of the time). By the end of the year 40-50% could be documented.
 - ✓ The initial training, prior to the initiation of the project, included the use of JCPS Online. Students reported using JCPS Online (75-91%)
 - ✓ Teacher comments mentioned that the use of technology specifically adhere to the Core Content Guides and supports the Districts initiatives for reading and math.
 - ✓ Fifteen teachers in the 1st CLASS schools have registered for classes at the University of Louisville (Productivity Tools, Multimedia, and Distance Teaching and Learning).
 - ✓ TRT reports indicated a maximum of 30% of their time was spent on instructional related PD (developing and modeling lessons) during the first year of implementation. More than two-thirds of their time was spent on non-instructional activities (trouble-shooting, software, hardware, administrative, etc.).

- 1st CLASS Project Associated with Security and Repairs
 - ✓ Report of 6/2/05 reported 89 computers had not been returned or, less than 3%.
 - ✓ The quarterly reports indicated 666 repairs that were covered by warranty and an additional 378 that were non-warranty repairs. Temporary laptops were issued to students if repairs were going to be lengthy.
 - ✓ Approximately 30% of the students reported having repairs that took more than 5 days. Many repairs took less than one day.

Evaluation Discussion and Recommendations

Not since the invention of the printing press has a technological device (i.e., computers) borne such implications for the learning process (Bork, 1985). Research on schools, however, indicates that classroom teaching methods are remarkably resistant to change (Cuban, 1993). Teacher-centered practices still dominate the instructional activities (Bellanca, 1998). The use of computers as a tool for learning will require from teachers to change their instructional practices to a more student-centered approach (e.g., cooperative learning, project-based learning, teacher acting as a coach/facilitator, experiential/hands-on learning, independent inquiry/research, etc.). Access to computers is a first, but not sufficient condition to affect pedagogy and student learning. Student outcomes will require more than merely increasing the number of computers. The key factor influencing teaching-and-learning is how computers are used (Windschitl & Sahl, 2002).

- ✓ Continue with the formative evaluation. More positive changes in instructional practices (i.e., student-centered approaches) are expected as the Project 1st CLASS matures. The Technology Resource Teachers (TRT) assigned to each school will be devoting the vast majority of their time to working in the classrooms with teachers.
- ✓ Continue with the summative evaluation. Although an implementation dip should be expected during the first year of implementation (Fullan, 2002), a 5 point gain in the accountability index was observed in the participating schools. It is expected more impact on student achievement as the laptop initiative matures as a project on Year 2.