Evaluation of Michigan's Freedom to Learn Program

EVALUATION BRIEF
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Michigan's Freedom to Learn
Program Evaluation Preliminary Results

Introduction

This preliminary report summarizes the Year 1 evaluation study results of the Michigan Freedom to Learn program. The major goal of the Freedom to Learn (FTL) Program was to improve student learning and achievement in Michigan schools through the integration of 21st Century technology tools with teaching and learning in K-12 classrooms. A key component of FTL was to obtain valid data from a rigorous and comprehensive evaluation study to gauge the impacts of the Program relative to its primary goals. The first year's evaluation involved 199 schools that were awarded Freedom to Learn grants. The primary intervention of the program consisted of providing laptop computers for middle school students in participating schools. In addition, FTL teachers, Lead Teachers, and administrators were provided extensive professional development opportunities.

Program Goals

The FTL Program goals are listed below. The evaluation was structured to examine the degree to which each program goal was achieved.

GOAL 1: Enhance student learning and achievement in core academic subjects with an emphasis on developing the knowledge and skills requisite to the establishment of a 21st century workforce in Michigan.

GOAL 2: Provide greater access to equal educational opportunities statewide through ubiquitous access to technology.

GOAL 3: Foster effective use of the wireless technology through systematic professional development for teachers, administrators and staff.

GOAL 4: Empower parents and caregivers with the tools to become more involved in their child's education.

GOAL 5: Support innovative structural changes in participating schools and sharing of best practices the creation of human networks among Program participants.

Design

A Global Descriptive design was used for the first year evaluation. This design employed a mixed-methods approach (Johnson & Onwuegbuzie, 2004) to examine the processes and products that resulted from middle school students using laptops to improve student learning. Validated survey, observation, and interview measures served as the critical data sources in the comprehensive evaluation model. Additional data sources included professional development evaluations and Michigan Department of Education grant audit reports. Student level MEAP scores will be analyzed as data becomes available. Brief details of the instrumentation and administration procedures are listed below.

Direct Classroom Observation Measures

Two forms of direct classroom observation were conducted by trained Lead Teachers or Super Coaches. The first was *Whole Grade* observations that were designed to capture routine classroom practices. Therefore, they involved an extended timeframe (3-hours) in which 10 to 12 randomly selected classrooms were observed for 15-minutes each. The second was *Targeted* observations designed to explore classroom practices in prearranged 45 to 60 minute sessions in which the teachers were asked to integrate technology.

These forms of observations were completed with two instruments that were used to descriptively, not judgmentally record observed classroom practices: the School Observation Measure (SOM) (Ross, Smith, & Alberg, 1999) and the Survey of Computer Use (SCU) (Lowther & Ross, 2001). The SOM examines the usage of 24 instructional strategies, while the SCU examines availability and student use of technology and software applications. Both

instruments have been shown to be reliable and valid (Lewis, Ross, & Alberg, 1999; Sterbinsky, Ross & Burke, 2004).

FTL Surveys

Evaluation surveys were administered to four FTL groups: teachers, Lead Teachers, Super Coaches, and sixth grade students. All surveys were administered in an on-line format that was delivered via CREP's Survey Management System (SMS). Brief descriptions of each survey are below:

- **FTL Teacher Technology Survey:** Collects the FTL teacher's perceptions of computers and technology as well as program implementation and effectiveness.
- **FTL Lead Teacher Survey:** Collects impressions of FTL Lead Teachers concerning the program implementation and effectiveness.
- **FTL Super Coach Survey:** Collects impression of FTL Super Coaches concerning the program implementation and effectiveness.
- **FTL Student Survey:** Collects the impressions and attitudes of sixth grade students concerning the use computers and technology.

Interviews

Trained, unbiased researchers interviewed the FTL Site Advisors to collect their impressions of the FTL program implementation and overall impact. The role of the third party Site Advisors was to conduct onsite visits to each FTL school to talk with the key stakeholder groups (students, teachers, and administrators), conduct classroom visits, and examine program documentation. The Site Advisors used three questionnaires (Management, Teacher, and Student) to capture each group's perception of the program. Their primary focus was to identify technology, instructional and systems needs.

Audit Reports

A small number (7) of Michigan Department of Education (MI DOE) Grants Coordination & School Support Audit Reports were conducted in FTL schools. These will be reviewed for overall impressions of program planning, implementation, and professional development.

Data Collection Summary

Observations

The 2004-2005 observations were conducted on a limited basis due to setbacks in the FTL implementation schedule. Therefore, the data set consists of six whole grade observations that reflect classroom practices of approximately 60 randomly visited FTL classrooms during 18 hours of observations. The data set also includes approximately 16 hours of observations in 16 FTL classrooms that were asked to implement a technology lesson.

Surveys, Interviews, and Audits

The response rates for the online FTL surveys are as seen in Table 1.

Table 1. FTL 2004-2005 Data: Surveys, Interviews, and Audit Reports

Surveys	*N*
FTL Teacher Technology Questionnaire	279
FTL Lead Teacher Survey	63
FTL Super Coach Survey	16
FTL Student Survey	4245

Highlights of Year One Results

Observations

Although results from observations are inconclusive at this very early stage of the program, as should be expected, some encouraging trends were seen. The most promising whole grade data was teachers acting as coach/facilitators frequently or extensively in 50% of the classes. However, of particular interest for this study was the limited frequency with which students were seen using computers, e.g., students used technology as a tool in only 1/3 of the classes and for instructional delivery in only 17% (see Table 2). The SCU whole grade data revealed that Internet browsers were the only software tools observed in use (see Table 3). However, targeted observations indicated more use of computers and technology as learning tools rather than a vehicle for drill and practice. In addition teachers employed less direct instruction and acted more as a coach/facilitator (see Table 4).

Table 2

Whole Grade Observations: School Observation Measure (SOM)

N = 6 (60 classrooms)

*Selected Items with the **most** prevalence**

Instructional Orientation	
Direct instruction (lecture)	33.3%
Instructional Strategies	
Teacher acting as a coach/facilitator	50.0%
Integration of subject areas (interdisciplinary/thematic units)	16.7%
Use of higher-level questioning strategies	16.7%
Student Activities	
Independent seatwork (self-paced worksheets, individual assignments)	50.0%
Independent inquiry/research on the part of students	33.3%
Summary Items	
High level of student attention/interest/engagement	66.7%
High academically focused class time	50.0%

*Percent of observations when items were seen "*Frequently*" + "Extensively"

*Selected Items with the **least** prevalence***

Classroom Organization	
Work centers (for individuals or groups)	100.0%
Instructional Strategies	
Project-based learning	100.0%
Parent/community involvement in learning activities	100.0%
Student Activities	
Sustained writing/composition (self-selected or teacher-generated topics)	83.3%
Sustained reading	83.3%
Technology Use	
Computer for instructional delivery (e.g. CAI, drill & practice)	83.3%
Technology as a learning tool or resource (e.g., Internet, spreadsheet, multi-media)	66.7%
Summary Items	
High academically focused class time	33.3%
High level of student attention/interest/engagement	16.7%

**Percent of observations when items were seen "*Not observed*" + "*Rarely*" observed.

Table 3

Whole Grade Observations: Survey of Computer Use (SCU)

N = 6 (60 classrooms)

*Selected Items with the **most** prevalence**

Internet/Research Tools Used by Students	
Internet Browser	33.3%
Overall Meaningful Use of Computers	
Low level use of computers	16.7%
Meaningful use of computers	16.7%

*Percent of observations when items were seen "*Frequently*" + "Extensively"

*Selected Items with the **least** prevalence***

Production Tools Used by Students	
Word Processor	100.0%
Database	100.0%
Spreadsheet	100.0%
Draw/Paint/Graphics/Photo-imaging	100.0%
Presentation	100.0%
Authoring	100.0%
Concept Mapping	100.0%
Planning (e.g. MS Project)	100.0%
Internet/Research Tools Used by Students	
CD Reference	100.0%
Communications	100.0%
Educational software used by Students	
Drill/Practice/Tutorial	100.0%
Problem-Solving	100.0%
Process Tools	100.0%
Testing Software	
Individualized/Tracked	100.0%
Generic	100.0%
Overall Meaningful Use of Computers	
Very meaningful use of computers	100.0%
Low level use of computers	66.7%
Somewhat meaningful use of computers	66.7%

**Percent of observations when items were seen "*Not observed*" + "*Rarely*" observed.

Table 4

Target Observations: School Observation Measure (SOM)

N = 16 classrooms

*Selected Items with the **most** prevalence**

Instructional Orientation	
Direct instruction (lecture)	37.5%
Cooperative/collaborative learning	31.2%
Classroom Organization	
Work centers	6.2%
Instructional Strategies	
Teacher acting as a coach/facilitator	68.8%
Project-based learning	25.0%
Student Activities	
Independent seatwork	50.0%
Independent inquiry/research on the part of students	56.2%
Technology Use	
Technology as a learning tool or resource (e.g., Internet research, spreadsheet, multi-media)	68.8
Computer for instructional delivery (e.g. CAI, drill & practice)	31.2
Assessment	
Student self-assessment (portfolios, individual record books)	18.8
Summary Items	
High academically focused class time	75.0
High level of student attention/interest/engagement	68.8

*Percent of observations when items were seen "*Frequently*" + "Extensively"

*Selected Items with the **least** prevalence***

Classroom Organization	
Work centers (for individuals or groups)	81.2%
Instructional Strategies	
Parent/community involvement in learning activities	93.8%
Integration of subject areas (interdisciplinary/thematic units)	81.2%
Student Activities	
Sustained writing/composition (self-selected or teacher-generated topics)	93.8%
Sustained reading	81.2%
Technology Use	
Computer for instructional delivery (e.g. CAI, drill & practice)	56.2%
Technology as a learning tool or resource (e.g., Internet research, spreadsheet, multi-media)	18.8%
Assessment	
Performance assessment strategies	81.2%
Student self-assessment (portfolios, individual record books)	81.2%

**Percent of observations when items were seen "*Not observed*" + "*Rarely*" observed.

Table 5

Target Observations: Survey of Computer Use (SCU)

N = 16 classrooms

*Selected Items with the **most** prevalence**

Production Tools Used by Students	
Word Processor	43.8%
Presentation	12.5%
Internet/Research Tools Used by Students	
Internet Browser	50.0%
CD Reference	6.2%
Educational software used by Students	
Drill/Practice/Tutorial	12.5%
Problem-Solving	6.2%
Testing Software	
Other testing software	25.0%
Individualized/Tracked	6.2%
Generic	6.2%
Overall Meaningful Use of Computers	
Meaningful use of computers	56.2%
Very meaningful use of computers	31.2%

*Percent of observations when items were seen "*Frequently*" + "Extensively"

*Selected Items with the **least** prevalence***

Production Tools Used by Students	
Database	100.0%
Authoring	100.0%
Concept Mapping	100.0%
Planning (e.g. MS Project)	100.0%
Internet/Research Tools Used by Students	
Communications	100.0%
Educational software used by Students	
Process Tools	100.0%
Problem-Solving	93.8%
Testing Software	
Individualized/Tracked	93.8%
Generic	93.8%
Overall Meaningful Use of Computers	
Low level use of computers	93.8%
Somewhat meaningful use of computers	62.5%
Very meaningful use of computers	62.5%

**Percent of observations when items were seen "*Not observed*" + "*Rarely*" observed.

Surveys

The following tables give a brief overview of the results from data collected in the spring of 2005. Data analysis is underway and full results will be reported by December 2005. Although it is too early to reach conclusions based on preliminary analysis, the data suggest that FTL classroom teachers, Lead Teachers, and Super Coaches viewed the program positively. Most agreed that the computers were kept in good working condition and that the FTL program had a positive impact on student's ability and comfort level with technology. There was a lower level of agreement with regard to receiving adequate professional development and administrator, parent, or community support for the program.

Table 6

FTL Teacher Technology Questionnaire

N = 279

*Selected Items with the **highest** level of agreement**

Most of our FTL laptops are kept in good working condition.	92.8%
Most of my students can capably use the FTL laptops at an age-appropriate level.	88.5%
FTL teachers in this school are generally supportive of the FTL laptop program.	87.4%
The use of FTL laptops has increased the level of student interaction and/or collaboration.	84.9%
The integration of the FTL laptops has positively impacted student learning and achievement.	84.9%
The FTL laptop program has changed classroom learning activities in a very positive way.	84.9%

*Percent of items with "Agree" or "Strongly agree" responses

*Selected Items with the **lowest** level of agreement***

Our school has a well-developed plan that guides all technology integration efforts.	45.7%
I have received adequate training to incorporate the FTL laptops into my instruction.	56.5%
I have frequently participated in professional development that was planned by or provided by my Lead Teacher and/or Super Coach.	57.9%
The quality of my technology integration lessons has improved as a result of participating in professional development planned or provided by my Lead Teacher and/or Super Coach.	61.9%

**Percent of items with "Disagree" or "Strongly disagree" responses

Table 7

FTL Lead Teacher Survey

N = 63

*Selected Items with the **highest** level of agreement**

FTL has had a positive impact on student's ability and comfort levels with technology.	95.0%
Use of the FTL laptops has increased student motivation to learn.	90.0%
Use of laptops in FTL classes has increased teacher use of student-centered learning.	88.3%
Our principal is very supportive of the FTL program.	88.3%
Use of the FTL laptops has increased student-to-teacher interactions.	88.3%

*Percent of items with "Agree" or "Strongly agree" responses

*Selected Items with the **lowest** level of agreement**

Our parents are very involved with FTL.	21.7%
Our community members are involved and supportive of FTL.	31.7%
Our administrators have participated in FTL professional development for teachers.	36.7%
Our teachers participated in professional development provided by our Super Coach.	45.0%

**Percent of items with "Disagree" or "Strongly disagree" responses

Table 8

FTL Super Coach Survey

N = 16

*Selected Items with the **highest** level of agreement**

I participated in professional development provided by the FTL program.	100.0%
FTL has had a positive impact on student's ability and comfort levels with technology.	93.8%
Use of the FTL laptops has increased student motivation to learn.	93.8%
Use of the FTL laptops has increased student-to-teacher interactions.	93.8%
FTL teachers' ability and comfort levels with technology have increased due to FTL.	93.8%
FTL-sponsored professional development has been effective.	93.8%

*Percent of items with "Agree" or "Strongly agree" responses

*Selected Items with the **lowest** level of agreement**

Community members are involved and supportive of FTL.	31.2%
Parents in my FTL school(s) are very involved with FTL.	37.5%
Administrators in my FTL school(s) model the use of technology	37.5%
Administrators in my FTL school(s) are very involved with FTL.	37.5%

**Percent of items with "Disagree" or "Strongly disagree" responses

Table 9

Student Technology Survey

Collects the students' perceptions of the FTL program and its impact on their studies.

	Yes	Some	No
My computer skills have improved because I use a laptop at school.	55.0%	35.2%	8.7%
Using a laptop in class has made me more interested in learning.	61.1%	27.0%	10.7%
Using a laptop has made me want to get better grades.	41.5%	33.0%	24.3%
My writing has improved because I use a laptop.	27.1%	31.2%	40.4%
My internet research skills have improved since using the laptops.	61.3%	26.7%	10.7%
The laptop makes it easier to work with other students.	48.1%	32.2%	18.5%
I am very glad that I get to use laptops.	85.3%	10.2%	3.2%
I would like to use laptop computers again next year.	87.9%	6.9%	3.9%
I learn more when I use a laptop computer	53.6%	35.4%	9.8%
It is easier to do my schoolwork when I use a laptop.	59.9%	28.5%	10.1%
I look forward to schoolwork because I get to use a laptop.	45.0%	33.5%	19.8%
I will be able to get a better job because I have good computer skills.	58.1%	31.4%	8.8%
Using laptops will make me a better high school student.	46.9%	37.5%	13.8%
Using a laptop helps me to remember more and do better on tests.	36.9%	38.8%	22.5%
My schoolwork is better when I use the laptop.	49.7%	36.1%	12.3%
Using the laptop makes me think more about the subject we are learning	49.2%	33.2%	15.6%

Additional Evaluation Activities

Matched-Control Study

CREP is finalizing the selection of 10 FTL program schools to serve as “treatment” schools in the quasi-experimental study beginning in 2005-2006. These "treatment" schools will be strategically matched to 10 non-FTL schools that will serve as “control” schools. These matched treatment-control schools will participate in the following additional evaluation activities:

- Principal Interviews
- Teacher completion of the School Climate Inventory (SCI) to assess perceptions of school climate with regard to order, leadership, environment, involvement, instruction, expectations, and collaboration. They also will complete the Technology Skills Assessment (TSA) to ascertain their perceived technological abilities as stated in the National Education Technology Standards (NETS) for students.
- Student participation in two performance-based assessments: Problem Solving and Technology. The assessments will be administered to 6th grade students in four treatment schools and their matched controls in the spring of 2006. The Problem-solving Task will assess student ability to comprehend problems and formulate solutions. The Technology Task will assess student proficiency in completing basic computer tasks aligned to NETS for Students.

Online Evaluation Information

CREP has created a FTL web page to be linked to the FTL site that is used to publish program news and updates as well as act as a portal to the on-line survey system, newsletters, and CREP home page.

Preliminary Conclusions

The results from the current evaluation suggest that the FTL students, teachers, Lead Teachers, and Super Coaches believe in the laptop initiative and want it to continue. These findings are encouraging because the study was conducted when many schools were still in the process of obtaining and configuring laptop computers for student use. Understandably, the teachers' expressed a need for more training and support to effectively integrate technology into their lessons. The observation data, although limited in scope, demonstrated positive trends while also confirming the need for continued professional development. The December 2005 full evaluation report will include complete analysis of the data, including summaries of participant responses to open-ended items regarding program strengths, concerns, and suggestions for improvement.