



*Report  
to  
The LEGISLATIVE FINANCE COMMITTEE*



Public Education Department  
Laptop Learning Initiative, Quick Response Review  
March 27, 2006

Report # 06-34

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March 27, 2006

Veronica Garcia, Secretary  
Public Education Department  
300 Don Gaspar  
Santa Fe, New Mexico 87501-2786

Dear Secretary Garcia:

On behalf of the Legislative Finance Committee (Committee), we are pleased to transmit the limited scope review of the Laptop Learning Initiative implemented by the Public Education Department (PED).

The review team interviewed key personnel, examined documents, analyzed data provided by PED and visited select school districts to verify laptop inventories and observe the integration of technology into the academic curriculum. The contents of this report were discussed with you and your staff at the exit conference held on March 6, 2006. The report will be presented to the Committee on March 27, 2006.

The Committee expects a corrective action plan from the PED within 30 days from the date of the hearing. Staff will monitor your progress.

We believe this report addresses issues the Committee asked us to review and hope the Laptop Learning Initiative will benefit from our efforts. Thank you for your cooperation and assistance,

Sincerely,

A handwritten signature in cursive script that reads "G. Christine Chavez".

G. Christine Chavez  
Deputy Director for Performance Audit

GCC:JSR/yr

## **Table of Contents**

## **Page No.**

Executive Summary .....	1
-------------------------	---

### **Review Information**

Background Information .....	3
Objectives .....	3

### **Findings, Recommendations**

Substantive Data Is Not Being Collected.....	5
Application Criteria for Selection of Laptop Recipients Is Limited.....	6
Results of Visits by Department Staff to Pilot Schools .....	8
Cost of Supporting the Initiative.....	10
Results of Site Visits Performed by LFC Audit Staff.....	13
Department Responses.....	16

***Laptop Learning Initiative  
Data FY04 through FY06.***

- ***\$6.7 million in total appropriations.***
- ***5,041 laptops purchased and distributed.***
- ***\$1,329 average cost per laptop.***

***FY07 request \$8 million.  
Legislative appropriation;  
\$2 million to continue the  
initiative.***

***Goals are not established to  
evaluate progress or success  
of the initiative.***

***Sixty-two percent of schools  
receiving laptops are  
designated as in need of  
improvement.***

Recognizing that technology and innovation play key roles in New Mexico's economic future and wanting to enhance learning opportunities, the Governor and the New Mexico Public Education Department (department) obtained funding for the laptop learning initiative (initiative). The purpose of this initiative was to improve student learning.

Research indicates that ten other states and one district in British Columbia, Canada, have implemented similar initiatives. The pilot stage of the British Columbia Peace River North School District demonstrated laptops distributed to 1,250 students had positive impact on student achievement in written expression, reduced the gender gap between male and females in writing skills, and reduced the gap between Native American students and the total student population.

A January 2006 *Technology in Education* article by the Education Commission of the States concluded laptop initiatives cannot succeed simply by putting the computers into students' hands. "The success of such initiatives hinges on policy makers giving close sustained attention to making strategic investments in five critical areas: planning, training and professional development, hardware and software, managing change and program monitoring and evaluation." This limited review of the initiative indicates the department did not adequately consider all these areas when requesting funding for and implementing this initiative.

**Key Findings.**

- The initiative will cost the state approximately \$37.3 million each year based on estimated seventh grade enrollment and should be considered a recurring expense if it becomes a permanent program. Based on the current funding level it will be very difficult to fully implement this initiative.
- The ability to effectively evaluate the initiative is hampered by the lack of appropriation language specifically authorizing funds for program assessment and evaluation. As a result, the department has not established a mechanism to gather baseline data or evaluate program effectiveness and uses qualifying criteria that does not focus on expected outcomes, student achievement, or methods for incorporating technology into the curriculum.
- Results of site visits by department staff to pilot schools and first-year initiative schools revealed a majority had minimal implementation, deficient networks, and lacked technology-based curriculum. Site visits to four schools and discussions with a fifth by Legislative Finance Committee staff revealed:

***Site visits to four schools indicate:***

- ***Laptops are adequately inventoried.***
- ***Untimely distribution of laptops.***
- ***In some cases laptops are not distributed at all or used effectively.***
- ***Some teachers are unaware of initiative.***

***Base future legislative appropriations on an improved implementation plan, evidence of effective integration in the daily curriculum and a method to measure increased student achievement.***

- Untimely distribution of laptops,
- Laptops stored in closets and not in use by students,
- Laptops failing to follow students into subsequent grades as the initiative intended or not assigned to a student at all, and
- Teachers unaware of the initiative or how they are to integrate technology into their curriculum.
- Teacher training and extended warranties that exceed the useful life of the computer increased the cost of each laptop by \$512 even though the base price of the laptops is reasonable.
- Internet security software is inadequate to limit access to inappropriate sites.
- Schools appear to be adequately accounting for laptops; however, requiring parents to include laptops in homeowner's insurance policy might be unrealistic.

**Key Recommendations.**

- The department should revisit the laptop initiative to develop an implementation plan that
  - clearly identifies goals, objectives and expected outcomes;
  - evaluates student performance through quantitative and qualitative data analysis;
  - identifies additional funding sources including cost savings;
  - adequately describes how schools are expected to achieve the outcomes and how technology will be integrated into the teaching curriculum;
  - improves site visit criteria to enable management to develop an objective analysis of the initiative's benefits and impact on student achievement at recipient schools on a rotating basis;
  - requires verifiable evidence that applicants maintain the infrastructure to implement the initiative and ensure teachers are aware of and support the initiative;
  - ensures future purchases are re-negotiated to maximize legislative appropriations by eliminating excessive warranties and teacher training that can be economically purchased elsewhere;
  - requires evidence of adequate Internet security that prevents access to inappropriate sites; and
  - ensures that selected software will be used by all schools and students.
- Include specific language in future appropriations to allow a portion be used for program administration and evaluation.

## Authority for Review

***Section 2-5-3 NMSA 1978 gives the Legislative Finance Committee the authority to examine laws governing finances and operations of departments, agencies and institutions of New Mexico, and to recommend changes to the legislature.***

## Review Objectives

- ***Determine if success in improved student achievement can be attributed to the laptop initiative.***
- ***Determine how the department tracks and measures outcomes.***
- ***Review the department process for distributing laptops to schools and students.***
- ***Determine how the department accounts for laptops distributed to students in fiscal years 2004 through 2006.***

***The \$1.7 million appropriation from the Laws 2003 resulted in the purchase of 1,400 laptops.***

During the 2003 legislative session, the Governor first proposed the New Mexico Laptop Learning Initiative (initiative). The purpose of the initiative is to “improve student learning” according to the Implementation and Evaluation Plan developed by the department. As a result, Section 38 of Chapter 429 of Laws 2003 appropriated \$1.7 million for laptop computers for seventh graders statewide. With the appropriation the initiative was implemented in six pilot schools within five school districts.

The six pilot schools were selected based on information submitted to the department in their annual technology report. All pilot schools showed evidence of having the capacity and infrastructure to support the initiative. Collaboration between school superintendents, teachers and technology coordinators helped identify readiness by school site. In addition to capacity and infrastructure, the department looked at geographic and ethnic diversity as well as charter representation. The pilot schools selected represent concentrated areas of Hispanic-Mexican, Native American, Caucasian and African American populations.

The initial appropriation of \$1.7 million purchased 1,400 Dell laptops. Table 1 lists the six pilot schools receiving the initial 740 laptops by February of the 2004 school year. An additional ten schools listed in Table 2 received 561 laptops via the competitive application process. The total number of laptops distributed to school districts in FY04 was 1,301. Ninety-nine (99) units remained with the department to address fluctuating enrollment issues should they arise.

**Table 1. Pilot Schools By Region, District, School And Number Of Laptops Provided From The \$1.7 Million Appropriation**

Region	School District	School	Laptops Received
Southwest	Las Cruces Public Schools	Picacho Middle School	230
Northwest	Gallup-McKinley County Public Schools	Tohatchi Middle School	92
North Central	Chama Valley Independent Schools	Chama Middle School	28
North Central	Chama Valley Independent Schools	Tierra Amarilla Middle School	28
Central	Charter Representative – Albuquerque Public Schools	Southwest Secondary Learning Center	40
Southeast	Hobbs Municipal Schools	Highland Jr. High School	322
Totals			740

Source: Education Technology Bureau, PED

Information provided by the department indicates a cost of \$1,159 per laptop. Thus, the un-audited total cost of 1,400 laptops purchased



*Ten additional schools received laptops in the initiative's first year.*

*Seventh grade teachers also received laptops and training from the initiative.*

from Dell is \$1,622,600. According to Educational Technology Bureau staff, the balance of approximately \$77,400 was used for contractual services [program evaluation, digital video disc (DVD) production and professional development for teachers].

**Table 2. Schools Receiving Laptops Via Competitive Process**

School District	School	Number of Laptops Received
Cloudcroft Municipal Schools	Cloudcroft Middle School	46
Las Cruces Public Schools	San Andres Learning Center	31
Lovington Municipal Schools	Taylor Middle School	232
Mosquero Municipal Schools	Mosquero Middle School	12
NM School for the Deaf	Santa Fe Campus	12
Pecos Independent Schools	Pecos Middle School	83
Reserve Schools	Reserve High School	17
Santa Rosa Consolidated Schools	Santa Rosa Middle School	54
Tatum Municipal Schools	Tatum Jr. High School	46
Wagon Mound Public Schools	Wagon Mound Jr. High	28
Total		561

Source: Educational Technology Bureau, PED

Chapter 114 Laws 2004 appropriated \$4 million in FY05 and Chapter 33 Laws 2005 appropriated \$1 million in FY06 bringing total appropriations to the initiative to \$6.7 million over its three year existence. Dividing the total appropriations by the total number of laptops purchased results in an average cost of \$1,329 per unit.

**Table 3. Appropriations And Number Of Laptops Purchased By Fiscal Year**

Fiscal Year	Appropriation	Number of Laptops Purchased
<b>FY04 Pilot and Competitive Process</b>	\$1,700,000	1,400
<b>FY05</b>	\$4,000,000	2,948
<b>FY06</b>	\$1,000,000	693
<b>Totals</b>	<b>\$6,700,000</b>	<b>5,041</b>

Source: Education Technology Bureau, PED

Subsequent appropriations and the balance of 99 laptops not distributed in FY04 provided laptops to an additional 3,740 (2,948+693+99) students and teachers at 22 more schools in FY05 and in FY06. The laptops in FY05 and FY06 were distributed to schools selected by the department after responding to a Request For Applications. The applications received by the department were reviewed by members of the Council On Technology which is a body composed of members selected by the department secretary based on recommendations from the Education Technology Bureau. The applications receiving the highest scores were selected and all seventh grade students within the school or school district received laptop computers.



## FINDINGS AND RECOMMENDATIONS

*Substantive data is not being collected to establish a baseline for measuring program success.*

*Procurement delays hampered efforts to study the effects of laptop use.*

*Language in enabling legislation does not provide for program evaluation.*

**The department is not tracking or documenting positive outcomes of student achievement attributable to the initiative.**

The department and recipient schools did not collect data and establish baseline data to objectively record and analyze expected outcomes such as increases in student performance, achievement and attendance. Such data is essential to measure growth in student performance levels in core subjects such as reading, writing, mathematics, and science. It will also enable a determination of whether providing laptop computers to seventh grade student produces beneficial results and justifies continuation and expansion of the program to other schools. Without verifiable documented evidence of improved student performance and academic achievement, the program cannot demonstrate the need for continued funding.

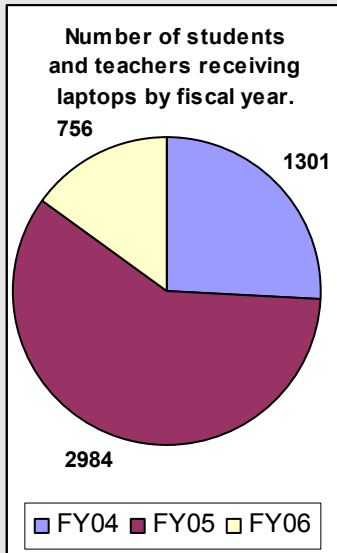
The Peace River North School District of British Columbia, Canada, along with Horizon Research and Evaluation were able to evaluate the success of their laptop initiative by pre- and post-testing students using British Columbia Performance Standards and systematic monitoring of the program's impact through assessment of student work; teacher, parent and student surveys; classroom observations; individual research projects and interviews. Overall student scores in written expression improved dramatically with 92 percent of students meeting provincial education standards for writing by the end of the pilot year compared to only 70 percent of those students meeting standards prior to implementing the initiative.

Initially the department contracted with Dr. David Rutledge of New Mexico State University to study and determine the effects of laptop use by seventh-graders in the pilot. However, delays in procurement resulted in March delivery of the laptops leaving less than three months of the school year to generate valid data for analysis.

For the 2005 school year the program initiated a contract with the same researcher. The contract was approved by department legal staff only to be rejected by fiscal staff in May 2005 on the grounds that the appropriation did not contain language allowing capital outlay funds be used for the purpose of program evaluation or analysis. The appropriation language restricts funding to the purchase of laptop computers for seventh grade students only. However, the department managed to justify using the appropriations for training teachers in participating schools.

In addition, the lack of common student identifiers prevented adequate student tracking and also hampered efforts to evaluate initiative

*The department's data system does not track student performance from year-to-year.*



*Application criteria for selection of laptop recipients is limited.*

outcomes. Information required to make defensible statements about outcomes from the laptop initiative relies heavily on a statewide reporting system that tracks not only student achievement, but also monitors student progress, both within the year, and over time. The Accountability Data System (ADS) used by the department did not have the capability of tracking individual students from year to year.

The Student and Teacher Accountability Reporting System (STARS) is expected to be implemented by fiscal year end 2006. This new system has the capability to disaggregate data required by the No Child Left Behind Act.

#### **Recommendations.**

- Thoroughly document evidence of increased student performance within areas of writing and research skills; and improved attendance and motivation by seventh graders receiving laptop computers.
- Include quantifiable expected outcomes and measures in appropriation language to determine effects of appropriations.
- Provide adequate and complete cost detail in the project description portion of Local Infrastructure Capital Improvements Plan request form that specifically describes the critical need of allowing a limited portion of the appropriation be used for analysis of program effectiveness, impact and outcomes.
- Continue efforts to have STARS fully operational by the projected June 2006 implementation date to provide data useful for quantitative and comparative data analysis.

#### **Qualifying criteria to receive laptops does not focus on expected outcomes, student achievement, or incorporating technology into the everyday academic curriculum.**

Criteria in the initiative application do not require applicants demonstrate how they will measure and report student achievement or how they will incorporate technology into the academic curriculum. The criteria, designed to create open competition of limited resources, concentrates its focus more on the applicant's network infrastructure and ability to demonstrate local capacity than on infusing technology into everyday academics.

The department does ask for various types of information and requires interested school districts provide description of how they will address numerous issues and questions found in the application. Required descriptions include:

- The readiness of the school staff to succeed with the initiative;
- How the school and district will leverage existing funds to

***Successful programs include detailed strategic planning of initiative goals, objectives and implementation of complimentary tasks.***

***School district bar codes and laptop serial numbers are used to track and annually inventory laptops distributed to students.***

support students, teachers and administrators;

- How laptops will be used by seventh grade students and teachers to enhance existing educational opportunities;
- Policies that will govern the return of laptop computers if a student or teacher withdraws from the schools;
- The community-based internet service provider partnership that is willing to offer internet and access to the home at a reduced rate should a student lack the access; and
- The technical infrastructure, network capacity available at the school site.

The 18-page application does not require the applicant to demonstrate how laptops will improve student performance and how improvement will be measured. The application requires results from school year 2003 Terra Nova scores in reading, mathematics and language arts for ethnic sub-groups but not for individual participating schools.

Best practices research indicates education departments and school districts intending to implement a laptop initiative should strategically plan and determine what they hope to achieve and how they intend to achieve their objective before distributing laptops to schools. At a minimum the following criteria should be required from the applicant school:

- Detailed proposals of objectives, intended results and impacts of using technology in the everyday academic curriculum;
- Employment of a technology specialist to assist teachers in planning; developing and implementing lessons using technology;
- Plans for teachers to receive adequate training in teaching with technology prior to students receiving laptops; and
- Pre-testing of students using acceptable academic standards to establish a baseline for measuring progress, performance and increased academic achievement.

The assurances form in Appendix A of the application describes the school district's commitment to use laptops to enhance the teaching and learning process, fiscal responsibility, and accountability procedures. Once the department distributes a laptop to a school district it becomes property and responsibility of that district. According to the department, many of the participating schools inventory their laptop fixed asset by tagging the unit with the district bar code. Laptop accountability is further enhanced by requiring teachers, students and parents to sign check out forms which specify serial number and date the laptop is issued to a student. In addition, the vendor and department maintain an invoice listing the serial number of each laptop distributed to each school which can be used to

*Revisions to the application and selection process will enhance initiative effectiveness.*

*60 percent of schools reviewed after the pilot year did not appear to use laptop technology as a tool in their daily classroom instruction.*

reconcile with physical inventories maintained by schools. However, the department has never performed these reconciliations.

The application further requires the applying school to describe policies and procedures establishing guidelines for home use of laptops by students. The department also purchased five years of accidental damage coverage and anti-virus upgrades for each laptop.

#### **Recommendation.**

- Revise the initiatives application process and policies to require at a minimum:
  - Establishment of baseline student data through pre-testing using accepted academic standards;
  - Descriptions of when and how increased academic achievement and improved student performance will be measured;
  - Required reporting of test population achievement data at regular intervals;
  - Data elements necessary to perform comparative and quantitative analysis of academic achievement and annual yearly progress and description of how the recipient school will compile required data for analysis;
  - Plans to provide education and training to teachers on how to effectively integrate technology into the daily classroom instruction and academic curriculum; and
  - Perform periodic inventory observations and reconciliations to account for laptops.

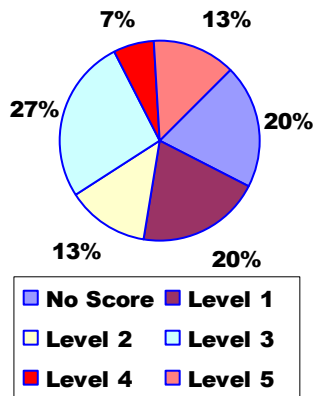
#### **Results of visits by department staff to pilot schools and first year recipient schools revealed a majority had minimal implementation, deficient networks, and a lack of technology based curriculums.**

Results of site visits to pilot and first year laptop recipient schools, indicate nine of 15 (60 percent) received evaluation scores of Level 3 or less. Level 5 (teachers and students use technology daily as a tool in their classroom instruction) is the optimal goal of the program. Only two schools, Mosquero and Cloudcroft Middle Schools, received Level 5 evaluation scores. Three schools did not receive scores.

Scores of “Level 1” through “Level 3” indicate programs where:

- Teachers use technology as a reward for good behavior but have limited classroom use and relevance for technology and students use technology for educational games;
- Teachers use technology as a component in weekly instruction and websites are used as sources of information; and
- Teachers use technology as biweekly component of instruction.

**Percentage of Pilot schools receiving Level 5 evaluation scores indicating an effective program.**



Source: PED Educational Technology Bureau.

*Some schools show promise of being capable of incorporating technology into their everyday academic curriculum.*

Schools in the laptop learning initiative receiving scores of Level 1 through Level 3 are not meeting the intent of the initiative and in some cases do not appear to be using costly resources effectively.

Department staff recorded the following observations after performing site visits to pilot and other FY04 recipients of laptop computers:

- School district had minimal implementation;
- Teachers are in the beginning levels of implementation and had not yet developed technology infused curriculums;
- Some teachers show evidence of technology integration, others did not;
- Laptops were not being used at all by some students;
- Laptop batteries die-out quickly, do not re-charge quickly and classrooms lack enough outlets to charge the dead batteries; and
- School network is non-functioning or not functioning adequately.

Although many schools experienced difficulties implementing the laptop or demonstrating increased student performance, Mosquero and Cloudcroft Middle Schools, did show promise with the initiative. In the case of Mosquero Middle School, seventh and eighth grade students from the sparsely populated village interviewed community members using digital media and used the interviews as the basis for several technology based projects including story writing, poetry, historical accounts and playwriting. The projects were compiled into a single documentary entitled *Familias de Nuevo Mexico 2004/2005*. The final project was a four hour dinner-theatre performance written, directed and starring the seventh and eighth grade students themselves. In addition, the students captured the performance digitally on digital video disc.

At Cloudcroft Middle School, staff and students have embraced the infusion of technology into their school work. In addition to each student creating their own web-page, they have infused laptop technology to study the creation and effects of tsunami waves. However, there is no concrete documented evidence on how academic skills improved.

### **Recommendations.**

- Screen applicant schools to verify they have developed a technology based academic curriculum and network infrastructure to effectively implement the laptop initiative;
- Ensure that all teachers and administration are willing and able to embrace a technology based academic curriculum;
- Revisit the initiative implementation plan, develop concrete

*Supporting the initiative and providing laptops to 7<sup>th</sup> grade students alone could cost taxpayers as much as \$35.5 million annually.*

objectives and goals and indicate how and by what means they will be achieved;

- Standardize criteria and methods for the department to periodically evaluate the efficiency and effectiveness of a school district's implementation and utilization of the initiative and perform annual site visits of recipient programs on a rotating basis using a standardized review/audit checklist which evaluates student achievement and improvement;
- Require school districts receiving evaluation scores of Level 3 or lower to develop and implement corrective action plans within 30 days of receiving their evaluation report; and
- Levy mandatory sanctions for school districts and/or schools continually failing to meet minimum or acceptable standards such as dropping the school from the initiative.

**Providing laptops to seventh grade students and their teachers will cost the state approximately \$37.3 million per year.**

At the current price of \$1,442.12 per laptop package, the projected cost of providing a laptop computer to every seventh grade student statewide would exceed \$35.5 million per year in FY07 through FY09. This calculation is based on a conservative average estimated funded membership of 24,619 seventh graders in each of those years. Furthermore, providing roughly 1,231 laptops (five percent of student membership) to their teachers will cost approximately \$1.8 million in addition to the \$35.5 million over the same time span. These costs should be considered recurring if this becomes a permanent program.

The department has purchased laptops from the same vendor through a save smart contract since FY05. The laptop selected is the Hewlett-Packard Model n6110 and required the vendor to equip the laptops with the following configurations, software and warranties:

- 80 gigabyte (GB) hard drives - students would be using the laptops for digital media projects;
- Microsoft Office Professional - allows students to acquire skills that could be used in a job;
- Inspiration - visual learning software, used to help students organize their thoughts graphically;
- Pinnacle Software - used for video editing;
- 5-year parts warranty so students in seventh grade would have use of the laptop through the twelfth grade; and
- A three year accidental damage warranty.

The base cost per laptop of \$800 is reasonable. However, extended warranties, software and teacher training add \$642 to the base price. See Table 4 for detail.

*Customization and other “Add-ons” increase the cost to the base price of the laptops by over 80 percent.*

*A savings of \$131.54 per unit was realized through the save smart contract which appears minimal considering the volume of laptops purchased.*

*Warranties purchased on laptops may exceed the useful life of the unit.*

**Table 4. Unit And Total Cost For Laptops Purchased For FY06**

Item	ACS Unit Cost	Total ACS Cost
Laptop (base price)	\$800.00	\$554,400.00
Software	\$100.70	\$69,785.10
Warranties	\$286.92	\$198,835.56
Imaging Services	\$14.00	\$9,702.00
Laptop bag	\$15.50	\$10,741.50
Training Services	\$225.00	\$155,925.00
Total add-ons	\$642.12	\$444,989.16
Total	\$1,442.12	\$999,389.16

Source: Analytical Computer Services

The open market cost for the Hewlett Packard manufactured model purchased range from \$599 to \$1,149 per laptop, but Hewlett-Packard does not offer an 80GB hard drive upgrade; therefore the vendor custom built the laptops for the department. The cost to upgrade the laptops with a 40GB hard drive to the 60GB that the manufacturer offers is \$190. The three year accidental damage from the manufacturer costs \$268 versus the vendor cost of \$150. Additionally, the three year warranty for the parts, which is all Hewlett-Packard offers is \$199 versus the vendors cost of \$136. Thus, the department saved \$132 per laptop in FY06 through the save smart contract as illustrated in Table 5 below.

**Table 5. Laptop Price Comparison ACS to HP**

Item	ACS Unit Cost	ACS Total Cost	HP Unit Price	HP Total Price	Savings
Laptop (base price)	\$800.00	\$554,400.00	\$798.00	\$553,014.00	(\$1,386.00)
Laptop bag	\$15.50	\$10,741.50	\$49.00	\$33,957.00	\$23,215.50
Warranties*	\$286.92	\$198,835.56	\$467.00	\$323,631.00	\$124,795.44
Totals	\$1,102.42	\$763,977.06	\$1,294.90	\$897,365.70	\$146,624.94

Source: ACS and [www.hp.com](http://www.hp.com)

It is important to note that warranties are revenue generators for any company. Hewlett Packard offers a one-year parts and labor warranty as part of the unit price of the laptop. Buying a five year warranty assumes use for six years which is two years past the laptops useful life. The department’s rationale for the 5-year parts warranty on its face appears reasonable; however the likelihood of parts being available as the student reaches the higher grade levels decreases significantly since the laptops are likely to be obsolete by then. According to the state purchasing division of the General Services Department, the vendor may be stockpiling parts to ensure replacement of damaged and defective parts well after Hewlett Packard ceases their production.

Additionally, with an 80GB hard drive, students would have sufficient space to store almost six hours of finished media productions. According to the October 2003 “Implementation and Evaluation



***In some cases laptop technology is beyond the educational needs of the students to whom they were assigned.***

***As much as 16 percent of the FY06 appropriation was directed for technology training for teachers.***

***Teachers received training to assist in implementing the initiative.***

Plan”, the purpose of the Governor’s laptop initiative is to “improve student learning.” Purchase of the Inspiration software and Microsoft products as a means to improve student learning does appear reasonable. However, the digital media software appears excessive unless the courses are in digital photography, web or graphic design, or gaming development. Additionally, it is unlikely that every seventh grade class has a digital media component that requires such sophisticated software.

The inspiration website indicates that the inspiration product is for grades 6–12, but the state standards for New Mexico show the following:

- The math content standards are for grades K-4 (Standards, Benchmarks and Performance Standards adopted 2002). Although grades 5-12 are included in the New Mexico standards, inspiration does not support any of the standards or objectives adopted by New Mexico;
- Science content standards are for grades K-12 (Standards, Benchmarks and Performance Standards adopted 2003);
- Language arts content standards are for grades K-12 (Curriculum Framework adopted 2002); and
- Social studies content standards are for grades K-12 (Curriculum and Framework adopted 2001).

As stated earlier, department staff complained that the initiative cannot be methodically evaluated because appropriation language restricted funding uses. Although the department did not receive funding for teacher training as part of the capital outlay appropriation, it found a way to bundle training into the cost of laptops. In the November 2005 purchase, \$155,900 of the \$1.0 million appropriation was directed to teacher training. Since the department was able to procure training as part of the purchase, it is possible that it could have also acquired evaluation and assessment services in much the same way. Conversely, bundling training into the cost of the laptops may be a violation of the appropriation’s intent.

The training teachers received, Classroom Connect, provides in-person and online training on incorporating technology into the daily teaching curriculum. Teachers receiving laptops from the initiative received the following:

- Technology implementation training;
- Four regional professional training camps;
- Two-days of face-to-face workshops;

- Three weeks of three consecutive days of training; and
- Two days of follow-up face-to-face mentoring.

The training added \$225 to the purchase price of each laptop which is \$20 more than the direct quote to the department from Classroom Connect of \$205. In the FY06 purchase, 86 laptops were assigned to teachers. Therefore these teachers will receive training at a cost of \$1,813 per teacher. The department states that other teachers not associated with the seventh grade laptop initiative will also receive training to “assure continued implementation of technology throughout secondary school.”

#### **Recommendations.**

- Seek new bid offers to acquire laptops at a lower cost per unit.
- Leverage legislative appropriations with other funding sources to reduce the financial hardship of the initiative on the state.
- Reevaluate the need for software, customization and warranties that increase the cost of laptops significantly and that may be excessive, unnecessary and in some cases useless.
- Consider less costly training alternatives for teachers and students in the areas of incorporating technology into the everyday academic curriculum.

#### **Laptop distributions are untimely; internet security is inadequate; and replacement of lost, stolen or damaged laptops is not insured by student users or their families.**

LFC staff coordinated visits to four nearby schools participating in the initiative and spoke with staff from another with the objective of determining the existence and accuracy of laptop inventories. Laptops were physically inspected to determine if serial numbers matched vendor invoices maintained by the department. It was expected that laptops would be in the possession of students to whom the laptop had been assigned either since the beginning of the 2005 or 2006 school year. It was further expected that, barring a non-academic activity or physical education class, the laptop would be used in daily academics.

Audit procedures revealed numerous flaws in implementation and incorporation into the academic curriculum as well as in areas of asset protection and internet security as the following list indicates:

- Schools receiving laptops for school year 2006, received their laptops in December and more recently distributed the units to students and teachers. One school distributed laptops to students one day before auditors arrived to examine inventories.

*Site visits by LFC staff revealed initiative weaknesses.*

*Laptop utilization by participating schools is not meeting the intent of the initiative.*

***Not all laptops have been assigned.***

***Indications are that not all teachers are aware of the initiative or show enthusiasm about its implementation.***

***Laptops at one school were located in a classroom closet still in their carrying cases.***

***Site-specific laptop internet security software does not ensure inappropriate sites will not be accessed by students.***

- Laptop inventories reconcile to vendor invoices however, it was noted some laptops were not properly tagged with fixed asset identifications.
- Some schools are not following the intent of the initiative because laptops are not following students into subsequent grade levels and not all laptops are assigned to a student or teacher.
- Not all teachers are aware of the initiative or how to use the technology as part of their curriculum, some are not comfortable with technology, are apprehensive to use it, and one was more interested in how to promote his business than in how to incorporate it into the classroom.
- The award of laptops to schools that already have sufficient technology appears unwarranted while it appears other schools did not receive laptops for all seventh graders in the district.
- Schools are not complying with the need to have assigned laptops insured by the homeowner insurance policy of the student's parents.
- Required use agreements are often incomplete, lack required signatures and dates or in some cases missing.
- Laptops are not being used for the originally intended purpose of the initiative which is to provide students with a technology based learning tool for everyday use. Laptops appear to be used mostly for special projects and few laptops were observed on student desks or in use for instructional purposes.
- Software installed exceeds the needs of most students and in most cases students had never used the Inspiration software purchased and installed.
- Security software is site specific in most cases which prohibits access to violent and pornographic sites but may not deny access music, movie or other sites deemed non-academic or age appropriate.

It appears the department did not adequately plan the laptop initiative. According to the department, the laptop initiative was to place students on a level playing field. It appears however that some schools already have technology available to the students in the form of individual desktop computers and additional technology may be excessive. Additionally, requiring parents to cover the laptops on their homeowner insurance policy is impractical and not well thought out because most families do not have homeowners insurance.



### **Recommendations.**

- Revisit the initiative implementation plan to clearly identify goals, objectives and expectations of participating school districts to ensure compliance with the intent of the initiative. Clearly indicate how schools are expected to measure outcomes, gather data, and infuse technology into academic curriculums and for what purposes students are expected to use the technology.
- Distribute laptops to schools timely so they in turn can distribute them to teachers and students to be used as an everyday learning tool and whereby teachers can assess increased student achievement and performance.
- Periodically test the accuracy and completeness of laptop inventories to ensure costly resources are accounted for and properly tagged as a district asset.
- Ensure all teachers in participating schools are aware and support the initiative through random e-mail survey.
- Determine if the applicant school has similar resources such as desk-top computers for every student so that costly resources are fairly and effectively distributed.
- Ensure laptops and their accessories will be replaced in the event they are lost, stolen or irreparably damaged either through the schools insurance or the student user's parents' homeowner insurance if possible.
- Enhance laptop security and protection measures by installing Web-Sense blocking filters which are more effective in blocking inappropriate internet access categorically and not site by site.



NEW MEXICO  
Public Education Department

Response to LFC Laptop Initiative Report

Submitted by:

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March 17, 2006

## Response to LFC Laptop Initiative Report

LFC Sidebar Item	LFC Text Item	PED Response
<p><b>Laptop Learning Initiative Data FY04 through FY06.</b></p> <ul style="list-style-type: none"> <li>• <b>\$6.7 million in total appropriations.</b></li> <li>• <b>5,041 laptops purchased and distributed.</b></li> <li>• <b>\$1,329 average cost per laptop.</b></li> </ul>		<p>The cost per laptop includes all necessary software, professional development and extended warranties. It is misleading to state \$1,329 as the price of the laptop, or compare that price to laptops available on the open market. As reported to LFC staff, these units have been specially configured to operate a range of programs related to mastery of 21<sup>st</sup> century skills, provided with the required software, and include the professional development required for teachers to upgrade their lessons and assignments to maximize the impact on student learning. Purchased separately the combined price would greatly exceed the negotiated price extended to all New Mexico schools through this contract.</p>
<p><b>For FY07 the legislature appropriated \$2 million to continue the initiative.</b></p>	<p>Recognizing that technology and innovation play key roles in New Mexico's economic future and wanting to enhance learning opportunities, the Governor and the New Mexico Public Education Department (department) initially requested \$8 million from the forty-seventh legislature second session to continue the initiative to provide laptop computers to <b>all seventh grade students statewide</b>. The Legislature appropriated \$2 million for the 2007 school year in House Bill 622.</p>	<p>The appropriation was never intended to provide laptops to all seventh grade students statewide, but rather to all seventh graders in a particular school, pursuant to the RFP developed in response to the original legislation. As there are 25,000 students in each grade, \$8 million can fund only a fraction of that number. PED explained to LFC auditors that accordingly the Laptop Initiative was awarded on a highly competitive basis. It was further explained that the model for the program required a doubling of funds each year, in order for seventh graders to keep their laptops until graduation, and for each new incoming grade of seventh graders to receive theirs:</p> <p>First year = \$1.7 million  Second year = \$4 million (\$1.7 million for new seventh graders, \$ 2.3 million for expansion sites)  Third year = \$8 million (\$4 million for new seventh graders in existing sites, \$4 million for expansion sites) <b>Amount received: \$1 million.</b></p> <p>\$2 million represents one quarter of what is needed to bring the program back to fully fund existing sites, with no additional expansion.</p>

## Response to LFC Laptop Initiative Report

LFC Sidebar Item	LFC Text Item	PED Response
<i>There are no goals or baseline data for assessing the initiatives success</i>	Research of similar initiatives revealed the states of Iowa, Maine, Washington, and the neighboring Canadian commonwealth of British Columbia, have implemented <b>successful programs that provide laptops to middle-school students</b> . The pilot stage of the Peace River North School District of British Columbia, Canada demonstrated laptops distributed to 1,250 students had positive impact on student achievement in written expression, reduced the gender gap between male and females in writing skills and reduced the gap between Native American students and the total student population as well.	New Mexico's program is as successful as these other programs. Those reporting data have invested heavily in evaluation. LFC auditors stated that they didn't have time to determine the cost of evaluations they cited from other jurisdictions. However, <b>the most recent report from Maine, detailing student growth in mathematics due to laptop use cost \$3 million</b> . It is fair to say New Mexico doesn't have adequate data. It is not accurate to say New Mexico's program is less successful than others. For example, in Las Cruces data was collected showing that office referrals diminished by an average of 50% at Picacho Middle School comparing the first year of the laptop program with the year immediately prior. At Zia Middle School office referrals diminished 25% comparing the prior year with the first year of laptops. Las Cruces also hired an external evaluator to evaluate this and other technology programs and it showed substantial successes in the qualitative areas.
	<p>Success of Laptop Learning Initiative cannot be determined because the department <b>has not established baseline data, outcome measurements or a mechanism to evaluate program effectiveness</b>.</p> <p>The ability to effectively evaluate the initiative is hampered by the lack of appropriation language specifically authorizing funds for program assessment and evaluation.</p>	<p>As PED explained to LFC auditors, PED was prevented from conducting an appropriate evaluation by changes in Finance rules. Baseline data required to track student growth over time only became possible with the use of universal student IDs this year. <b>Outcome measures for our evaluation include disaggregation of student growth as required by No Child Left Behind, correlated with student laptop use, teacher professional development and short cycle assessments.</b></p> <p><b>Las Cruces did provide this information, from their student data system, but they were not included in the program this year, so no new data.</b></p>
<i><b>There are no goals or baseline data for assessing the initiatives success.</b></i>		<p>The program has clear goals, as stated in the RFP and application. LFC staff chose not to attend presentations in the Roundhouse Rotunda on 2/3 which included presentations of learning from laptop students and their teachers. <b>Performance assessment is a valid measure of 21<sup>st</sup> century skills, as standardized test data does not measure these skills. Results from pre and post professional development Online Assessments of teachers participating on professional development show significant growth in all categories, aligned with the ISTE standards, which are a nationally accepted benchmark.</b></p>



## Response to LFC Laptop Initiative Report

LFC Sidebar Item	LFC Text Item	PED Response
	<p>Qualifying criteria to receive laptops does not focus on expected outcomes, student achievement, or incorporating technology into the everyday academic curriculum.</p>	<p>This item confuses whether districts have the <u>technical requirements to qualify for the program and the educational goals they have for the program</u>. This information is contained in two different sections of the application, and LFC auditors only looked at one. Qualifying criteria outline the essential conditions required for the program to operate. Qualifying criteria are the starting line, not the finish line. Without buy-in from district and school administration, parents, community Internet providers, the program could not succeed. Without adequate infrastructure, the laptops would not operate.</p> <p>Once a district qualified in all 13 categories, its plans were then assessed for alignment with student learning needs as described in the school's EPSS and Technology Plans. The narratives provided in the NM Consolidated Educational Technology Application cross referenced the learning objectives with the technical specifications for the Laptop Initiative. This was explained to LFC auditors in several of our meetings.</p> <p>All schools are required to report how their use of technology funds supports learning in the following documents:</p> <ul style="list-style-type: none"> <li>a. EPSS – Educational Plan for Student Success (at district and school levels)</li> <li>b. EdTech Report – required for state and federal funding.</li> <li>c. Technology Plans - required for state and federal funding.</li> </ul> <p>In each of these reports, districts show how technology is used to individualize instruction, provide accommodations for students with different learning styles, ELL, etc. Laptop districts highlight these uses in order to be competitive for funding. However, this information is collected at the district level, rather than the classroom level, which is the source for data comparing the achievement of individual students.</p>
	<p>Results of site visits by department staff to pilot schools and first year laptop recipient schools revealed a majority had minimal implementation; non-functioning networks and a lack of technology based curriculums.</p>	<p>The report in question is one data point of several, taken out of context, and not representative of the program as a whole. This conclusion by the LFC auditors does not adequately address the context of the report input. At the time of the site visits, school staffs were under the impression they should focus on the NEEDS and weak areas of the program so solutions could be sought. They didn't know they were supposed to be providing information on the successes. They were directly told that they should try to expose the areas that were not working well to help the program develop solutions. Problems identified in the report were intended for discussion with school leaders (principals) in order to help them bring these disparities into alignment with their proposals. For example, the citation of an ESL class where the laptops were not being used was the result of the teacher's decision to wait until new laptops were provided to three new students who'd recently joined the class (rather than have some students with and others without laptops). In the other twelve classes visited at that school, PED observed intensive, effective use of laptops, including student demonstrations of current and previous projects.</p>

## Response to LFC Laptop Initiative Report

LFC Sidebar Item	LFC Text Item	PED Response
<i>Laptops were not distributed in a timely manner and in some cases not distributed at all or used effectively.</i>		First year funding lacked an emergency clause, and was released too late to make targeted deadlines of providing laptops in the summer prior to the start of school. All laptops were distributed, and in some cases re-assigned to account for shifts in student enrollment among districts. “Some cases” needs to be specific, and inaccurately portrays the project. In the case of the Las Cruces distribution, laptops were received at the district and in the hands of students within three weeks. Given the number of laptops that was a formidable accomplishment. In the first year each laptop had to be imaged at the district and that did extend the time for deployment to about four weeks for less than 300 laptops. In the second year the district was able to deploy almost 1,000 laptops in the less time by creating the image, sending it to the manufacture and then creating school “deployment teams” to get the machines assigned and distributed at the schools more rapidly.
<i>Some teachers are not aware of the initiative.</i>		“Some teachers” needs to be specific, and inaccurately portrays the project. All teachers were required to participate in professional development and it is difficult to understand how they could not be aware of the program.
	Providing laptops to seventh graders and their teachers will cost approximately \$37.3 million per year over the next several years.	PED recommended to LFC auditors that the language of the legislation be broadened to read “laptops and other personal computing devices” since there are new devices available now that were not available when the laptop initiative was first proposed. These units can be a quarter of the cost of a laptop and for some educational purposes can be equally effective. For example, the pre-teaching PDA program in Las Cruces showed students’ cumulative GPAs increased from the year prior to participating in the program to the next with none of the students dropping out of school over the last three years. This program touches about 100 10-12 grade students at LCPS. These students have PDAs, foldable keyboards and access to Bluetooth printing in their Future Educator sponsor teacher classrooms and in the libraries at their schools.

## Response to LFC Laptop Initiative Report

LFC Sidebar Item	LFC Text Item	PED Response
	<p>Teacher training and extended warranties that exceed the useful life of the computer increased the cost of each laptop by \$512.</p>	<p>This item confuses three issues: teacher training, software and warranties. Teacher training is not optional, it is mission critical to making the link between classroom practice and student follow-up at home. Software is not mentioned, but also makes up a significant portion of the \$512. Each item of software has been carefully selected to ensure that students can gain the full range of 21<sup>st</sup> century skills, and PED reaffirms the educational integrity of these decisions. Warranties extend from seventh grade to graduation. While LFC may consider five years to exceed the useful life of the laptop, the refresh rate for student computers in New Mexico has held steady at 18 years for the past several years. It is this aspect of bundling together everything required for program success that has been specifically replicated in South Carolina, Utah and Arizona, who have modeled their programs after New Mexico's.</p>
	<ul style="list-style-type: none"> <li>• Completion of site visits by Legislative Finance Committee staff revealed:               <ol style="list-style-type: none"> <li>1. Untimely distribution of laptops;</li> <li>2. Laptops stored in closets not in use by students;</li> <li>3. Laptops not following students into subsequent grades as intended by the initiative or not assigned to a student at all; and</li> <li>4. Teachers unaware of the initiative or how they are to infuse technology into their teaching curriculum.</li> </ol> </li> </ul>	<ol style="list-style-type: none"> <li>1. The 2005-2006 distribution was delayed due to new requirements that all computer purchases be approved by the State CIO's office, despite the fact that the previous contract had been approved by Save Smart.</li> <li>2. This finding represents a departure from program requirements which has not been reported to PED.</li> <li>3. The change in funding model, which would have required \$8 million in 2005-2006 in order for laptops to follow students into subsequent grades, required PED to allow districts to decide how to use the laptops they had.</li> <li>4. Since funding is provided for all teachers to participate in professional development activities, and all teachers are required to do so, this finding represents a departure from program requirements which has not been reported to PED.</li> </ol>

## Response to LFC Laptop Initiative Report

Key Recommendations	PED Response
<b>Require future funding be contingent on evidence of effective laptop use and increased student achievement.</b>	<b>Agreed.</b> PED is a data-driven decision-making organization, and the lack of reliable data impedes our efforts.
Evaluate through quantitative and qualitative data analysis that increased student achievement and improved performance is a result of the laptop initiative.	<b>Agreed.</b> As PED informed LFC staff, making defensible causal links has proved to require highly skilled researchers, making it a costly activity. We will work with our Higher Education partners to design the most cost effective study that can guide legislative decisions.
Include specific language in future appropriations to allow a portion be used for program administration and evaluation.	<b>Agreed.</b> Legislative language must be changed to allow the expenditure of funds for this purpose.
Revise the department's program policies and application process to require descriptions of the applicants expected outcomes, how the school expects to achieve those outcomes and how technology will be integrated into the teaching curriculum.	<b>Agreed.</b> These questions are already addressed within the New Mexico Educational Technology Consolidated Application, and will be fully supported by the new STARs system. Data analysis will be greatly facilitated by access to this data warehouse.
Revise application criteria to require verifiable evidence that applicants maintain the network infrastructure to implement the initiative and that ensure teachers are aware of and support the initiative.	<b>Agreed.</b> Future funding of existing sites must be contingent upon providing this evidence.
Continue performing site visits of recipient schools on a rotating basis that will enable management to develop an objective analysis of the initiatives benefits and impact on student achievement.	<b>Agreed.</b> Legislative language must be changed to allow the expenditure of funds for this purpose. Using Federal Ed Tech funds for this purpose would be found by auditors to be "supplanting" and therefore an unallowable expense.
Re-negotiate the purchase agreement with the selected vendor to maximize legislative appropriations by eliminating unnecessary add-ons, excessive warranties and teachers training which can be purchased elsewhere at a better price.	<b>Disagree.</b> Our procurement has cost-effectively bundled together everything students and their teachers require in order to be successful. Our laptop program requires much more intensively focused professional development than is generally afforded to teachers in New Mexico. The Federal EETT program suggests that 25% of funding should be devoted to professional development, yet the national average remains at 3 to 5%. We are reflecting "best practice" in bundling situation specific professional development with the tools students and teachers require to gain 21 <sup>st</sup> century skills.
Revisit the laptop initiative implementation plan and clearly identify the goals, objectives and expectations of school districts participating in the initiative to ensure schools are complying with the intent of the initiative.	<b>Agreed.</b>

## Appendix: Evidence of Effectiveness

### 1. Effect on Student Performance

#### 1.1. Math

1.1.1. Of incoming 7<sup>th</sup> graders, 34% were on track to score proficient and 66% on track to score not proficient. By contrast, 8<sup>th</sup> graders who'd had the laptops for one year: 43% scored proficient for 9<sup>th</sup> grade; 54% scored proficient for 8<sup>th</sup> grade, 29% were making progress toward proficiency; 14% were on track to score not proficient. (Wagon Mound)

1.1.2. Texico Jr. High 7<sup>th</sup> Math 33% Proficient & Advanced compared to 20% of the rest of the State.

#### 1.2. Science

1.2.1. Of incoming 7<sup>th</sup> graders, 50% were on track to score proficient and 50% were making progress toward proficiency. By contrast, 8<sup>th</sup> graders who'd had the laptops for one year: 43% scored proficient for 9<sup>th</sup> grade; 54% scored proficient for 8<sup>th</sup> grade. (Wagon Mound)

1.2.2. Texico Jr. High 7<sup>th</sup> Grade Science 47% Proficient & Advanced compared to 27% of the rest of the State

#### 1.3. Concepts and Processes (Science)

1.3.1. Of incoming 7<sup>th</sup> graders, 50% were on track to score proficient and 50% were on track to score not proficient.. By contrast, 8<sup>th</sup> graders who'd had the laptops for one year: 29% scored proficient for 8<sup>th</sup> grade and 71% were making progress toward proficiency. (Wagon Mound)

#### 1.4. Reading

1.4.1. Of incoming 7<sup>th</sup> graders, 34% were on track to score proficient, 50% were making progress toward proficiency and 16% were on track to score not proficient. By contrast, 8<sup>th</sup> graders who'd had the laptops for one year: 29% scored proficient for 9<sup>th</sup> grade; 29% scored proficient for 8<sup>th</sup> grade, 29% were making progress toward proficiency; 13% were on track to score not proficient. (Wagon Mound)

1.4.2. Texico Jr. High 7<sup>th</sup> Grade Reading 65% Proficient & Advanced compared to 49% of the rest of the State.

#### 1.5. Language Arts

1.5.1. Of incoming 7<sup>th</sup> graders, 34% were on track to score proficient and 66% were making progress toward proficiency. By contrast, 8<sup>th</sup> graders who'd had the laptops for one year: 29% scored proficient for 9<sup>th</sup> grade; 14% scored proficient for 8<sup>th</sup> grade, 57% were making progress toward proficiency. (Wagon Mound)

2. Targeting Mastery of Content Standards

*"Our Seventh Grade Math scores were some of the top in the State this year. The students working on the laptops were able to see spreadsheets, charts, and graphs with real-time data. This enables our students to be able to "see" math in a more realistic setting, and I believe has contributed to higher scores."*

Mr. Gary Miller – 7<sup>th</sup> Grade Math Teacher

- 2.1. Each content area disciplinary team at the Southwest Secondary Learning Center has developed lessons that engages the students in teams, involves their families through research and presentation activities, and fosters the sequential integration of the available technology provided through the NMLLI and the school.
- 2.2. To support the mastery of the content, teachers have created and innovative ways of combining off-line and on-line lessons that clearly demonstrate the advanced training the staff and faculty has received in the use of integrated technology.
- 2.3. The staff has developed enhanced instructional strategies in each of the New Mexico Content Standards and Benchmarks to focus the lesson and project development process.
- 2.4. All Las Cruces schools had specific instructional goals and teachers were collaborating to create integrated technology units to support student learning and higher achievement. Learning goals were included in each application and data was tracked for the first two years of the program.

3. Effect on Attendance

- 3.1. Truancy, for the most part has never been a problem at our school district. Being a rural school in a very small town, the students usually find it more appealing to attend school. Even so, there has been a big change in attendance this year. Last year we had an average attendance rate of 95% and this year, we are nearing a 98% attendance rate (Wagon Mound)
- 3.2. Tardies dropped from 127 in 04-05 to 46 in 05-06 (Lovington)
- 3.3. Truancies dropped from 37 in 04-05 to 28 in 05-06 (Lovington)

4. Effect on Classroom Participation (Tatum)

*"Computers used with the 7<sup>th</sup> Grade special education students have offered opportunity for the students to experience achievement and demonstrate some sort of success with their writing skills. Computers are non-threatening to students with disabilities, and they can work at a pace consistent to their individual comfort zone."*

Mrs. Peggy Cross – Jr. High Special Ed Teacher

- 4.1. Daily grades have increased for 86% of the students with laptops.
- 4.2. Classroom participation has increased 85% for the students with laptops.
- 4.3. 96% of the staff have given assignments which require use of the laptop
- 4.4. 85% of the students say using a laptop has helped them understand their work at school better
- 4.5. 63% of the students say they are making better grades since having a laptop
- 4.6. Laptop technology enables the teacher greater flexibility with differentiated instruction, which is critical for our middle school students.

5. Effect on Families and Community

*"The Laptop Initiative has injected a boost of pride and excitement into our students at Texico Jr. High. Most of the students that received laptops would never have been able to afford a computer of their own without this initiative. To be able to take a laptop home and share it with their families has instilled a real sense of pride and confidence in our students."* Mr. Rick Stanley – Jr. High Principal

5.1. Alamagordo (Holloman Middle School)

- **Only secondary school in district to meet AYP for 2004-2005 school year.**
- **Knowledge Master's Contest- Students competed on the computer – Won first place in State of New Mexico**
- **World's Fair Research project- Presentation to public**
- **National History Day: Students competed in Regional's (won and advanced), State (won and advanced), and National competition in Washington D.C. (Power point presentations, video presentations, and research)**
- **Journalism class is now publishing a school newspaper having learned formatting techniques on the laptop.**

5.2. Our laptop students and their families are benefiting greatly from having the laptops. The students are sharing their laptops and knowledge with their parents and siblings. With limited resources in a school district our size, it is often difficult for the students to do research. With the laptops, and the use of wireless internet, the students have been able to seek and find the information they need. (Wagon Mound)

5.3. Over 34% of their other family members use the laptops when they take them home. Parents are using the laptops to check their students grades from our web based grade book (Tatum)

5.4. We have had students that started their own Web Design business. They feel that the laptops gave them the desire and ambition needed to get a project like this running. Having equipment that was up to date is a necessity to having a successful education and business. (Cloudcroft)

5.5. Observations by T.J. Parks (Tatum Superintendent)

5.5.1. Technology is the great equalizer. It tears down barriers such as:

- Socioeconomic
- Language
- Learning style
- Enabling teachers to become facilitators and engage students in higher order thinking activities

5.5.2. It has certainly improved our home –school connection. By:

- Giving parents access to students grades and attendance 24-7
- Ability of parents to email staff with questions and or concerns. Many of our parents work 40 miles from our community and are unable to visit school during regular hours



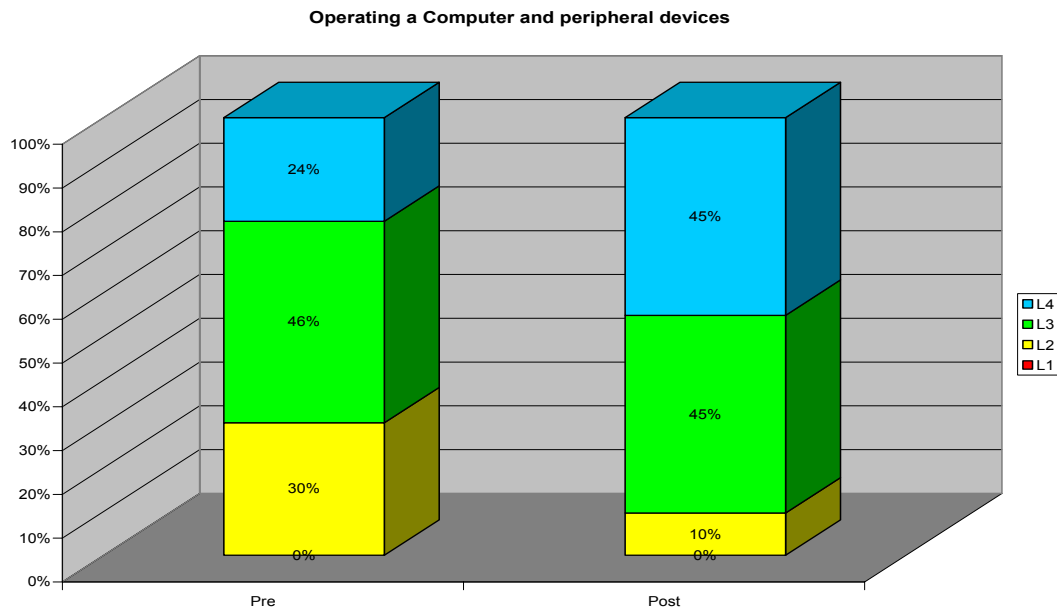
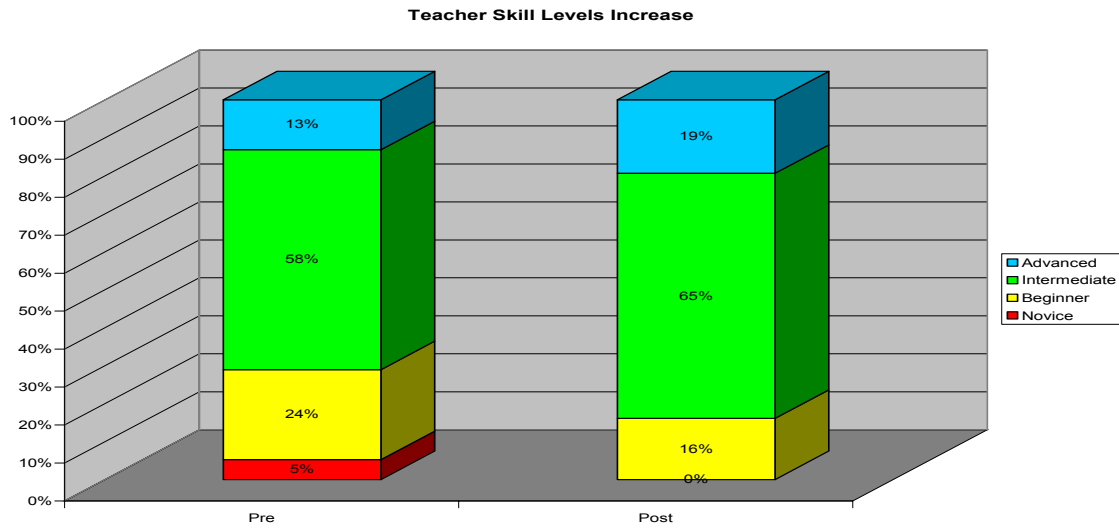
## Response to LFC Laptop Initiative Report - Appendix

### 6. Effect on 21<sup>st</sup> Century Skills

*Lawmakers who drafted NCLB wanted to make sure that all students were exposed to computers and the Internet and understood how to use these tools at an early age, so they would be prepared for a society and a workforce that are increasingly driven by technology. But unlike the law's mandates in the core curriculum areas, there are no testing requirements or accountability measures when it comes to ensuring technology literacy. Instead, states merely must certify that they are working to meet the law's tech-literacy goals before receiving federal Enhancing Education Through Technology (EETT) funds.*

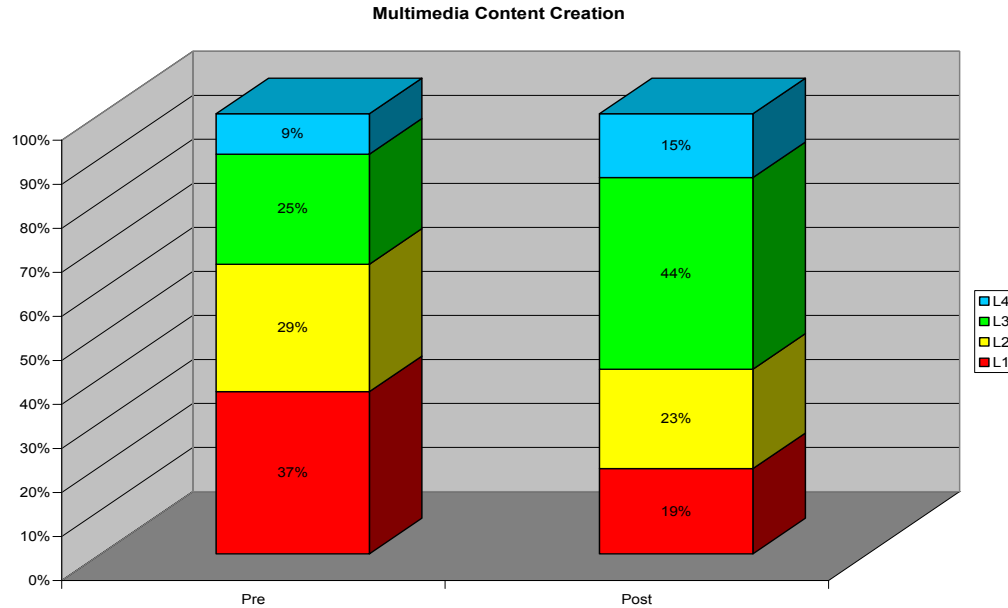
**States Erratic on IT literacy** (eSchoolnews.com)

<http://www.eschoolnews.com/news/showStoryts.cfm?ArticleID=6195>



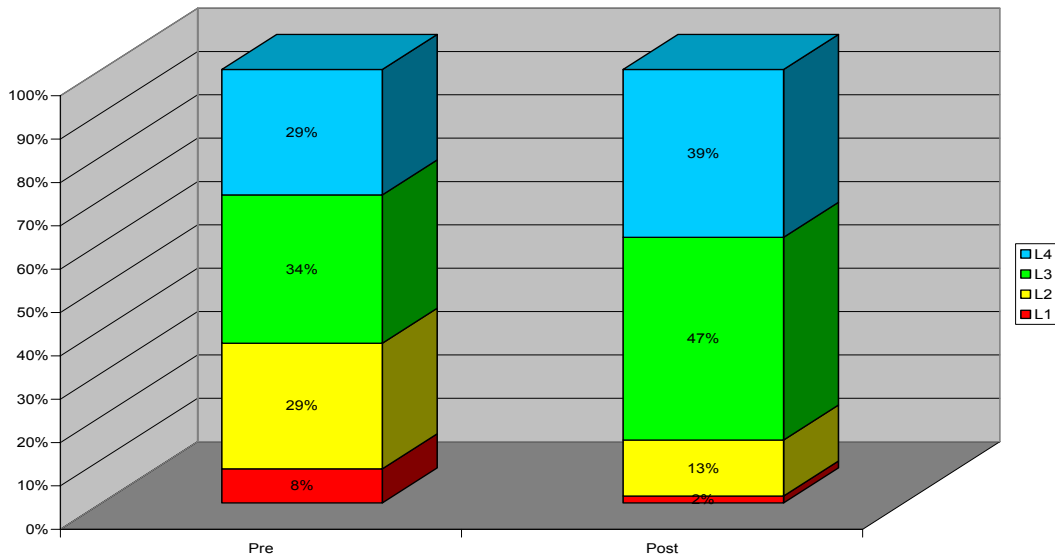
L1	I do not really know how to use computers at all, and get a little confused when people use technical language.
L2	I sometimes need help with basic computer operations like finding a file I want, then opening, saving, and printing it. I sometimes understand what people mean when they use technical language
L3	I can usually find, open, save, and print files independently. I can discard an unneeded file, locate a printer on a network, and send a fax message via modem. I understand the basic technical terms most people use.
L4	I can help other people find, open, save and print their files. I can help others find a printer or a server on a network. I can help colleagues configure their modems to access the Internet and send faxes. I am able to have two software programs open and working simultaneously. I can use technical terminology appropriately.

## Response to LFC Laptop Initiative Report - Appendix



<b>L1</b>	I do not know how to make original multimedia presentations.
<b>L2</b>	I sometimes need help putting a multimedia presentation together, but I have created a slide show in ClarisWorks or PowerPoint or a HyperStudio stack before.
<b>L3</b>	I can create a multimedia presentation without help. I like to use multimedia in the classroom or in other professional presentations. I know how to add sound clips and images.
<b>L4</b>	I can help others design and create multimedia presentations, save them, and export them to the Internet. I can instruct students in visual literacy—the interpretation and display of visual information and data. I can modify graphic images so they fit my presentation.

### APPLYING TOOLS FOR ENHANCING PROFESSIONAL PRODUCTIVITY



<b>L1</b>	I do not use computer programs to create letters to parents or the community, to generate student activity sheets, to calculate student grades, or to create presentations.
<b>L2</b>	I sometimes need help using computer programs to create letters to parents or the community, to generate student activity sheets, to calculate student grades, or to create presentations.
<b>L3</b>	I can and routinely do use computer programs to create letters to parents or the community, to generate student activity sheets, to calculate student grades, or to create presentations. I use electronic address books, email, calendars and other organizers to keep me efficient.
<b>L4</b>	I can help others learn to use computer programs to create letters to parents or the community, to generate student activity sheets, to calculate student grades, to increase proficiency, or to create presentations.