

Reed Union School District Millennial Laptop Project

Final Report

Submitted by

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January 2010

Reed Union School District
Millennial Laptop Project

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Submitted to
Reed Union School District

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Executive Summary

The Reed Union School District (RUSD) implemented the Millennial Laptop Program starting during the 2005-2006 academic year. As part of the program, the district provided laptop computers to Del Mar students in 2005, to all 5th grade students in the Fall 2007 and then to 3rd and 4th grade students in Fall 2008. The district also provided laptop computers to District administrators, teachers, and specialists in 1999. Formal technology training for the faculty has been offered annually since 1999. **Rockman et al** began working with RUSD in Fall 2007 to conduct a two-year evaluation of the Millennial Laptop Project. The evaluation was designed to determine how the laptop implementation progressed, and included feedback from Bel Aire and Del Mar teachers and students, Del Mar parents, and District administrators.

This report presents findings from the evaluation of the 2007-2008 and 2008-2009 academic years. Both quantitative and qualitative feedback from 2007-2008 were presented to the RUSD Board of Trustees in November 2008 as a Year 1 report. This final report focuses on data collected throughout the second year of the study, including comparisons of Year 1 and Year 2 survey data for the participating students, teachers, parents, as well as feedback from 9th graders who graduated from Del Mar in 2008.

Careful planning on the part of the Millennial Laptop Project team enabled this project to meet with success. Goals of the RUSD were that teachers would increase their knowledge of and use of technology to further the curriculum and learning available to district students.

Support from the Superintendent and Board of Trustees along with a willingness to foster a sense of “think outside the box” and “can do” attitudes has resulted in a strong, award winning program that should improve and find even greater success over time.

Overall, the findings from the two-year study suggest that teacher and student technology use and knowledge increased based on laptop experiences at both Bel Aire and Del Mar. Additionally, laptop use enhanced the core academic subjects while motivating and engaging both students and teachers.

Del Mar Teachers

The Del Mar teaching staff believed that they were skilled users of technology and that they were prepared to use technology in instruction. Del Mar teachers reported that they often used their laptop to facilitate their work through communication with other teachers and parents, to manage student information, for research, to post

resources and homework, for organization, and to create instructional materials and homework. Teachers were positive about how technology has impacted their teaching. They reported an increased ability to individualize instruction, a key goal of the program since its inception.

A majority of teachers also felt that technology had influenced many aspects of teaching including:

- clearer parent communication,
- the ability to explore topics in greater depth,
- the ability to make content more relevant,
- the ability to assign project-based work,
- the use of authentic assessment when possible, and
- the ability to develop critical thinking skills.

From November '07 to June '09, teachers reported significant increases in student use of the laptop for academic purposes. Computer use increased for: individualizing instruction and compensating for learning challenges, having students work collaboratively, researching online, designing and giving presentations using multimedia, using visualizations and simulations to work with interactive instructional material, using peripherals such as digital cameras, microscopes, and scanners, submitting homework, drill and practice, and taking quizzes and tests. This was a remarkable impact in a short time period. These positive and impressive changes indicate that Del Mar teachers made the commitment to integrating technology into the curriculum.

Del Mar teachers also reported an increase in student interest in doing schoolwork on the laptops. A majority of responding teachers also reported that, when using the laptops, students helped each other more, were not distracted, focused on schoolwork rather than surfing the Internet, did not share inappropriate material off the Internet, did not waste time when in groups, and did not play games on the computer during class time.

Over 80% of the Del Mar teachers reported that increased teacher preparation time to use the laptops in the curriculum continued to be a challenge. It is well documented from other technology studies that integrating technology into the curriculum is time consuming and will most likely continue to be a challenge. When describing the challenges on the final survey, issues most often mentioned were: the time that it takes to learn new programs, to design curriculum that integrates technology, and student misuse of the laptops.

Bel Aire Teachers

The fourth and fifth grade teachers appeared to be avid, willing users of technology. Their ratings on the impact of technology to their teaching were extremely positive, with 100% of the respondents agreeing that their teaching benefited from using a laptop, that they explored topics in greater depth, and that they used authentic assessment when possible.

Over 70% of Bel Aire responding teachers felt that the laptop program made a difference in the curriculum and in student achievement. Teachers reported that the overall quality of student work and of the education offered to students was better using laptops. They also agreed that student interest, involvement, and engagement in schoolwork increased with the laptops.

Bel Aire teachers reported that they had the necessary technology skills to use computers in the classroom. Data suggest that Bel Aire's technology focus and the District trainings had a positive effect on the Bel Aire staff.

Most Bel Aire teachers used their laptop to communicate, to do research for lessons, to manage student information, to create instructional materials for class use, and to post classroom resources online. About one half of the fourth and fifth grade teachers published student work on the Web, used iCal, and used the laptop to create interactive lessons, digital media presentations, and assessment tools.

These positive ratings suggest that Bel Aire classroom teachers were strong supporters of the laptop program and the use of technology in the curriculum. The Bel Aire principal, as an early adopter of educational technology, had set high expectations for the staff and students. Innovative examples of technology were seen throughout the school.

Bel Aire students were asked by their teachers to use the laptops most often for word processing and editing written material, to research a topic and browse the Internet, to support individualized learning, and to design presentations using multimedia and work with interactive instructional material.

Del Mar Parents

From the Del Mar parents' perspective, students used their laptops most often for homework, research for school, exploring the Internet and to listen to music, and rarely for social networking.

Nearly all (90%) of the parents believed that there was educational value in technology in education. A high percentage (90% or more) of responding parents

rated that their child's use of a laptop in school had a positive impact on: improved computer skills, enjoyment of writing, and in student's pride in his/her schoolwork. Over 80% of responding parents agreed that their child treated their laptop respectfully, and was more likely to revise their work on the laptop.

Parents also mentioned benefits of the program including: opportunities for research, technology knowledge and skills necessary for the future, using the laptop for writing and editing, as an organization tool, developing 21st Century skills, to complete projects and create presentations, for communication, and to instill independence and responsibility.

Concerns focused on: using the laptop for fun instead of for homework, difficulties monitoring the use of the laptop at home, accessing the teacher websites and using the information provided on the website, distraction, exposure to inappropriate material on the Web, usefulness of technology in academics, laptop weight, and student time management.

Students

Comparison data for three sets of students over a period of two years indicated that a renewed focus on technology by the District resulted in significant growth in student use and knowledge of technology. It was impressive to see that by the time students graduate from the Reed District they have increased their use of the laptops to write and take notes, to revise and edit their work, for research, as an organizational tool, for assessment, and to create digital presentations.

All three sets of students agreed that schoolwork was more interesting when using the laptops, that they had a better understanding of their work, that they preferred writing on the laptop, that they used the Internet to research additional information on subjects, that they worked more independently, and that technology helped them be better students. They also agreed that their overall computer skills had improved and that the quality of their schoolwork continued to improve.

Students reported being skilled at word processing, browsing and researching using the Internet, keeping organized using iCal, taking notes, and creating digital presentations using multimedia tools and programs. Students had the ability to participate in wikis and to produce podcasts. Knowing that students have these skills will allow teachers to continue to integrate technology more fully and to continue to provide opportunities within the curriculum to stretch the imagination.

Recommendations for the district's consideration are included in the full report.

Reed Union School District Millennial Laptop Project:

Final Report

Introduction

The Reed Union School District (RUSD) implemented the Millennial Laptop Program at the beginning of the 2005-2006 academic year. As part of the program, RUSD provided laptop computers to Del Mar students in 2005, to all 5th grade students in the Fall 2007 and then to 3rd and 4th grade students in Fall 2008. RUSD provided laptop computers to District administrators, teachers, and specialists in 1999. Formal, organized training for the faculty was offered annually beginning in 1999. **Rockman et al** began working with RUSD in Fall 2007 to conduct a two-year evaluation of the Millennial Laptop Project. The evaluation was designed to determine how the laptop implementation progressed, and included feedback from Bel Aire and Del Mar teachers and students, Del Mar parents, and District administrators.

This report presents findings from the evaluation of the 2007-2008 and 2008-2009 academic years. Both quantitative and qualitative feedback from 2007-2008 were presented to the RUSD Board of Trustees in November 2008 as a Year 1 report. This final report focuses on data collected throughout the second year of the study, including comparisons of Year 1 and Year 2 survey data for Bel Aire and Del Mar students, Bel Aire and Del Mar teachers, Del Mar parents, and survey feedback from 9th graders who graduated from Del Mar in 2008. Details of the study are provided below, in the Method section.

Background on 21st Century Education and Skills

Nearly a decade into the 21st century, schools and districts are becoming more acquainted with what it means to provide a 21st Century Education to students. Business leaders, educators, and organizations have contributed to various efforts to define 21st century skills and standards to assist schools in instructional, technological, and curricular reform. The Partnership for 21st Century Skills, for example, provides a *Framework for 21st Century Learning* that encompasses the “skills, knowledge, and expertise students should master to succeed in work and life in the 21st Century”

(http://www.21stcenturyskills.org/index.php?option=com_content&task=view&id=254&Itemid=120). Key elements of a 21st Century education enhance the core academic subjects while motivating and engaging students through real-world examples and applications. Students learn problem solving and communication skills, interpersonal and information skills, and use 21st Century tools within the

content and context of their school program. Technology is the underlying tool that supports these 21st Century skills.

In the desire of many school stakeholders to evolve toward a model of 21st century education, many schools, districts, and even some states as a whole, have made technology a focus as part of the ongoing effort to improve student learning. A range of models exist in which students are increasingly interacting with technology. One form of technology integration is the one-to-one laptop or ubiquitous computing model. In this model, teachers and students are provided school-purchased computers for the duration of the school year to be used during the school day and also at home (“One-to-One” 2004).

Key Factors in a Successful One-to-One Program

A review of the literature on one-to-one computing initiatives finds that experts generally agree about the elements that need to be in place for a successful implementation of a one-to-one program. The Reed Union School District was careful to institute these elements at the outset of the laptop program. Year one recommendations highlighted a need to refocus on each of the elements in order to retain a highly effective program.

Time. Time for both planning the implementation of a one-to-one program and for changes/growth to occur/show is crucial. Leaders and stakeholders must allow time for the one-to-one program to evolve and meet the goals stakeholders have set for it. Bonifaz and Zucker (2004) describe in detail the necessity to give teachers and students time to familiarize themselves with the technology and related instructional changes. Expectations for a quick increase in test scores or change in pedagogy are not realistic: gradual change is the norm.

Learning Goals. As part of planning a one-to-one initiative, experts agree that setting learning goals and related benchmarks are key to determining whether the initiative is working. To ensure that the large financial outlays for one-to-one programs are met with results, stakeholders must have a vision for what the program will do for teachers, students, parents, and the school (district, or state) as a whole (Bonifaz & Zucker, 2004; Rust, 2003; Penuel, 2005; “K-12” 2005; “One-to-One” 2004; Warschauer 2005/06). Penuel (2005) found that goals for most one-to-one programs clustered around one or more of four areas: (1) academic achievement; (2) access and equity; (3) economic development; (4) transforming instruction.

A frequent goal for the implementation of learning technologies is to increase student achievement; however, researchers caution district and school leaders about the challenge faced in attributing changes in test scores to laptop programs.

One reason is that the skills acquired by students who use laptops are generally not tested on traditional, multiple-choice tests (“One-to-One” 2005; Warschauer 2005/06; Rust, 2003).

Buy-in from Key Stakeholders. As with any program implementation, the willingness of stakeholders to participate in and be open to assisting the progress of the program is necessary for success. In some cases, this might require implementers (i.e., teachers and/or principals) to change their beliefs about teaching and learning. In fostering continued stakeholder support, communication is crucial: the need for good leadership cannot be underestimated and must be fostered at all levels—from the district (and even state) to the teachers (Bonifaz & Zucker 2004). Indeed, Penuel (2005) reports that case studies of one-to-one laptop initiatives show that “teachers’ beliefs about students, the potential role about technology in learning, and the availability of high-quality digital content” affect the extent to which teachers use laptops with students.

Bonifaz and Zucker (2004) provide multiple ways to include parents in the one-to-one laptop initiative:

- Parent Nights where parents are informed about the initiative and its goals;
- Use of email to communicate students’ progress and about the program;
- Involving students by having them demonstrate their skills or projects completed.

Training, training, and more training. The importance of training for administrators and teachers is stated throughout the research on one-to-one computing (Bonifaz & Zucker 2004; Penuel 2005; Warschauer 2005; “K-12” 2005; “One-to-One” 2004). Can students keyboard? Do teachers know where and how to find website and resources that will help them build a new curriculum? Training on the technology itself is important—in fact, giving teachers their own laptops up to a year in advance has proven successful in Henrico County, for one example (Bonifaz & Zucker 2004); however, training on the *integration of technology into the curriculum* is considered more important. Penuel (2005) described the “adaptation stage” found in many schools implementing one-to-one computing:

[teachers] are adapting traditional teaching strategies to incorporate more adult productivity tools and are having students work independently and in small groups, but they have not yet begun to widely implement more student-centered strategies for instruction, such as project-based learning (p. 4).

Training needs to be ongoing and occur in multiple formats and should include time for colleagues to interact informally about how they are using technology (Bonifaz & Zucker 2004; Penuel 2005).

Finally, parents should be included in some form of training as well. In Maine's implementation, parents were required to attend a 90-minute workshop on laptop use before their child could take it home (Bonifaz & Zucker 2004). Since parents are generally responsible for laptop use at home, it behooves schools and districts to train parents on the program logistics, key websites (to be used and/or avoided), and basic skills they may need to assist their children (Bonifaz & Zucker 2004).

Technical Support. On-site technical support is crucial: teachers who are challenged by the day-to-day use of laptops will not use them often. On-site tech personnel is the best-case scenario; however, students can also be trained to assist in one-to-one laptop programs (Bonifaz & Zucker 2004; Penuel 2005; Martinez & Harper 2008).

RUSD adopted the key elements of a 21st Century education as the basis for their Millennial Laptop Program. Time was allocated for planning the overall implementation, learning goals were set, key stakeholders participated at all stages, training for administrators and teachers began prior to students receiving laptops, parents and students were expected to participate in school sponsored workshops, and tech support worked closely with site administrators and teachers as the project developed.

This evaluation study was designed to highlight the challenges of and successes with the program, and to provide recommendations to help decision-makers as the project progressed. Based on recommendations and discussions from the Year 1 report, the Director of Technology set a direction for the District, which included increasing key elements of 21st Century learning to the district's technology goals. Students were to learn problem solving and communication skills, interpersonal and information skills, and to use 21st Century tools within the content and context of their school program.

Method

Participants in the RUSD evaluation study included teachers, parents, and students from Del Mar and Bel Aire Schools. Rockman et al developed all study instruments in collaboration with the superintendent, technology director, and Del Mar and Bel Aire principals. All online surveys were housed on the ROCKMAN *ET AL* server in order to maintain confidentiality of responses.

Teachers

Surveys: Teachers completed an online survey designed to gather information about their technology background, attitudes about and uses of the laptops, and their impressions of students' uses and attitudes about the laptops. Questions were designed to elicit both quantitative and qualitative responses. Prior to the evaluation, a District Teacher Survey had been administered. Variables from that survey were incorporated into the surveys developed for this study.

There were several editing changes from the baseline to the post survey. Del Mar physical education teachers asked for a "Doesn't apply" choice to be added to the scaled questions. This rating was noted in the data tables, but was not included in any calculations. A question on the baseline survey asked teachers about their training method to reach their level of technology use and knowledge; this was changed to the type of technology training they attended in 2008-2009. Another question about teaching with laptops compared to teaching previously without laptops was removed from the final survey, given that most teachers had used laptops for the past 5 years and it was no longer a relevant question. And, several variables were rewritten or added based on feedback collected throughout year one of the study.

Del Mar and Bel Aire teachers were asked to complete the survey as a baseline survey in Fall 2007. Del Mar teachers also submitted end-of-year surveys in June 2008. All 4th to 8th grade teachers took the survey for the final time in June 2009.

Interviews: Over the two years of the study one-on-one interviews were also conducted with two thirds of the Del Mar academic teachers and most of the fourth and fifth grade teachers regarding their experiences with the Laptop Project. The evaluator took care to include teachers of a variety of academic subjects and to interview both veteran teachers and teachers who were completing their first year.

Parents

Parents completed an online survey designed to gather information about their thoughts about the Millennial Program, and to give them an opportunity to give feedback. Parents were informed about the survey through the Del Mar Principal's newsletter in June 2008 and again in June 2009. In June 2008, 93 parent surveys were received from 277 families with children attending Del Mar, resulting in a response rate of 34%. In June 2009, 110 parent surveys were submitted from 312 families, resulting in a response rate of 35%. According to Instructional Assessment Resources a 30% response rate for an online survey is considered average for the

purpose of generalizability. ¹ Therefore, parent feedback from the survey can be viewed as representative for all Del Mar families.

Students

Students completed baseline and end-of-year online surveys for grades 5-8. Evaluators received surveys from 5th grade (Bel Aire) and 6th- 8th grade (Del Mar) in the fall 2007. Final survey data were submitted from fourth, fifth and sixth graders in June 2009. A problem occurred which resulted in seventh and eighth grade students not completing the final survey. In order to gather data from 7th and 8th graders, paper surveys were sent out in July with a cover letter from the Superintendent asking that students complete the survey or that they use the online version and submit it electronically. Forty-nine paper surveys were returned and thirty-six online surveys were submitted by September 2009.

To further understand the impact of the laptop program, 9th graders were contacted in February 2009 through their parents' email address, and asked to take an online survey designed to receive feedback about their technology preparation for high school, and their use of technology in high school. Twenty-seven of 86 graduates (31%) submitted online surveys.

Results

Actions From the Year 1 Findings

A report on Year 1 report activities was presented to the RUSD Superintendent in June 2008 and presented to the Board of Trustees by the researcher in November 2008. The feedback and recommendations from that report became the basis for technology goals and activities for 2008-2009 in the District. The Director of Technology worked diligently to act on as many recommendations as possible.

Highlights of the actions taken were:

- Refocused technology-based professional development efforts
- Addressed needs of the advanced technology using teachers while continuing to meet the needs of all District staff.
- Provided new laptops to all 5 – 8 students
- Placed a printer in each Del Mar classroom

¹ The Instructional Assessment Resources (IAR) Web site is a comprehensive resource to assist in assessing student learning, classroom teaching, and instructional technology.
<http://www.utexas.edu/academic/dia/assessment/iar/teaching/gather/method/survey-Response.php> 2007

- Allowed Director of Technology to lead District technology committee and to initiate district-wide goals for hardware and software
- Purchased and installed Smartboards in Del Mar math and science classrooms
- Parent education offered throughout the school year focused on technology
- Reconfigured password accessibility to classroom websites
- Redesigned RUSD Website to be more accessible and intuitive
- Offered monthly technology mini-trainings at Del Mar

Evaluators met often with the Director of Technology to refine and support these activities. The goals for the Year 2 evaluation were redefined to focus on more specific feedback based on Year 1 data. It was decided that school-based technology events were already well documented by the principals and teachers, and therefore, research efforts would be directed to needs of the staff, the sites, and the parent community, and the future direction of technology in the District. Data reported in June 2008 is included in this report and expanded upon with data gathered during the 2008 – 2009 school year. For the purpose of this report, baseline (pre) data is defined as data from Fall 2007 and final (post) data is from Spring 2009.

When reading the data tables, it is important to recall, that true differences in the pre to post averages shown are only those that are statistically significant and marked by an asterisk. Mean increases or decreases are not considered a true change unless noted. Teachers were given the choice of a “Does not apply” rating on the surveys. The number who chose this rating on the final survey is listed under the percentages in the last column of each table.

Teachers

Del Mar Teacher Survey Results

Twenty-six Del Mar teachers submitted final surveys in Spring 2009. On average Del Mar teachers had taught for 14 years (Range = 3 to 35 years). Fourteen respondents taught 6th graders, twelve taught 7th graders, and 16 taught 8th graders. Fifteen teachers taught academic subjects, thirteen taught electives and one declined to state.

Teachers were asked to rate their general skill level for using laptops for instruction. Over the two years of the study the majority of teachers rated themselves as having advanced or expert skills, only three teachers rated their skills as novice or beginner. These data indicated that the teaching staff believed they had the skills needed to use technology in instruction. These ratings suggest that the Del Mar

teachers were able to learn new programs and to assist other teachers in learning and using technology.

Table 1, below, compares pre-post average ratings for how prepared respondents thought they were to use technology in instruction. Based on first year feedback the decision was made to add an additional variable, therefore, there is no comparison baseline data for the last variable on Web 2.0 tools.

Table 1: Del Mar Teachers' Ratings of Level of Preparedness for Using Technology in Instruction

Technology items	Pre Survey Fall '07 (N = 25)	Post Survey Spring '09 (N = 26)	% who chose rating "3" or "4" on post survey
Maintain a classroom Web site/page.	3.52	3.54	88% na=0
Do basic computer trouble shooting (freezes, lost documents, etc).	2.72	3.38*	83 na=0
Create a complex word processing document. (e.g. brochure).	2.76	3.12	76% na=0
Find, insert and manipulate graphics.	3.00	3.04	64% na=1
Use presentation software (PowerPoint, Keynote).	2.96	3.04	76% na=0
Use iTunes in class assignments/activities.	2.68	3.04	66% na=2
Use peripheral equipment (scanner, video camera, probe).	2.75	2.92	62% na=1
Use iphoto in class assignments/activities.	2.76	2.83	53% na=2
Use data processing programs (e.g., Excel).	2.60	2.68	64% na=1
Create an edited video/iMovie.	2.28	2.48	44% na=1
Use Garage Band in class assignments/activities.	1.96	2.48	47% na=5
Use iDVD in class assignments/activities.	2.08	2.43	43% na=3
Use computational tools (graphing calculator, probeware).	2.21	2.10	33% na=5
Use Web 2.0 tools (Google docs, YouTube, Wikis, blogs)		2.54	53% na=0

Scale: 1 = Not at all prepared, 2 = Somewhat prepared, 3 = Prepared, 4 = Very prepared, na = Doesn't apply
*Statistically significant rating from pre to post survey, $p \leq .05$.

Overall there was little change in how prepared teachers felt they were to use various technologies for the two years of the study.² Del Mar teachers continued to feel most prepared to maintain a classroom Web site/page, to create a complex document, to use graphics, presentation software, iTunes, iPhoto, and peripheral equipment. From the baseline data to the final data, teacher respondents became more competent to handle basic computer trouble-shooting.

Staff remained somewhat prepared to use Garage Band or iDVD in class assignments, to create an edited video/iMovie, or to use computational tools. Based on Year 1 recommendations, staff development in technology increased throughout the '08-'09 school year. The introduction of Web 2.0 tools is an example of the technology training offered with the result that 50% of the teachers reported they felt prepared to very prepared to use these tools. It is anticipated that as training continues teachers will become more prepared to use more advanced technologies.

Use of Laptops

Teachers were asked to rate how frequently they performed various tasks using their laptops. Their average ratings are reported in Table 2, on the following page. As seen in the table, teachers continued to use their laptops most often for communication, to manage information, to research and create homework and instructional activities, and to keep track of dates and activities. Using a 4-point scale of never, not often, often, and most of the time, on average, teachers often (mean = 3.0) used their laptop to facilitate their work through communication with other teachers and parents, to manage student information, for research, to post resources and homework, for organization, and to create instructional materials and homework.

There were no statistical differences between ratings of frequency of use on the pre to post surveys. Overall, Del Mar teachers continued to use the laptops for their professional needs. Professional development trainings in 2008-2009 introduced Web 2.0 tools and skills, therefore, this variable was added to the final survey for the purpose of planning technology focused staff development in the future. Training in utilizing Web 2.0 tools may be having an effect. On the baseline survey, 26% of teachers reported that they “often” to “most or all of the time” published student work on the Web, while on the final survey 40% of the teachers chose those ratings. And on the baseline survey, 49% of teachers reported that they “often” to “most or all of the time” created digital media presentations for the classroom, while 64% chose those ratings on the post survey. Although these

² Evaluators believe that teachers reported their skills at a higher level on the baseline survey than they really were. This would likely account for the lack of increase from pre to post data.

percentages had not reached a level of statistical change, it seems likely that this trend will continue as more training is provided to the staff.

Table 2: Frequency with which Del Mar Teachers Perform Tasks on Laptops

Tasks	Pre Survey Fall '07 (N = 25)	Post Survey Spring '09 (N = 26)	% who chose rating "3" or "4" on post survey
Communicate/collaborate with other Del Mar teachers.	3.68	3.62	95% na=0
Manage student information.	3.48	3.52	84% na=1
Communicate with students' families.	3.52	3.46	91% na=0
Do research that contributes to lesson plans/curriculum design.	3.16	3.40	84% na=1
Post classroom resources for student use.	3.00	3.40	76% na=1
Keep track of due dates and activities on a digital calendar.	3.38	3.38	87% na=1
Communicate with students.	3.00	3.24	80% na=1
Post homework online for student use.	3.13	3.17	73% na=2
Create instructional materials for use in class.	3.29	3.16	72% na=1
Create homework assignments.	3.33	3.14	68% na=3
Create assessment tools for instructions.	3.00	2.80	64% na=1
Communicate with other professionals and experts outside the Reed District.	2.72	2.73	53% na=0
Create lessons for interactive use.	2.68	2.72	60% na=1
Create digital media presentations for the classroom.	2.46	2.72	64% na=1
Publish student work on the Web.	2.09	2.20	40% na=1
Utilize Web 2.0 tools		2.48	40% na=1

Scale: 1 = Never, 2 = Not very often, 3 = Often, 4 = Most or all the time, na = Doesn't apply

Teachers also rated variables focused on how teaching with technology had impacted their teaching. Table 3, on the following page, shows teachers' average ratings for each survey.

Table 3: Del Mar Teachers' Ratings of how Technology Impacted Teaching

Technology Impact	Pre Survey Fall '07 (N = 25)	Post Survey Spring '09 (N = 26)	% who chose rating "3" or "4" on post survey
Parent communication is clearer due to posting homework and grades online.	3.29	3.58	91% na=2
I am able to explore topics in greater depth.	3.26	3.48	96% na=1
I am better able to individualize instruction	2.75	3.27*	91% na=4
I am able to make content more relevant to students' lives.	2.96*	3.26	91% na=3
My teaching has benefited from laptop use.	3.17	3.24	88% na=1
I find myself in the role of facilitator more often than I used to.	2.83	3.14	86% na=4
I feel my teaching is more effective.	2.79	3.09	74% na=3
My workload has increased.	3.29	3.08	70% na=1
I have changed my classroom management practices.	2.88	3.04	78% na=2
My expectations for students' work have increased.	2.88	2.96	61% na=3
It is difficult for me to monitor appropriate laptop use in my classroom.	2.50	2.61	82% na=3
My ability to monitor student progress has improved through the use of Data Director.	2.00	2.31	44% na=10
I assign project-based work.		3.39	86% na=3
I use authentic assessment when possible.		3.04	73% na=3
I am able to develop critical thinking skills within the curriculum.		3.04	73% na=3

Scale: 1 = Strongly disagree, 2 = disagree, 3 = Agree, 4 = Strongly agree, na = Doesn't apply

* Statistically significant change from pre to post survey, $t_{25} = -2.70$, $p < .05$.

On average, the Del Mar teacher respondents continued to be positive about how technology has impacted their teaching. Year 1 Teacher respondents increased their ability to make content more relevant to their students' lives from Fall '07 to Spring '08. Year 2 analyses indicated that teachers increased their ability to individualize instruction through the use of technology from Fall '07 to Spring '09.

Individualizing student needs has been a key goal of the program since it's inception, it is gratifying to see that teachers are meeting that goal supported by technology.

An impressive number of the respondents on the final survey agreed or strongly agreed that laptops helped make parent communication clearer (91%), that they were able to explore topics in greater depth (96%), that they were better able to individualize instruction (91%) and that they were making content more relevant for students (91%).

In Year 1, 83% percent of the teacher respondents "agreed" or "strongly agreed" that their workload had increased due to technology, on the final survey 70% of respondents "agreed" or "strongly agreed" that their workload had increased. This may be an indication that as teachers continue using technology "increased workload" will become less of an issue. One teacher wrote in a comment section, "While it does take more preparation time, once Keynotes, websites and wikis are established, I think it does make life easier in the long run. They are resources that can be adapted and reused."

Three additional variables were added to the final post survey, and therefore have no pre-data for comparison. The Director of Technology is focusing on developing 21st Century skills for teacher trainings and these variables gathered information for use in future planning.

In an open-ended section on the survey, teachers were asked to share some successes they experienced due to the one-to-one laptop project. A major shift occurred in the types of examples shared by the teachers between the first and second years of the program. The first year examples of successes focused on student research skills, and using podcasts, and blogs to share projects. On the final survey the success examples showed an increased use in nearly all subject areas, greater depth of understanding and use of more advanced technologies, and a willingness to share projects online. Examples of teacher successes follow:

Students learned how to use a program called Scratch which teaches them computer programming so they can produce animations, games, and interactive art. Students had to develop an idea for a game and implement it in Scratch, which required critical thinking and problem solving. It was a joy to see how different each game was and how students went about figuring out how to make them work. They worked together, shared ideas, and gave each other feedback.

Students have done 2 research projects along w/keynote presentations -

Student skill practice thru various websites to practice math skills.

Our MATHOGRAPHY project - in the past was barely legible. WORD made them a JOY to read. Leadership presentations are POLISHED and enhanced by Keynote (and in some rare cases - still PowerPoint.) GRAPHER is FAB for everyday math work!

Students researched Arthurian legends and then created their own using media - imovie, PPT, Keynote.

End of year Timeline Project using the past tense. Students made a timeline of their lives in Spanish using a presentation application - mostly PowerPoint or Keynote.

Nutrition Unit where students research a controversial issue in nutrition online and develop a presentation such as Power Point, Keynote, IMovie, etc. to present their findings to the class.

The entire nanotechnology unit: Hero's Reality

<http://my-ecoach.com/project.php?id=14287>

CURRENT SOCIAL ISSUES RESEARCH PROJECTS - Researched a topic of their choice (in depth), with constant wiki communication, wrote persuasive essay/letter to identified leader in field of their topic, created a persuasive digital presentation on their topic - posted all three for view and feedback from peers on wiki.

In 6th and 7th grade we have found iPhoto to be invaluable in creating self portraits. It allows us to work with the contrast, color and cropping to make stronger images. In 7th grade we take a digital image and work with it to make it so high contrast that there is nothing but black and white. This helps us because we can transfer this image to linoleum to create a block print. iPhoto has helped to streamline this process and actually do it better.

I was able to present some interesting streaming video clips on alcohol and drug abuse that I downloaded on my laptop. Our lunchtime activities survey was created and conducted via the one-to-one laptop program and resulted in some valuable information that will help us next year.

- *Civil War Project -*
<http://delmarhistory8.wikispaces.com/Civil+War+Project>
- *Andrew Jackson Debate -*
<http://delmarhistory8.wikispaces.com/Jackson%27s+Indian+Policy>
- *War of 1812 Project -*
<http://delmarhistory8.wikispaces.com/War+of+1812+Immersion>
- *Spinning History Project -*
<http://delmarhistory8.wikispaces.com/Spinning+History+Project>

Del Mar teachers also mentioned using the laptops for research and how that research resulted in final projects that incorporated images, links to additional information and in presentations to the class. Although the quantitative data for teacher use of technology did not show many significant increases, qualitative feedback demonstrated a major change in advanced skill use, curriculum integration, and in a more positive attitude about using technology.

Teachers hired for the 2008 school year mentioned in interviews that the District technology program was an important factor in their decision to apply for a position at Del Mar. New teachers were experienced users of technology in the classroom and stated that the District's program was an added enticement. A newly hired history teacher was enthusiastic about having the one-to-one program, "I am excited to create web quests, use wikis and video, and have the students do 'book blogs' as a new form of book review." This teacher was also interested in helping to create a grade level calendar to post all homework and test dates for all 6th grade classes.

Student Use of Laptops

Del Mar teachers rated how often their students used their laptops individually or in groups. Table 4, on the next page, shows the pre/post averages and the percent of teachers choosing each response choice.

As the table shows, the majority of teachers reported that their students tended to work on their laptops independently, more often than in groups. However, teachers increased the amount of time that students collaborated using the laptops in small groups of 3 or more. These data suggest that teachers were assigning more project-based work, a key component of 21st Century teaching. As previously reported in Table 3, teachers reported that they assigned project-based work (mean = 3.35 on scale of 1 to 4), which supports this important change in how teachers assign work to the students, how the classroom is organized, and in pedagogy. This suggests a change in attitude of technology integration and comfort on the part of the teachers to increase the use of collaboration in the classroom setting.

Table 4: Del Mar Teachers' Ratings of the Frequency of Student Work on Laptops Alone or in Groups

	Pre Survey Fall '07 (N = 25)	Post Survey Spring '09 (N = 26)		Never/Rarely	Sometimes	Often/Always
Independently	3.52	3.83 na=1	Pre	18%	17%	65%
			Post	16%	8%	75%
Collaborate using 1 or more laptops with one other student.	2.83	3.40 na=1	Pre	32%	37%	29%
			Post	20%	28%	62%
Collaborate using 1 or more laptops in small groups of 3 or more students.	2.25	3.12* na=1	Pre	62%	25%	12%
			Post	32%	28%	40%

Scale: 1 = Never, 2 = Rarely, 3 = Sometimes, 4 = Often, 5 = Always, na = Doesn't apply

* Statistically significant change from pre to post survey, $p < .05$.

Teachers rated the frequency with which students used their laptops for different types of class work. Table 5, on the following page, shows teachers' average ratings from the Fall'07 and Spring '09 surveys, and the percent of respondents choosing rating 4 or 5, on a 5-point scale. The variable, Using Web 2.0 tools, was added to the final survey as these tools had been a focus of the teachers' technology training during the '08-'09 school year.

Data in Table 5 show that from November '07 to June '09 there was a significant increase in student use of the laptop for academic purposes in nearly one half of the variables listed. These positive changes indicate that teachers made the commitment to integrating technology into the curriculum. Increases in student use reported from the pre to post survey occurred in: individualizing instruction and compensating for learning challenges, having students work collaboratively, online research, designing and giving presentations using multimedia, using visualizations and simulations to work with interactive instructional material, using peripherals such as digital cameras, microscopes, and scanners, submitting homework, drill and practice, and taking quizzes and tests. This was a remarkable impact in a short time period. Without the support of the administration to be willing to address the technology needs, and the dedication by the teaching staff to embrace technology, these changes would not have occurred. There will always be room for improvement, specifically it would be nice to see more teachers incorporating many of these advanced uses of technology on a more regular basis. Yet, these ratings suggest that improvement will continue.

Table 5: Del Mar Teachers' Report of Academic Use of the Laptops by Students

Academic Uses of Laptops	Pre Survey Fall '07 (n = 25)	Post Survey Spring '09 (n = 26)	% who chose rating "4" or "5" on post survey
Keeping track of schedules, due dates, etc. (Calendar).	4.33	4.63	91% na=2
Word processing.	4.13	4.38	83% na=2
Supporting individualized learning.	3.22	4.29*	75% na=5
Editing written material.	3.88	4.25	78% na=2
Browsing or searching the Internet	3.63	4.22	73% na=3
Working collaboratively with other students.	3.30	4.17*	77% na=3
Researching a topic using online resources.	3.20	4.17*	74% na=2
Communicating using email.	3.42	4.08	74% na=2
Compensating for a disability or learning challenge.	2.83	4.05*	70% na=6
Taking notes.	3.33	4.04	68% na=3
Working with interactive instructional material.	2.63	3.95*	76% na=4
Designing and giving presentations using multimedia.	3.00	3.78*	56% na=3
Using peripherals (digital camera, microscope, scanner, etc.).	2.54	3.73*	62% na=4
Submitting homework assignments.	2.78	3.68*	62% na=4
Creating culminating projects to show what they have learned.	2.96	3.68	58% na=4
Using visualizations or simulations online.	2.58	3.59*	49% na=4
Drill and practice	2.29	3.23*	53% na=4
Collecting and analyzing data.	2.50	3.14	40% na=4
Taking quizzes or tests.	2.38	3.14*	37% na=5
Creating visual displays of data/information (graphs, charts, maps, etc.).	2.50	3.13	47% na=3
Communicating with other students/professionals/experts world wide	2.29	2.94	35% na=4
A reward for finishing other work.	1.92	2.65	40% na=5
Working with spreadsheets.	2.13	2.48	18% na=5
Using Web 2.0 skills (Google docs, wikis, blogs)		3.33	56% na=4

Scale: 1=Never, 2=Rarely, 3=Once a week, 4=A few times a week, 5=Often, na=Doesn't apply

*Statistically significant change from pre to post survey, $p < .05$.

Teachers also rated items about their students' general attitude and use of laptops. There were no differences in teacher ratings between the pre and post surveys. Table 6 shows the pre and post average ratings and the percent of teachers on the final survey who agreed (rating = 3) or strongly agreed (rating = 4) with each statement.

Table 6: Del Mar Teachers' Ratings of Student Attitudes and Use of Laptops

Students' Attitudes and Uses of Laptops	Pre Survey Fall '07 (N = 25)	Post Survey Spring '09 (N = 26)	% who chose rating "3" or "4" on post survey
Are more interested in doing schoolwork on the laptops.	2.87	3.24*	96% na=5
Help each other more.	2.79	3.05	90% na=4
Treat the laptops respectfully.	2.67	2.87	82% na=3
Cheat more easily (e.g., copy other's work, messaging answers, etc.).	2.42	2.59	60% na=4
Waste time when we work in groups on the laptops.	2.26	2.43	39% na=5
Play non-academic computer games during class time.	2.29	2.38	43% na=4
Share inappropriate material off the Internet.	2.46	2.35	30% na=6
Surf the Internet instead of doing their work.	2.46	2.35	39% na=3
Are very distracted.	2.42	2.14	18% na=4

Scale: 1 = Strongly disagree, 2 = disagree, 3 = Agree, 4 = Strongly Agree, na = Doesn't apply

*Statistically significant change from pre to post survey, $p < .05$.

As the table above shows, nearly all respondents (96%) agreed or strongly agreed that students were more interested in schoolwork when using laptops. A high percentage of the teachers also agreed that students helped each other more and treated the laptops respectfully. Several variables focused on potential negative uses of the laptops. Other than cheating more easily, fewer than half of the respondents agreed or strongly agreed that the negative behaviors occurred.

Technology Challenges for Teachers

Teachers were also asked to rate their level of agreement on potential challenges to the Millennial Project. Table 7 shows teachers' average responses for each variable, and the percentage of those respondents who agreed or strongly agreed on the final post survey. Recall that the variables were written as challenges, i.e. in negative terms, therefore, a lower average indicates that the variable was not problematic.

Table 7: Del Mar Teacher Ratings of Challenges to the Millennial Project

A challenge to the Millennial Project is...	Pre Survey Fall '07 (n = 25)	Post Survey Spring '09 (n = 26)	% who chose rating "3" or "4" on final survey
Increased teacher preparation time.	3.08	3.13	83% na=2
Printing issues.	3.17	2.88	82% na=2
Increased discipline problems as a result of technology.	2.67	2.48	44% na=1
Laptop weight.	2.28	2.48	40% na=1
Lack of opportunity for professional collaboration.	2.30	2.46	41% na=2
Laptops are a distraction that encourage unauthorized uses of technology.	2.58	2.42	41% na=2
Inequalities in home Internet access.	2.61	2.38	37% na=2
A lack of digital or online content aligned with curriculum objectives.	2.54	2.30	48% na=2
Difficulties with classroom management associated with laptop use.	2.42	2.21	33% na=2
Data loss.	2.21	2.08	20% na=2
Lack of professional development focused on integrating laptops into the curriculum.	2.33	2.04	33% na=2
Frequent technical problems hinder learning.	2.29	2.00	8% na=3
Lack of evidence that laptops are an improvement for teaching and learning.	2.25	1.96	25% na=3
Students' lack of adequate technology literacy.	2.13	1.96	16% na=2
Reliability of the wireless network.	2.17	1.88	16% na=2
It is difficult to integrate computer activities into my lessons.	2.04	1.84	24% na=1
Lack of tech support.	2.21	1.83*	8% na=2
I don't feel adequately prepared to teach with technology.	1.88	1.72	20% na=1
Class periods are too short to take full advantage of laptops.	1.96	1.63*	4% na=2
Lack of professional development focused on technology tools.		2.22	34% na=2
Lack of technology hardware (laptops, printers, smartboards, etc.)		1.83	20% na=1

Scale: 1 = Strongly disagree, 2 = Disagree, 3 = Agree, 4 = Strongly agree, na = Doesn't apply

* Statistically significant change from pre to post survey, $p < .05$.

Other than two variables, the vast majority of teachers did not find many challenges to using the laptops. The two challenges considered problematic by most of the teachers were, increased teacher preparation time (83%) and printing issues (82%). The continued high rating for printing was confusing. Feedback from teachers from the Year 1 data resulted in a printer being placed in each classroom in the fall '08 so that issues of shared printing, student printing problems, and planning when to use a printer were all alleviated. Two follow-up comments by teachers who taught electives did focus on printing, one requested a color printer; the second stated, "Still just the lack of printers". Given that there were no other comments about printers, this rating continues to be confusing and will require additional investigation.

Two variables had means that decreased from the pre to the post survey, meaning that they became less of a challenge for teachers. In positive terms, teachers felt that technology support was better than in the previous year, and that class periods were not too short to use the laptops effectively. Greater emphasis was placed on technology support and response time to teacher technology issues during the second year of the study based on recommendations from Year 1 feedback. One teacher commented, "Maintenance issues were LOW this year - KUDOS!!!!!!!"

Teachers were then asked to write a comment on the most challenging parts of having/using laptops. Sixteen teachers responded, seven of them taught academic subjects and nine taught electives. When describing the challenges on the final survey, issues most often mentioned were: the time that it takes to learn new programs, to design curriculum that integrates technology, and student misuse of the laptops.

Some representative comments and suggestions from teachers about what they found to be the most challenging are included below:

Not having a software program that allows me to monitor my student's screens and freeze them really made classroom management a challenge, especially when students use laptops every day. They tend to get off task at times and it is important that I can immediately address this.

At times, students can get distracted on their computers. Having remote access to their laptops would greatly improve classroom management for me.

As the year progresses, students feel more comfortable with the laptops and so treat them as if they are their own.

Bringing all staff along in use, applications, changing and developing curriculum delivery.

Prep periods are designed to facilitate collaboration, but there's no way to make this perfect. I wish there were a few more opportunities to collaborate with certain staff with whom I have no prep period without feeling like an imposition.

Mainly the problem is the set up time for any new idea. It takes time. And I feel like that isn't necessarily accounted for in our collaboration time and at the same time it doesn't prove any more successful in educating our children than traditional models.

Teachers need more assistance and motivation to think-outside the box and transform their teaching methods to further integrate technology into their instruction (constructivist teaching, focusing on the learning process instead of broadcasting information, project-based learning, etc.) They are hungry for the training and professional development that will allow them to enter deeper into the water, but many have not been given the amount of time necessary to do so.

An issue of Cyberbullying was raised in Year 1 feedback and questions on this topic were added to the final survey. Teachers were asked if they were aware of any cyberbullying at Del Mar and if they felt they could handle this issue. Two-thirds (17) of respondents were aware of it and felt able to handle this issue with students.

General Comments and Suggestions by Teachers

Teachers were also asked to include additional general comments about the laptop program. Few teachers took the opportunity to add any other comment; those who did wrote mostly positive comments. Comments below were written by Del Mar teachers.

Look at and question current teacher practice in an atmosphere that encourages ALL to move forward in their use!

I LOVE THE LAPTOPS! The one-to-one program is one of the appealing things about working here! I feel like my students' work is higher quality, and it gives us more options for projects, research and assessment.

I think some students have a difficult time transporting computers back and forth from home to school especially when they have to carry other things like instruments and books.

I think the laptop project is awesome when I see what the students are doing in their classes and with projects on the computer.

Bel Aire Teacher Survey Results

Twenty-six Bel Aire teachers submitted baseline surveys in the Fall 2007. Respondents represented 3rd, 4th, and 5th grades. On average, respondents had taught for twelve years. In the Spring 2009, the librarian and ten classroom teachers, representing 4th and 5th grades, submitted final online surveys. Third grade teachers did not take the final survey. On average, Bel Aire teachers who submitted the final survey had taught for nine years. The fourth grades, prior to the 2008-2009 school year, had shared one laptop cart for four classes. Beginning in the Fall '08, this changed to 1 to 1 laptops for each fourth grader.

Use of Laptops

Teachers were asked to rate their general skill level for using laptops for instruction. Over the two years the majority of teachers rated themselves as having advanced or expert skills, only two teachers rated their skills as beginner on the baseline data and no teachers rated their skills as novice or beginner on the final data. These data suggest that the teaching staff felt they had the skills needed to use technology in instruction. These ratings suggest that the Bel Aire teachers were able to learn new programs and to assist other teachers in learning and using technology.

Table 8, on the following page, shows how teachers rated their technology preparations for defined tasks. The variable "Use Web 2.0 tools" was added to the post survey and is listed as the last variable in the table.

Table 8: Bel Aire Teacher's Ratings of Level of Preparedness for Using Technology in Instruction

	Pre Survey Fall '07 (N = 26)	Post Survey Spring '09 (N = 11)	% who chose rating "3" or "4" on post survey
Do basic computer trouble shooting. (freezes, lost documents)	3.27	3.70	100%
Maintain a classroom Web site/page.	3.38	3.70	100%
Use iPhoto in class assignments/activities.	3.08	3.70	100%
Use presentation software. (PowerPoint, Keynote)	3.32	3.50	90%
Create a complex word processing document. (e.g. brochure)	3.00	3.30	90%
Find, insert and manipulate graphics.	3.12	3.20	90%
Use iTunes in class assignments/activities.	2.50	3.00	80%
Use peripheral equipment. (scanner, video camera, probe)	2.81	2.90	80%
Use Garage Band in class assignments/activities.	2.27	2.90	70%
Use data processing programs. (Excel)	2.62	2.80	70%
Use iDVD in class assignments/activities.	2.12	2.80	60%
Create an edited video/iMovie.	2.38	2.60	40%
Use computational tools. (graphing calculator, probeware)	1.81	2.00	30%
Use Web 2.0 tools (Google docs, YouTube, wikis, blogs).		2.60	40%

Scale: 1 = Not at all prepared, 2 = Somewhat prepared, 3 = Prepared, 4 = Very prepared na = Doesn't apply

All percentages of teachers choosing either "prepared" or "very prepared" were higher for every variable in Spring '09 than in Fall '07. In fact, on the baseline survey there were no variables with 90% to 100% of the teachers agreeing that they were prepared. Although there were no statistical increases from the pre to post ratings, these data suggest that Bel Aire's technology focus and the District trainings had a positive effect on the Bel Aire staff.

One question on the baseline survey that was removed from the final survey, as it was no longer relevant, focused on comparing teaching prior to using laptops and since using them in the classroom. Although there is no pre-post comparison the ratings were thought to be interesting since fifth grade teachers began using the

laptops the first year of the study. These data were not reported in the Year 1 report. Table 9 shows the average ratings and the percent of teachers choosing agree or strongly agree. It is apparent from the data below that Bel Aire teachers felt that the laptops for students were an asset to the curriculum and for student learning.

Table 9: Bel Aire Teacher’s Ratings Comparing Teaching with Laptops to Teaching without Laptops

	Average Fall '07 (N = 26)	Percent who chose rating "3" or "4"
Students have greater access to current information.	3.48	95%
Students explore topics in more depth.	3.26	88%
Students get more involved with in-depth research.	3.26	91%
The quality of my students’ education has improved.	3.17	83%
Students are more productive in class.	3.15	84%
Students’ overall quality of work is better.	3.05	77%
Students revise their work more.	3.05	82%
Students help other students more.	3.04	79%
Student engagement in schoolwork has increased.	3.04	78%
Students are better able to work independently.	3.04	78%
Students are more involved in class activities.	3.04	82%
Students are more interested in class.	3.00	84%
Students take more initiative outside of class time.	3.00	77%
Students’ writing quality is better.	3.00	72%
Students are better organized.	3.00	77%
Student participation has increased.	3.00	78%
Students spend more time giving presentations.	2.95	73%
Students are better able to evaluate information.	2.87	73%
Students interact with teachers more.	2.76	66%
Students come prepared to class.	2.74	63%

Scale: 1 = Strongly disagree, 2 = disagree, 3 = Agree, 4 = Strongly agree

Few Bel Aire teachers rated any of the variables negatively. The lowest rated variables (less than 70% positive rating) may not be relevant to Bel Aire as 5th graders commonly interact with their primary teacher and wouldn’t necessarily be more prepared in class since they did not take the laptop home as do Del Mar students. Fifth grade teachers, as a sub-group, were extremely positive about teaching with the laptops, rating all the variables in the positive range.

Table 10, on the next page, shows how often teachers performed various tasks when using the laptop. Most Bel Aire teachers used their laptop to communicate, to

do research for lessons, to manage student information, to create instructional materials for class use, and to post classroom resources online. About one half of the fourth and fifth grade teachers published student work on the Web, used iCal, and used the laptop to create interactive lessons, digital media presentations, and assessment tools. The one statistical change was a decrease in teachers creating assessment tools for instruction. Because there were no comments about this variable, it is difficult to discuss this decrease.

Table 10: Frequency with which Bel Aire Teachers Perform Tasks on Laptops

	Pre Survey Fall '07 (N = 26)	Post Survey Spring '09 (N = 11)	% who chose rating "3" or "4" on post survey
Communicate/collaborate with other Bel Aire teachers.	3.92	3.82	100%
Communicate with students' families	3.72	3.64	100%
Manage student information.	3.35	3.45	91%
Do research that contributes to lesson plans/curriculum design.	3.68	3.36	100%
Create instructional materials for use in class.	3.58	3.27	90%
Post classroom resources for student use.	2.92	3.09	81%
Communicate with other professionals and experts outside the Reed District.	2.77	2.91	63%
Publish student work on the Web.	2.79	2.73	54%
Keep track of due dates and activities on a digital calendar.	3.16	2.73	54%
Create lessons for interactive use.	2.92	2.73	54%
Create digital media presentations for the classroom.	2.80	2.64	54%
Create assessment tools for instruction.	3.12	2.55*	54%
Create homework assignments	2.86	2.20	30% na=1
Communicate with students.	2.24	2.09	9%
Post homework online for student use.	2.04	1.89	11% na=1
Utilize Web 2.0 technology (e.g. Google docs, wikis, YouTube)		2.56	44% na=1

Scale: 1 = Never, 2 = Not very often, 3 = Often, 4 = Most or all the time, na = Doesn't apply

* Statistically significant change from pre to post survey, $p < .05$.

Teachers were then asked to rate how teaching with technology had impacted their teaching. Table 11, below, shows average ratings on the pre and post surveys, and the percentages of respondents who rated each variable as "agree" or "strongly agree."

Table 11: Bel Aire Teacher's Ratings of How Technology Impacted Teaching

	Pre Survey Fall '07 (N = 26)	Post Survey Spring '09 (N = 11)	% who chose rating "3" or "4" on post survey
My teaching has benefited from laptop use.	3.38	3.64	100%
I am able to explore topics in greater depth.	3.46	3.45	100%
I am able to make content more relevant to students' lives.	2.92	3.30	90% na=1
I find myself in the role of facilitator more often than I used to.	2.68	3.27*	81%
I am better able to individualize instruction.	2.96	3.27	90%
I feel my teaching is more effective.	2.79	3.20	90% na=1
I have changed my classroom management practices.	2.75	3.10	80% na=1
My expectations for students' work have increased.	2.68	2.90	70%
My ability to monitor student progress has improved through the use of Data Director.	1.86	2.71*	71% na=4
My workload has increased.	2.77	2.45	45%
Parent communication is clearer due to posting homework and grades online.	2.47	2.29	43% na=4
It is difficult for me to monitor appropriate laptop use in my classroom.	2.00	1.73	0
I assign project-based work.		3.33	88% na=1
I am able to develop critical thinking skills within the curriculum.		3.10	90% n=1
I use authentic assessment when possible.		3.10	100% na=1

Scale: 1 = Strongly disagree, 2 = disagree, 3 = Agree, 4 = Strongly agree, na = Doesn't apply

The fourth and fifth grade teachers appeared to be avid, willing users of technology. Their ratings on the impact of technology to their teaching were extremely positive with 100% of the respondents agreeing that their teaching has benefited from using a laptop, that they explored topics in greater depth, and that they used authentic assessment when possible. All teacher respondents also agreed that it was not difficult to monitor appropriate laptop use in the classroom.

Two variables increased from the pre to post data. Teachers felt their role changed more to a facilitator than before using the laptops. Educational research continues to support the theory that students learn better when they participate in their own learning with the teacher's role changing to the "guide on the side." This change indicated that teachers were facilitating learning rather than simply directing it.

Responding teachers also increased their ability to monitor student progress by using Data Director. Data Director was new to the District last year and this increase suggested that the program was helping.

Overall, these truly positive ratings suggest that Bel Aire classroom teachers were strong supporters of the laptop program and the use of technology in the curriculum. The Bel Aire principal, as an early adopter of educational technology, had set high expectations for the staff and students. Innovative examples of technology were seen throughout the school.

Teachers added comments to further illustrate laptop successes. Examples of their comments follow.

Online research in the library is far more effective due to students having their own laptops and being able to go to the reliable, trustworthy sites we provide them, such as online databases, or pre-selected websites that have been checked by teachers for accuracy. We are teaching students to be effective, wise consumers and producers of research and information. The laptops make this much more efficient and personalized for each student. (Librarian)

In groups, students created Keynote presentations on each of the five Blue Zones. They then exported the slides to GarageBand and created podcasts of their presentations. The podcasts were posted on the classroom (.mac) website. (5th grade)

Students created persuasive colonial brochures using the program Pages. The researched online for information using our school website link "Good websites for kids".

We utilized I-stop motion, iMovie and iDVD to create claymation movies from the books we read in book clubs. We also created a pages document to display pictures we took with the digital microscopes and describe the brine shrimp science experiment we conducted. (4th grade)

Research for California native bird/animal study. I created a web page with links for students to use, including sites with bird calls and facts. Students created a report and project display board (the old fashioned way - pencil, paper, art, with some typed up from laptops.) Students who finished early were able to create Power Points or Key Note presentations, linking bird calls. (4th grade)

Student Use of Laptops

Table 12 displays how often students work alone on the laptop, with another student, or in groups of 3 or more. Project-based work is usually designed for small groups.

Table 12: Bel Aire Teachers' Ratings of the Frequency that Students Worked on Laptops Alone or in Groups

	Pre Survey Fall '07 (N = 26)	Post Survey Spring '09 (N = 11)		Never/Rarely	Sometimes	Often/Always
Independently	4.00	4.27 na=2	Pre	0	26%	73%
			Post	0	9%	91%
Collaborate using 1 or more laptops with one other student.	3.39	3.73 na=2	Pre	17%	26%	56%
			Post	9%	9%	82%
Collaborate using 1 or more laptops in small groups of 3 or more students.	2.74	3.27 na=2	Pre	39%	26%	35%
			Post	9%	54%	36%

Scale: 1 = Never, 2 = Rarely, 3 = Sometimes, 4 = Often, 5 = Always, na = Doesn't apply

It appears that most students either worked independently on their laptop or with one other student. Students were less likely to work in small groups of 3 or more. This is not meant to imply that project-based work was not being done. This type of group work occurs intermittently, and the ratings reflect this (Sometimes = 3.0).

Teachers were asked to rate how often students used their laptop for academic work (Table 13, below). The variable, Using Web 2.0 tools, was added to the final survey as these tools had been a focus of the teachers' technology training during the '08-'09 school year. One variable had a mean increase from the pre to the post survey – students used the computer more often to take quizzes and tests.

Table13: Bel Aire Teacher’s Ratings of Academic Use of the Laptops by Students

	Pre Survey Fall '07 (N = 26)	Post Survey Spring '09 (N = 11)	% who chose rating “4” or “5” on post survey
Word processing.	4.17	4.55	81%
Edit written material.	3.96	4.18	64%
Researching a topic using online resources.	3.63	4.09	72% na=1
Supporting individualized learning.	3.76	4.09	64% na=2
Designing presentations using multimedia.	3.48	3.91	72%
Working with interactive instructional material.	3.50	3.82	72%
Browsing or searching the Internet.	3.46	3.82	63%
Working collaboratively with other students.	3.48	3.73	63%
Creating culminating projects to show what they have learned.	3.14	3.73	63%
Drill and practice.	3.09	3.70	60%
As a reward when other work is finished.	3.05	3.70	50% na=1
Compensating for a disability or learning challenge.	3.14	3.22	44%
Collecting and analyzing data.	2.67	3.18	36%
Using peripherals (digital camera, microscope, scanner, etc.).	2.68	2.82	9%
Taking quizzes or tests.	2.00	2.82*	27%
Creating visual displays of data/information (graphs, charts, maps)	2.15	2.55	18% na=1
Using visualizations or simulations online.	2.10	2.55	18%
Taking notes.	2.25	2.45	18%
Communicating with other students/professionals/experts world-wide.	1.76	2.18	9%
Working with spreadsheets.	1.90	2.10	10%
Keeping track of schedules, due dates, etc. (Calendar)	1.76	1.90	20% na=1
Submitting homework assignments.	1.68	1.80	0
Using Web 2.0 skills (Google docs, wikis, blogs).		2.18	0

Scale: 1 = Never, 2 = Rarely, 3 = Once a week, 4 = A few times a week, 5 = Often, na = Doesn't apply

Two-thirds of the variables listed in the table above were rated as occurring once a week or more – a strong indication that technology has been integrated into the curriculum. Bel Aire students were asked to use the laptops most often for word processing and editing written material, to research a topic and browse the Internet, to support individualized learning, and to design presentations using multimedia and work with interactive instructional material.

Fourth grade teachers described the change from tech carts to the 1-to-1 laptops as having “a big impact” because they could use the computer “even if only 15 minutes became available.” One teacher mentioned that on short notice she would have the children finish projects, practice typing skills, or use the Accelerated Reader program.

From observations it was apparent that Bel Aire teachers had integrated technology into the curriculum and the daily life of the students. Teachers displayed student work that integrated technology, and classrooms were lively with student projects and collaboration. It was common to hear students exclaim, “This is so cool!”

Teachers were also asked to rate student attitudes and behaviors when using the laptops. Data in Table 14 indicated that there were no changes in ratings from the pre to the post survey. Teachers continued to agree that students treated the laptops respectfully, were more interested in doing schoolwork on the laptops, and helped each other more often.

Table 14: Bel Aire Teacher’s Ratings of Student Attitudes and Use of Laptops

	Pre Survey Fall '07 (N = 26)	Post Survey Spring '09 (N = 11)	% who chose rating “3” or “4” on post survey
Treat the laptops respectfully.	3.42	3.45	100%
Are more interested in doing schoolwork on the laptops.	3.39	3.36	99%
Help each other more.	3.25	3.20	90%
Waste time when we work in groups on the laptops.	1.90	1.82	0
Cheat more easily. (eg., copy other’s work, messaging answers, etc.)	1.52	1.82	0
Are very distracted.	1.88	1.64	0
Surf the Internet instead of doing their work.	1.42	1.64	0
Share inappropriate material off the Internet.	1.42	1.64	9%
Play non-academic computer games during class time.	1.42	1.45	9%

Scale: 1 = Strongly disagree, 2 = disagree, 3 = Agree, 4 = Strongly Agree

Nearly all teachers agreed that students did not exhibit any of the negative behaviors listed as variables.

The issue of cyberbullying was raised in Year 1 feedback and questions on this topic were added to the final survey. Teachers were asked if they were aware of any cyberbullying at Bel Aire and if they felt they could handle this issue. Only three respondents were aware of it at the school and all responding teachers felt able to handle this issue with students. Teachers reported that the staff had been given

information about cyberbullying and that a police officer had come to a meeting for parents. Also, Bel Aire had the advantage of learning about potential negative behaviors with the laptops from Del Mar's experiences.

Technology Challenges for Teachers

Finally, teachers were asked to rate challenges to the laptop program. Table 15, below, shows the pre to post means and the percentage of teachers using the rating agree or strongly agree. Challenge variables were written in the negative, therefore, a low mean and a low percentage of teachers choosing a high rating are preferable. Nearly all of the potential challenges listed had low averages and only one variable, Increased preparation time, resulted in a majority of teachers choosing agree (3.0) or strongly agree (4.0).

Table 15: Bel Aire Teachers' Ratings of Challenges to the Millennial Project

	Pre Survey Fall '07 (N = 26)	Post Survey Spring '09 (N = 11)	% who chose rating "3" or "4" on final survey
Increased teacher preparation time.	2.69	2.64	63%
Printing issues.	2.77	2.55	45%
Lack of professional development focused on integrating technology into the curriculum.	2.23	2.27	18%
Reliability of the wireless network.	2.31	2.18	27%
Data loss.	2.31	2.18	18%
Inequalities in home Internet access.	2.24	2.18	18%
A lack of digital or online content aligned with curriculum objectives.	2.12	1.91	27%
Lack of tech support.	2.50	1.91	18%
Difficulties with classroom management associated with laptop use.	2.12	1.91	18%
Lack of opportunity for professional collaboration.	2.12	1.91	18%
Class periods are too short to take full advantage of laptops.	2.31	1.91	0
Frequent technical problems hinder learning.	2.58	1.82*	9%
Increased discipline problems as a result of technology.	1.80	1.82	0
Lack of evidence that laptops are an improvement for teaching and learning.	2.08	1.80	0

Table 15 continued	Pre Survey Fall '07 (N = 26)	Post Survey Spring '09 (N = 11)	% who chose rating "3" or "4" on final survey
Students' lack of adequate technology literacy.	2.19	1.73	0
Laptops are a distraction that encourage unauthorized uses of technology.	1.85	1.64	0
Laptop weight.	1.80	1.64	0
It is difficult to integrate computer activities into my lessons.	2.04	1.64	0
I don't feel adequately prepared to teach with technology.	1.92	1.45	0
Lack of professional development focused on technology tools.		2.18	9%
Lack of technology hardware (e.g. laptops, printers, smartboards).		1.91	18%

Scale: 1 = Strongly disagree, 2 = Disagree, 3 = Agree, 4 = Strongly agree

There was a mean change for the variable, *Frequent technical problems hinder learning*. Fewer teachers thought this was a problem on the final survey than on the baseline survey. This rating supports the increased presence and response time of the Director of Technology and the tech staff. One teacher wrote, "All in all, I feel very lucky to work in a district with such a wealth of technology tools and support!" Three quarters of the variables listed in the table above had fewer teachers using a "3" or "4" rating.

Respondents had the opportunity to give examples of challenges they faced. Very few comments were added. Examples of their comments follow.

I would say my biggest challenge is finding online resources that are aligned with Calif. 5th grade standards. Recently, I spent a lot of time searching for resources about persuasive writing. I spent so much time searching with no good results, that I resorted to printed materials I have used in past years.

Printing is always a problem. I strongly feel that each classroom should have its own printer. Printers seem to have lots of problems and students interrupt others when they pick up papers from other classrooms. The teacher could manage the printers a lot easier if they had one to be in charge of.

Because the students in my class are using older laptops - that becomes an issue when the keys, track pad, and/or cursor isn't working properly.

I think at times teachers are made to feel "inadequate" when they have a simple tech question. Teachers don't always feel assured that their question will not be answered in a demeaning way.

In interviews Bel Aire fourth grade teachers also mentioned that they had not had enough technology support from the site based tech specialist.

As a fourth grade team, we have had the least amount of tech. teaching from the tech teacher. 3rd grade had weekly class periods scheduled with our tech teacher, 4th had a few blitzs scheduled throughout the year.

Several of the teachers mentioned that they would appreciate help with integrating technology in specific subject areas. For example, “Here are five technology uses for fractions.”

Findings on District-wide Teacher Professional Development

The issue of technology training was of primary importance to the Del Mar (26) and Bel Aire (11) teaching staff. Feedback from Year 1 led to recommendations focused on increased professional development at all sites and district-wide. As a follow-up, questions were added to the final survey on what type of training teachers attended, how they prefer technology training be delivered, and for training suggestions. It seemed appropriate to report all teacher feedback together rather than by school.

Table 16 displays the number of teachers attending each type of offering. Nearly all teachers attended site-based trainings during the 2008-2009 school year and nearly about a third attended district-wide trainings. Teachers took advantage of a variety of training opportunities. Technology training will remain a focus for the District to support the teaching staff.

Table 16: Number of Del Mar and Bel Aire Teachers Attending Technology Trainings in the 2008-2009 School Year (N = 37)

Technology training	Number of teachers attending
Site based training	34
District-wide training	11
Web based training	7
Other outside training (another district, college, CTAP)	5
Training offered by MCOE	4
At a conference	3
Did not attend training	3

In order to offer training most effectively, teachers were asked to check their preferred delivery. Table 17 displays the responses.

Table 17: Number of teachers preferring each method of delivery (N=37)

Delivery method	Preference number
Curriculum/subject specific	28
Skill specific	28
Small group	27
1 to 1 as needed	19
At a training facility (not RUSD)	8
Large group	4

Responding Del Mar and Bel Aire teachers preferred subject specific and skill specific trainings. Most also preferred trainings to be delivered either in small groups, or casually in a 1 to 1 format.

Teachers were also asked if they would like to observe technology use in another class in the district. Nearly two-thirds (61%) of the respondents would like to observe technology used in other classes.

Finally, teachers were asked to suggest technology focused professional development. Suggestions from respondents included:

I would like to touch base with people at Apple via the district to find other 1:1 schools are using technology to support their math instruction.

*Shared lessons using iLife 09 (specifically iMovie and Garageband).
Compressing large files to help uploading to our wikis.*

More web 2.0 workshops and applications and TIME to use! (three times)

More on smart boards, wikis, using the programs that we already have in more depth (ie; garage band, iMovie, iTunes, etc; data director...)

Best practice methods for integrating technology into current pedagogical practices.

More time to work as instructional teams to create technology integrated lessons.

Intergrating iPhoto iMovie, scanning power point.

Online resources aligned with our standards

Wiki planning, creating and managing.

Would prefer to learn one skill or application in the morning (ex. Wikis) and then practice and get help in afternoon – so really get it.

More training with excel. (twice by Bel Aire)

Parents

Del Mar Parent Survey Results

Note: An option of “Don’t Know” was also available for all scaled questions on the Parent Survey. The number of respondents choosing “Don’t know” is noted in the data tables, below, however, this rating was not included in any calculations.

Background

A total of 111 online surveys (35% of families) were submitted by Del mar parents in June 2009. Forty-four responding parents represented 6th grade, forty-six represented 7th grade, and twenty-nine represented 8th grade, 54 families had boys and 59 families had girls.³

Parents were asked several questions regarding their home Internet accessibility. All but two responding parents had high speed Internet access at home. The two who did not used a modem. This suggests that Internet access at home was not an issue for the vast majority of Del Mar families. Furthermore, the Del Mar office staff indicated that all families, except for 10, have email addresses listed as contact information.

On the baseline survey, given in June 2008 and reported on in the Year 1 report, parents were asked detailed questions on computer connectivity and additional equipment such as video cameras and printers. It was decided by the Director of Technology and the evaluator that it was not necessary to ask for this information again on the final survey since it had already been gathered and reported.

Parents were asked for the number of additional computers at home other than the school provided laptop. Eighty-six percent of respondents reported that they have additional computers at home. Additional computers in the home ranged from one to seven, most families reported having two or three additional computers. Parents reported that most of the home computers were located in a home office (82%).

³ There is some inconsistency in the numbers as some parents did not provide grade and/or gender information.

Parents also reported that family members, other than the Del Mar student, very rarely (Mean = 1.13) used the school provided laptop (scale: 1=never, 2=sometimes, 3=often).

Laptop Use at Home

Respondents were asked to indicate how often their child used their laptop to do various activities at home. Table 18 indicates that, from the parents' perspective, students continued to use their laptops most often for homework, research for school, exploring the Internet and to listen to music, and rarely for social networking.

Table 18: Del Mar Parents' Report of Student Laptop Use at Home

Activity	Pre Survey Spring '08 (N = 93)	Post Survey Spring '09 (N = 111)	% who chose "often" on final survey
Homework	2.83	2.72	72% na=1
Research for school	2.66	2.64	63% na=2
Explore Internet for fun/personal interest	2.57	2.59	63% na=1
Listen to music	2.49	2.42	55% na=2
Play games	2.17	2.33	41% na=4
Watch videos	2.01	2.28*	43% na=3
Email friends	2.26	2.25	39% na=3
Social network (MySpace, FaceBook,etc.)	1.65	1.71	25% na=8

Scale: 1=Never, 2=Sometimes, 3=Often, na = Don't know

* Statistically significant change from pre to post survey, $p < .05$.

There was only one change in parents' ratings from the baseline data to the final data. There was an increase in the amount of time that students used their laptop at home to watch videos.

Respondents were then asked to rate the influence of using a laptop on their child's education and success at school. Responses are presented in Table 19.

Table 19: Del Mar Parents' Report of Laptop Use at School

	Pre Survey Spring '08 (N = 93)	Post Survey Spring '09 (N = 111)	% of Agree/Strongly agree on final survey
My child's overall computer skills have improved.	3.58	3.48	94% na=0
My child treats the laptop respectfully.	3.35	3.42	89% na=2
My child works more independently on the laptop.	2.98	3.42	71% na=6
My child likes to use the laptop to write.	3.31	3.39	91% na=2
I believe there is educational value in students having access to technology.	3.50	3.38	90% na=2
My child is more likely to revise/edit work on a laptop.	3.21	3.38	88% na=6
My child is proud of his/her schoolwork.	3.25	3.33	91% na=2
The presentations and reports my child writes have improved.	3.17	3.24	84% na=7
The laptop helps my child to be better organized.	2.90	2.93	70% na=4
The quality of my child's schoolwork has improved.	2.72	2.82	63% na=14
The quality of my child's education has improved since the laptop program began.	2.83	2.81	63% na=15
My child seems more interested in schoolwork since receiving the laptop.	2.60	2.62	50% na=8

Scale: 1 = Strongly disagree, 2 = Disagree, 3 = Agree, 4 = Strongly Agree, na = Don't know

There were no statistical changes in ratings from the baseline to the final data. A high percentage (90% or more) of responding parents rated that their child's use of a laptop in school had a positive impact on: improved computer skills, enjoyment of writing, and in student's pride in his/her schoolwork. Over 80% of responding parents agreed that their child treated their laptop respectfully, and was more likely to revise their work on the laptop. Finally, 90% of the parents believed that there was educational value in technology in education. As noted, responding parents' perspective on the value of technology in the classroom remained positive from June '08 to June '09.

Two of the variables in the table above, having to do with improved quality of schoolwork and education had what seems to be a large number of parents using the “Don’t know” rating. This may suggest that parents were not seeing their child’s schoolwork, thus being able to judge the quality. This issue was often mentioned as a problem by parents in the open-ended comment section.

Communication

Parents were asked about classroom websites. Nearly all responding parents (98%) were aware of the teacher/classroom websites. Ninety percent of respondents had visited the websites. Fifty percent of parents visited teacher websites monthly or more often. The majority of parents (84%) found the information on the sites helpful and informative, yet only 50% used the information in discussions with their students. This was a decrease from the baseline data.

Parent feedback from the first year of the study raised the issue of parents having difficulty finding assignments on teacher websites, they reported that it was confusing and not intuitive. Therefore, a question on this issue was added to the final survey. About one half (58%) of the respondents reported that it was easier to find assignments and information. One parent commented, “some teachers are very good at updating the grades and websites while others update only monthly. It's very easy for parents to get too much information.”

The Director of Technology began to address parent concerns following the Year 1 report by changing the password requirements to access the teacher websites. Rather than students having a different password for each class, the change was made to one password for each student. The District server was also changed to facilitate communication among teachers and with parents.

Another question was added to the final survey regarding the RUSD Headline News, an online newsletter produced by the District Office. Parents were asked how often they read the newsletter. Using a scale of 1 = never, 2 = rarely, 3 = sometimes, 4 = often, on average, parents were reading the Headline News (mean = 3.5). This appears to be a valuable means of communication for the District office.

Cyberbullying

Administrators and teachers were concerned with the issue of cyberbullying. Parents were asked about this issue on the pre and post surveys. Nearly one half of the parent respondents (47%) reported that their child had talked about cyberbullying. Few reported (9%) that their child had been the recipient of cyberbullying. Very few (5%) respondents reported that their child had been a participant in any cyberbullying. These data suggest that although students were

aware of the issue, most are likely not sharing instances with their parents. Student data, reported in the next section, showed that 25% of responding 6th – 8th graders had experienced some cyberbullying.

Few comments about cyberbullying were written in the open-ended comment field. The following comments mentioned the issue.

I do think the "social" accounts like meebo can be hurtful to other students and very deceiving - kids pretend to be other kids and try tricking others into say things about them.

How dangerous computers can be if parents are not monitoring what their kids are using it for. It also can be very destructive with kids using it to be mean to others.

I think it (the program) is well thought out and includes many safeguards. I really appreciate that my daughter had her first ""cyberbullying"" experience under these conditions. She had been educated about the possibility, was prepared to respond appropriately, felt safe talking about it, and handled it well.

Please offer more parent info workshops, they have been very helpful in hearing what's ""out there"" in the cyber world as well as what's expected and appropriate from school staff members.

Benefits and Concerns of the Laptop Program

As on the baseline survey, parents were asked open-ended questions about the greatest benefit to their child using a laptop, what were their greatest concerns, and then any other thoughts they had about the overall program.

Most parents, 88%, provided a comment to at least one of the open-ended questions. Eighty-four parents wrote comments on the benefits of the program, and seventy-seven wrote comments focused on their concerns. On the baseline survey parents mentioned the benefits of the laptop program as: research, writing/editing, organization and responsibility, computer proficiency, future needs, multimedia presentations, and computer literacy. On the final survey there were few differences in the topics mentioned.

Respondents' comments were coded into themes and the number of responses in each category, along with sample comments, are presented in Table 20, below.

Table 20: Del Mar Parents Reports of the Benefits to the Laptop (n = 82)

Benefits	# of times mentioned	Sample comments
Research	26	<p>More interested in looking up answers to questions in any area.</p> <p>Computer skills are essential to the working world. Knowing how to access information on the internet is critical. The younger our kids master those skills the better!</p> <p>It's an unlimited source of information which allows him to do research more efficiently.</p> <p>The laptop now provides additional learning opportunities and sources for knowledge. My son is no longer locked into the text book as the main resource and can search for other viewpoints or background information quickly.</p>
Technology knowledge and skills	25	<p>They develop essential keyboard skills as well as the ability to use different applications with confidence.</p> <p>My children are learning presentation skills that are amazing! They are also able to easily and quickly express their thoughts through fast typing skills, and research topics for school on the internet with ease. I believe the benefits of having laptops far outweigh the negative aspects.</p>
Word processing, writing, editing	16	<p>The benefit is that he can check teacher's web sites, keep track of his grades, edit his writing and do some research.</p> <p>Research and writing papers and reports. In the age of technology it is critical that students gain these valuable skills at an early age.</p>
Organization	16	<p>I think using a laptop has given him a sense of greater manageability (e.g. editing vs. rewriting, using iCal to remain organized) , an additional outlet for his creativity (e.g. pages)</p> <p>Better organized with schoolwork and time management.</p> <p>Have easy access to classroom websites to keep abreast of assignments.</p>
21st Century skills	16	<p>She is so comfortable with using technology to get done whatever she wants to get done: research, writing, revision, checking on her grades, double checking assignments, preparing multimedia presentations - everything. She uses her laptop in the family room, so I've seen this in action many times and it's very productive.</p> <p>I don't know if the quality of their education has improved, but I do know that it is the ""way to go"" if we expect our children to fully participate in a global technology savvy world.</p>

Projects/Presentations	13	She is very proud of the presentations she has prepared using the various programs available. It has allowed her not only to develop computer skills, but to have access to a whole new realm of a creative medium. The work she has created with the computer would not have happened otherwise.
Communication	10	She also uses an online communication site to do homework with friends virtually. I think it is great he is using his laptop as a learning tool to access information and to communicate effectively with his teachers and peers.
Independence/Responsibility	9	More proactive and diligent about his school-work.

Parents also added areas of concern about the laptop program. Their comments were condensed into themes and presented below in Table 21.

Table 21: Del Mar Parents' Concerns about the Laptop (n = 70)

Concerns	# of times mentioned	Sample comments
Use for fun, not homework	21	Time spent on Facebook and other recreational use far exceeds that spent on homework or other educational uses. Our son spends way too much time on "homework breaks," playing games on the laptop or reading jokes. The children are so distracted by games, e mail, social networking, videos etc. they spend next to no time on homework.
Difficult to monitor	16	It makes it really hard to monitor the actual use of the laptop as it is so easy for one to hide what you are actually doing on the laptop. Even with the rules we have in place and all the meetings we have been to at school, it gets very tiresome being the computer police! It has made it more difficult to parent because he is pretty addicted to it.
Keep at school	14	At times it just feels like they are more trouble than they are worth-and could achieve the same results by keeping them in the classroom. I'd love to suspend laptops from coming home on weekends, when the most free time/socializing becomes apparent. Nearly all the benefits of this program would also take place just through using computers at school and at home, without him having his own.
Teacher websites	13	Regarding teacher use, we have found that some teachers use their websites exclusively and the students know it and can depend on it. Others lapse after February and the information on the websites is spotty at best.

		<p>I find it very difficult to track my son's grades since every teacher does their website differently. I would like to see it done more consistently across the board.</p> <p>Having a different password for each class was a deterrent for staying in touch. Plus, teacher sites aren't always current or easy to use.</p>
Distraction	11	<p>Keeping on task is hard when there is so much to look at; YouTube is a distraction; hulu is a distraction; games are distraction; I have to closely monitor the homework on the computer or I find it is easy to become distracted.</p> <p>An assignment that should take about an hour, takes twice as long because there is so much wasted time searching sites that are not helpful but are distracting.</p>
Inappropriate use/material	10	<p>It is unrealistic to expect 11-14 year olds to show the maturity and restraint many adults do not exhibit with internet use. If the laptop program is truly to teach them computer skills, then better controls must be put on the internet access.</p> <p>I'm concerned about his ability to look up or be exposed to things that are inappropriate (i.e. sexually explicit and/or violent material).</p> <p>It can be very destructive with kids using it to be mean to others.</p>
Academics	9	<p>Dependence on spell check and typed homework has led to laziness in spelling and poor handwriting.</p> <p>He has forgotten how to use textbooks and their indexes. He googles every question. Sometimes the answer to a specific question, as in science, is in the textbook and he doesn't even look there.</p> <p>I believe that more attention needs to be given how to truly integrate these laptops into the child's schoolwork.</p>
Weight	7	<p>The laptops are heavy and bulky which adds to the load he carries to school everyday.</p> <p>Carrying them around all day when very few teachers have them use them.</p> <p>I would like see a change with having to bring home both a laptop and notebooks/etc. Please let's realize what these children carry to school and home each day and find a better solution.</p>
Time management	5	<p>This age group needs to gain greater understanding of time management - when the computer is for homework and for socializing.</p> <p>Some additional education and reinforcement relating to time-wasting online would be appreciated.</p>

On the final survey parents were asked if they knew how to access their child's work on the school laptop. This was raised as an issue in the baseline feedback because parents felt that they had lost the ability to review student work. About one half of the responding parents were able to access student's work. Parents

continued to be concerned about student access to websites and the easy distraction the Internet provides.

Parents rarely mentioned spelling as a challenge, however, in an interview a teacher mentioned that the issue of spelling seemed to be a problem for parents. The teacher said, "Teachers do spelling implicitly, in student writing it is connected to something of substance. Before I had to spend too much time giving spelling tests, now we have more time for writing." This suggests that parents may not be aware of the educational value of technology.

Two final questions asked parents if they believed the laptop program should continue at Del Mar and if they would like to see laptops used in high school. A vast majority of parents reported that they were supportive of continuing the laptop program in the District (70%) and that they would like to see the laptops used in high school (77%).

To facilitate the transition from Del Mar to high school a parent suggested:

I would like to see the Del Mar kids have as a graduation requirement, passing the required computer course given in the public high school. There should be some benefit to them having had all this technology emphasis in the RUSD; if they could pass out of the required computer course in high school, they would have an additional elective.

Students

One of the major goals of the study was to determine if there were growth for student use and knowledge of technology, and in daily academics due to the Laptop Project. Student data were collected in Fall 2007 from fifth through eighth grades. Evaluators compared the baseline data to the final data collected in Spring/Summer 2009. Although the data was submitted anonymously and therefore individual growth could not be discovered, evaluators were able to compare survey feedback from the students as a group who were fifth graders in 2007 and sixth graders in 2009, those who were sixth graders in 2007 and seventh graders in 2009, and the students who were in seventh grade in 2007 and then eighth grade in 2009; thus over a two-year period of time for each group of students.

The tables in this section present several sets of averages (means). For all tables, three grade levels of data are shown – each column represents two years of data collection (pre compared to post) for each group of students:

- The first data column shows the final (post) survey means for students who started 5th grade at Bel Aire in Fall '07 and who completed 6th grade at Del Mar in Spring '09. This group of students had used laptops on a cart prior to the fall 2007 when they were each given use of a laptop while at Bel Aire. When they moved to Del Mar they had 24/7 use of a laptop.
- The second data column shows final survey means for students who started 6th grade in Fall '07 compared to when they completed 7th grade in Spring '09.
- The third data column shows final means for students who started 7th grade in Fall '07 and finished 8th grade in Spring '09.

These data sets represent student data collected over the term of the study. An asterisk next to the post average indicates that the change in the mean was statistically significant, either positively or negatively. Data in the tables are not meant to be read across each row, the data is only meaningful within each column, showing final averages and any change in ratings over the two years from the same group of students. The information in each column is independent from the other columns. It was decided that stakeholders would find it more informative to see all grade levels in one table, rather than repetitive tables for each grade level.

Fifth through eighth graders were asked to rate their academic use of the laptop while at school. Findings are shown in Table 22, below. As seen in the table, over half of the variables showed an increase in use by the students for all three grades. It was impressive to see that by the time students graduate from the Reed District they have increased their use of the laptops to write and take notes, to revise and edit their work, for research, as an organizational tool, for assessment, and to create digital presentations.

Table 22: Students' Ratings of their Laptop Use at School

	5 th '07 to 6 th '09	6 th '07 to 7 th '09	7 th '07 to 8 th '09
	Post N = 57	Post N = 83	Post N = 82
Write stories or do written work (Word process)	3.18	3.53*	3.47*
Take notes	2.53*	2.70	2.91*
Work with a spreadsheet	2.32*	2.49	2.54* (-)
Make digital pictures or videos	2.42*	2.17*	2.59*
Work with graphics	2.25	2.14*	2.46*
Research a topic using the Internet	3.25	3.27	3.39
Make audio files	1.91	2.06*	2.32*
Keep track of due dates and activities on a digital calendar (iCal)	3.04*	3.31*	3.29
Create a digital presentation or project that uses words, pictures, and audio/video.	2.88*	2.73*	2.99*
Take tests and quizzes.	2.51*	2.87*	3.07*
Integrate music into my presentations (GarageBand).	1.95	1.85*	2.32*
Revise and edit my work.	3.34	3.28	3.44

Scale: 1 = Never, 2 = Not very often, 3 = Much of the time, 4 = All the time

* Statistically significant change from pre to post survey, $p < .05$

(-) indicates the change was a decrease.

While overall ratings were in the “sometimes” to “much of the time” range, many of the lower rated variables also showed an increase in use. Each of the three data sets showed an increase in use of digital tools to support presentations and projects created by the students, and seventh and eighth graders reported an increase in working with graphics, audio files and music. The data presented in Table 22 suggests that over time students will continue to increase their use of technology to support learning.

Student comments included:

It is easier to organize things such as due dates, reports, and essays.

I think the best thing about using the laptop at school is that when we have to give a presentation, my keynote or iMovie is so much more interesting than a poster.

Because of the natural grade level progression from year to year, there were no data to show students' growth at Bel Aire. In the Fall 2007 5th graders were given one-to-one access to laptops while at school for the first time and, to reiterate, their baseline data is the basis for the 5th to 6th grade means in the tables displayed in this section of the report. It is important to recall that each column represents two

years of learning, and therefore, the first column illustrates student growth from Bel Aire (5th in '07) to Del Mar (6th in '09).

Although ratings for the use of spreadsheets decreased for 8th graders, this data collection and computational tool was not used very often reported by students. It may help that a new math textbook was adopted beginning in Fall 2009 that integrates technology more than did the previous text. These same students reported a decrease in using technology in Science (Table 26), which could also be a subject that used spreadsheets and might have impacted this rating.

Students used a 4-point agree/disagree scale to rate the ways in which the laptop helped with schoolwork (Table 23). Most change occurred from 5th to 6th grade – understandable given the change in time and access to the computer for these students. Therefore, it is not surprising that sixth graders reported increasing their preference to write on the laptop, thought schoolwork was more interesting because of the laptop, understood schoolwork better, and felt that computer programs and Internet access made them better students.

Table 23: Students' Ratings of the Ways in which Laptop Helps with Schoolwork

	5 th '07 to 6 th '09	6 th '07 to 7 th '09	7 th '07 to 8 th '09
	<u>Post</u> N = 57	<u>Post</u> N = 83	<u>Post</u> N = 82
Schoolwork is more interesting since we got laptops	3.40*	3.16	3.18
I understand my schoolwork better when we use our laptops.	3.20*	2.93	2.93
I like to use my laptop to read.	2.42	2.20	2.27*
I like to use my laptop to write.	3.58*	3.66	3.55
When I'm learning something new, I use the Internet and computers to help me find more information.	3.20	3.47*	3.35
I prefer using my laptop to write rather than writing by hand.	3.39	3.47	3.56
Computers help me learn about different places and people.	3.16	3.11	2.95
My laptop is better for games than for doing schoolwork.	2.05	1.87	1.80
It's easier to learn from books than from using a computer.	2.39	2.40	2.20
The Internet and computer programs make me a better student.	3.02*	2.77	2.85
The laptop helps me, and groups I'm in, to work on school projects more independently.	3.27	3.16	3.15
I can find help when I don't understand how to do something on my laptop.	3.02	3.19	3.12

Scale: 1 = Strongly disagree, 2 = Disagree, 3 = Agree, 4 = Strongly agree
 Statistically significant change from pre to post survey, $p < .05$

Seventh graders increased the use of the Internet to help with finding new information, and eighth graders, increased their preference to read on the laptop although this is an area that has room to improve. On average, most Del Mar students continued to believe that the laptop was a helpful tool.

Several students commented on how technology helped their work; examples of these comments follow.

I also can work at my own pace and find my own information.

Having laptops makes it a lot easier to write reports, essays, labs, etc. It makes it faster, helps me edit my work, and also makes editing easier.

I feel that the quality of my work has really improved- word processing and spell check have helped a lot, but I have found that its really easy for me to push myself and find more out about the topics that interest me. I like that I can easily work on a project at home and at school without having to write everything out.

Writing essays are a lot easier and using applications like iMovie and garageband are a lot more fun and get me more interested in the topic we are studying.

When asked to rate the impact of the laptop on their schoolwork (Table 24), sixth graders were especially enthusiastic, increasing their ratings from their 5th grade baseline data to the final survey for many of the positively worded variables.

Table 24: Students' Ratings of the Impact of Laptop Use

	5 th '07 to 6 th '09	6 th '07 to 7 th '09	7 th '07 to 8 th '09
	Post N = 57	Post N = 83	Post N = 82
The quality of my schoolwork is improving since we received our laptops.	3.14*	2.96	2.96
I am more involved in class activities when we use our laptops.	2.95	2.69	3.34*
Having a laptop helps me to be better organized.	3.25	3.33* (-)	3.18
The laptop is more of a distraction than a help	1.98*	2.33*	2.18
I like group work more when using the laptops.	2.84*	2.82	2.86
I am more likely to revise/edit my work on a laptop.	3.44*	3.22	3.29
The quality of my work is improving because of my laptop.	3.28*	3.02	3.18
I use the library less for reading now that I have my laptop	2.27*	2.43*	2.22
I use the library less for research now that I have my laptop.	2.88*	3.08*	2.96
Now that I have my laptop, I interact with my teachers more.	2.56*	2.71	2.50*
My overall skill at using a computer has improved.	3.49	3.67	3.53

Scale: 1 = Strongly disagree, 2 = Disagree, 3 = Agree, 4 = Strongly agree

* Statistically significant change from pre to post survey, $p < .05$

(-) indicates the change was a decrease.

Eighth graders increased their belief that they were more involved in classroom activities when using the laptop and were becoming more positive about interacting with their teachers. Several variables were phrased in the negative and more 6th graders agreed with those variables than had when in 5th grade. Although still not an issue, more respondents agreed that the laptop was a distraction, and that they used the library less for reading and research. The majority of seventh graders continued to be positive overall about the impact of using the laptop at school.

Overall, Del Mar students believed that the laptop had a positive impact on their schoolwork. Student comments included:

I can interact with my teachers more.

They can show me ways to improve my work quickly. They also correct my work easier than on paper.

I am much more organized and can concentrate more on my work and writing.

I can interact with students on projects more. I can get feedback from my teachers more through email. I can find information faster and easier.

A key component of 21st Century education is collaboration. Students were asked to rate how often they worked on the laptop independently and how often in groups. Table 25, below, shows the frequency with which respondents rated the three options on the final survey. All respondents for the three grades reported that they most often worked independently and sometimes worked in small groups. Baseline to post analysis showed significant change for all variables for 6th graders – with a change toward collaboration. Eighth graders also showed an increase in the frequency that they collaborated in small groups.

Table 25: Students' Ratings of the Frequency of Work Completed on Laptops Alone or in Groups

	5th '07 to 6th '09	6th '07 to 7th '09	7th '07 to 8th '09
	<u>Post</u> N = 57	<u>Post</u> N = 83	<u>Post</u> N = 82
Independently	3.82* (-)	4.00	4.16
Collaborate using 1 or more laptops with one other student.	3.54*	3.43	3.62*
Collaborate using 1 or more laptops in small groups of 3 or more students.	3.19*	3.05	3.30*

Scale: 1 = Never, 2 = Rarely, 3 = Sometimes, 4 = Often, 5 = Always

* Statistically significant change from pre to post survey, $p < .05$

(-) indicates the change was a decrease.

The data in Table 25 supports the direction reported by the Del Mar teachers. (see Table 4, pg. 23) Teachers also reported an increase in the time that students collaborated using laptops in small groups.

Students were then asked to rate how often they used technology in their subjects. Table 26 shows various subject areas for Del Mar students. The Bel Aire survey did not include electives on the baseline survey so there is no comparison data for those subjects. Sixth graders reported an increase in technology use from 5th grade in Social Studies, Science and Music. Seventh graders reported an increase in technology use in Science and PE, but a decrease in use in Math and Spanish from when they were in 6th grade. Eighth graders reported an increase in technology use from 7th grade in Social Studies, Music, Spanish, and PE, and a decrease in use in Math and Science (although technology continued to be used often).

Table 26: Students' Ratings of the Use of Technology for Specific Subjects

	5 th '07 to 6 th '09	6 th '07 to 7 th '09	7 th '07 to 8 th '09
	Post N = 57	Post N = 83	Post N = 82
Social Studies	3.95*	4.06	4.26*
Science	4.40*	4.48*	4.09* (-)
Math	2.79	2.49* (-)	2.69* (-)
Language Arts	4.16	4.72	4.41
Music	1.84*	1.93	2.35*
Spanish	Na	2.95* (-)	3.08*
Art	Na	2.15	2.50
Journalism	Na	1.74	3.08
P.E.	Na	2.20*	2.18*

Scale: 1 = Never, 2 = Once a month, 3 = Once a week, 4 = A few times a week, 5 = Daily

* Statistically significant change from pre to post survey, $p < .05$.

(-) indicates the change was a decrease.

Del Mar students reported, on average, that technology was used weekly to a few times a week in most of the academic subjects. Math was rated the lowest for technology use, however, the newly adopted textbook at Del Mar should make a difference as it helps teachers integrate technology more fully. A student wrote:

The best thing about using my laptop at school is that I feel more confident writing essays and it is much more easier for me to make graphs and do labs in Science. Also, I think that finding information about certain subjects are much easier know that we have laptops.

When asked to rate their proficiency at using the computer and various technology skills, Bel Aire students came well prepared to Del Mar. The baseline means of the 5th '07 students for nearly all variables listed in Table 27, were rated in the "okay" to "well" range. Creating videos and using a digital calendar were rated in the "somewhat" range and both showed positive change in skill level from the 2009 6th grade students over the two year period. These students also increased their skills to use online educational games, to browse the Internet, to create digital presentations, to take notes and to research online.

Table 27: Students' Ratings of their Proficiency with Laptops

	5 th '07 to 6 th '09	6 th '07 to 7 th '09	7 th '07 to 8 th '09
	Post N = 57	Post N = 83	Post N = 82
E-mail.	na	4.47*	4.57*
Learn using online educational games.	3.24*	3.40	3.56
Browse or search the Internet.	4.35*	4.42	4.47*
Create a digital presentation or project that uses words, pictures, and audio/video.	4.24*	3.90	4.31*
Collect and analyze data.	3.56	3.28* (-)	3.91
Write stories or essays - word processing.	4.51	4.63	4.63
Search online encyclopedias.	3.85*	3.77*	3.85*
Draw or create graphics.	3.27	2.57	3.25
Create video.	3.40*	2.83	3.75*
Keep track of due dates and activities on a digital calendar.	4.29*	4.29* (-)	4.25
Take notes.	4.06*	4.06	4.21*
Join wikis.	3.48	2.00	3.44
Produce podcasts.	3.24	2.67	3.66

Scale: 1 = Not at all well, 2 = Somewhat well, 3 = Okay, 4 = Well, 5 = Very well

* Statistically significant change from pre to post survey, $p < .05$.

(-) indicates the change was a decrease.

The '09 7th graders increased their skills using email and to research online. These same students reported a decrease in how well they used the computer to keep track of due dates, and to collect and analyze data, although both these skills remained in the very positive range. Student comments included:

That I'm learning computer skills that I use everyday and can teach others what I've learned

Creating phenomenal, creative projects and being more organized.

I have learned a lot about computers and understand how to use them now that I can have one a home to experiment on and teach myself different things

You can do research more quickly and easily.

The '09 8th graders showed proficiency in all variables and increases in skill using the computer to email, to search the Internet, to create digital presentations using works, pictures, and audio/video, to take notes, and to research using online encyclopedias.

Students were then asked to rate variables related to their fellow students attitudes about the laptop. Overall, respondents agreed with those variables phrased in the positive and disagreed with variables phrased negatively. There were increases in the means for many of the variables in both categories, yet the ranges remained positive for the positive variables and negative for those phrased negatively.

Table 28: Student Attitude Ratings

<i>Overall, students in my classes . . .</i>	5 th '07 to 6 th '09	6 th '07 to 7 th '09	7 th '07 to 8 th '09
	<u>Post</u> N = 57	<u>Post</u> N = 83	<u>Post</u> N = 82
Treat the laptops respectfully.	3.38	2.96* (-)	2.97
Play non-school related computer games during class time.	2.25*	2.83*	2.81*
Are very distracted.	2.04	2.58*	2.51
Use the Internet instead of doing their work.	2.11*	2.51*	2.48
Share inappropriate material off the Internet.	1.75*	1.80*	2.06
Help each other more.	3.00*	3.17	2.97
Waste time when we work on the laptops in groups.	2.11*	2.52*	2.49*
Are more interested in doing schoolwork on the laptops.	2.79*	2.75* (-)	3.03*
Cheat more easily. (copy each other's work, messaging answers, etc.)	1.72*	2.17*	2.15

Scale: 1 = Strongly disagree, 2 = Disagree, 3 = Agree, 4 = Strongly agree

* Statistically significant change from pre to post survey, $p < .05$.

(-) indicates the change was a decrease.

The following comments highlight some of the students' problems with the laptop.

The hardest part about using the laptop at school is that everyone is so attached to games and the internet on their computer, laptops are out all the time.

It is very distracting to get the computer and go on a website you like. People hate carrying the heavy laptop back to school and to home.

Some people abuse the privilege of having a laptop by playing computer games during class or other things.

The pressure the teachers put on us. They are always expecting almost perfection. What with spell check and the thesaurus on our laptops our work has to look like a professionals.

Keeping focused! With all the bells and whistles the laptops come with, along with internet access at school, it can be incredibly difficult to stay focused on your work.

Finding the right information on the internet. Being able to tell if you can trust what you see.

Carrying it around!!! It's SOOOO heavy!

Teachers expect more of you. Random sites are blocked, like sites off of some of my teacher's websites, so it is hard to access some things.

Students were also asked to rate how use of the laptop helped their schoolwork (Table 29). Across all grades students reported agreeing, overall, that the laptop improved their writing, research skills, written reports, organization, and presentations. They also agreed that they were proud of the schoolwork done using the laptop.

Table 29: Students' Ratings of How the Laptop Improved their Schoolwork

	5 th '07 to 6 th '09	6 th '07 to 7 th '09	7 th '07 to 8 th '09
	Post N = 57	Post N = 83	Post N = 82
My computer keyboarding skills are improving.	3.66*	3.61	3.62
My research skills have improved.	3.55	3.54	3.48
The reports I write for classes have improved.	na	3.38	3.26
It is easier to keep track of my assignments	3.56*	3.37* (-)	3.35
It is easier to work with other students on group projects	3.30*	3.04	3.05
I am more interested in doing schoolwork	3.15*	2.78* (-)	3.02
I get better grades in classes like Reading, Social studies, and Science	3.36*	2.93	2.94
My written work is improving	3.43*	3.38	3.30
My teachers expect more from me	3.21*	3.41*	3.22
I feel more comfortable sharing my schoolwork	3.07*	2.83	2.89
I am proud of my schoolwork	3.34	3.26	3.22
My presentations are more interesting.	3.51	3.34	3.43

Scale: 1 = Strongly disagree, 2 = Disagree, 3 = Agree, 4 = Strongly agree

* Statistically significant change from pre to post survey, $p < .05$.

(-) indicates the change was a decrease.

Students added comments on the benefits of the laptop. Examples of these comments follow.

That my writing has improved greatly and I am more proud of my work. The laptops are very useful and are a better way for me to learn.

Easily that it makes writing easier, more enjoyable, and most of all improves the quality of my writing. No only does it speed up the writing process, it makes editing easier. Therefore, revision isn't a nuisance and students, like me, are more likely to edit their work (and independently) and improve our quality of writing various compositions.

When you can mix some of the applications together to make an overall better presentation.

Table 30 displays the post mean ratings for 6th, 7th and 8th graders. There was no comparison for change from 5th to 6th grade as 5th graders did not take the laptop home.

On average, Del Mar students indicated that they not only used, but increased their use of the laptop at home, most often to conduct research for schoolwork and to download homework or materials needed to prepare for or complete work at home. Seventh and eighth graders also increased their use of email to contact teachers. Eighth graders increased their use at home of email for personal use, increased their online work on group projects, as well as increasing the amount of time they listened to music and watched videos.

Table 30: Students' Ratings of the Laptop Use at Home

	6 th '09	Same students 6 th '07 pre to 7 th '09 post	Same students 7 th '07 pre to 8 th '09 post
	<u>Post</u> N = 57	<u>Post</u> N = 83	<u>Post</u> N = 82
E-mail.	2.38	2.36	2.34*
Research for school.	2.45	2.64*	2.63*
Explore internet for fun.	2.26	2.01	1.99
Download images.	2.02	1.71	1.79
Listen to music.	2.30	2.10	2.43*
Watch videos.	2.18	1.88	2.11*
Play games.	2.13	1.89	1.87
Email my teachers to ask questions/get feedback about schoolwork.	1.62	1.95*	1.91*
Use email or chats to work on group project.	1.98	1.67	1.94*
Figure out how to use new computer program.	1.67	1.39	1.70
Download homework or materials from a school or class website.	2.40	2.48*	2.61*
Socialize with friends online.	1.93	1.79	2.16

Scale: 1 = Never, 2 = Sometimes, 3 = Often

Statistically significant change from pre to post survey, $p < .05$

These increases indicate that students are using their laptops at home for both school related and personal reasons, and may be a basis for parents sharing concerns for how students used the laptops. The variable regarding socializing with friends was added to the final survey and therefore, the means cannot be compared to any baseline data.

Students were asked questions about cyberbullying. Nearly a fourth of the respondents on the final survey were aware of the topic. While few students admitted participating in any cyberbullying (6%), nearly a fifth of the respondents (17%) had experienced cyberbullying. These data indicated that additional efforts to educate students about the impact of cyberbullying with a goal of reducing the number of students involved needs to continue.

Student Graduates of Del Mar

To determine the view of graduates from Del Mar, an online survey was developed by evaluators with help from the Superintendent and the Technology Administrator. The 2008-2009 9th grade class was the first class to participate in the laptop program, and therefore, used laptops for the three years they attended Del Mar. The Superintendent emailed a letter to parents of the 2008 Del Mar graduates which included the reason for the study, a request that parents ask their 9th grader to complete the survey, and the link to the survey. The email was sent out to parents three times.

Of the 86 Del Mar graduates emailed, 27 surveys were submitted, for a rate of return of 31%; seventeen of the respondents were girls, fourteen were boys. Results of the analysis are discussed below.

Students were asked several background questions including current high school, if they had use of a computer at home, and if they had passed out of any required high school computer class.

Respondents attended seven high schools (one student did not list the school):

Redwood High School – 14

Marin School – 3

Saint Ignatius – 3

Marin Catholic – 2

Marin Academy – 2

Tam High School – 1

The Bay School – 1

Twenty-six responded that they had use of a computer at home. Nine students checked that they had passed out of the required high school computer class. Eight checked that they did not pass, and ten indicated there was no requirement by skipping the question as instructed in the survey.

The survey questions then focused on their use of computers at high school. Twenty-four of the students stated that they were allowed to bring a personal computer to school, and that on average, they used it in most classes. Twenty-six responded that they had access to a computer at school and that they used it, on average, a few times a week. Further analysis showed that only 3 students rarely used computers at school and that 12 used them in most, to all classes each day.

Twenty-five respondents used a computer to complete homework most days each week. This feedback suggested that computers were used in high school primarily for homework.

Students were then asked to rate how often they used computers/technology in various subjects. The rating scale was 1=never to 4=daily, and there was an option of NA=didn't take class.

Table 31: Graduates' Ratings of the Frequency of Computer Use in Various Subjects (N = 27)

	Mean	% Weekly or daily	NA
English	3.11	81%	0
Science	3.08	76%	2
History	3.04	80%	1
Journalism	2.50	50%	25
Foreign Language	2.45	59%	5
Music	2.33	66%	21
Art	1.62	0	19
Math	1.52	14%	0
PE	1.50	15%	7
Other class	2.64		

Scale: 1 = never, 2 = once a month, 3= once or twice a week, 4 = daily, NA = didn't take class

As expected, most students used computers in English, science and history. They almost never used computers in math. Other classes listed were: Intro to computers, computer science, theology, resource, computer graphics, social issues (2), drama (3), and dance.

T-tests were conducted to determine whether differences existed between public and private school students' survey responses. Results showed that the only differences between the students were their reported use of computers for several subject types. Specifically, students in private school reported using their computers more often for History, Science, Math, and Language Arts.⁴

Using a 4-point scale of rarely, once a month, weekly, and always, students responded that teachers encouraged them to use technology in their schoolwork weekly, on average, with 37% choosing "Always" as their rating. Only fifteen percent chose "Once a month" or "Rarely" suggesting that teachers seemed positive about students using technology in their work.

⁴ T-tests conducted were controlled for familywise error using the Holm-Bonferroni technique.

Students were then asked to compare their use of computers at Del Mar to their use in high school. Table 32 shows the results.

Table 32: Graduates' Ratings of High School Computer Use Compared to Del Mar (N = 27)

	Mean	Do this more	Do this less/never
Revise written work	3.70	44%	7%
Use Internet for research	3.69	49%	11%
Word process: stories/essays	3.59	37%	0
Work with spreadsheet (data)	2.77	27%	42%
Create digital presentation or project (PP, Keynote)	2.69	23%	38%
Work with graphics	2.48	16%	52%
Take notes	2.22	15%	58%
Use digital calendar	2.15	23%	69%
Make audio files	2.12	20%	68%
Make digital videos (iMovie, Keynote)	1.88	7%	81%
Take tests and quizzes	1.81	15%	80%
Integrate music (GarageBand)	1.69	4%	77%

Scale: 1 = Never do this, 2 = Do this less now, 3 = Do this about the same, 4 = Do this a little more, 5 = Do this a lot more

Most students continued to use computers to write and revise their work, and for research. However, it is disappointing to see that most students were not using more advanced technology skills, such as digital videos and calendar, audio files, and music integration, that they had learned while attending Del Mar. Perhaps the 9th grade curriculum does not allow digital integration in the homework, or perhaps students are not including these skills in their work. It appeared that students used computers in high school primarily for written work and to research online. These data were supported by comments from parents.

Respondents were asked to rate, using a 4-point Agree/Disagree scale, how their Del Mar preparation impacted their high school work. Table 33 shows their responses.

Table 33: Graduates' Ratings of the Del Mar Preparation for High School (N = 27)

	Mean	Agree/Strongly agree
My overall skill at using a computer continues to improve.	3.31	88%
I am able to successfully integrate technology into my schoolwork.	3.08	85%
I do more research on the Internet.	3.04	80%
My writing continues to improve.	3.00	72%
I am more likely to revise/edit my work.	2.88	72%
I feel more comfortable sharing my schoolwork when using technology.	2.88	64%
I use the computer to be organized.	2.69	53%
I follow computer safety and ethical use.	2.69	61%
Quality of my schoolwork has improved.	2.64	56%
I am a critical consumer of what I read on the Internet.	2.58	46%
Using technology keeps me interested in schoolwork.	2.46	42%

Scale: 1 = Strongly disagree, 2 = Disagree, 3 = Agree, 4 = Strongly agree

By looking at the percents of respondents who chose “agree” or “strongly agree” with each statement, it is gratifying to see that the majority of students rated statements positively for all but two variables. On average, students agreed that based on the Del Mar preparation their overall computer skills continue to improve, that they are able to successfully integrate technology into schoolwork, that they do more research on the Internet, that their writing continues to improve, and that they are more likely to revise their work. They did not agree that they were critical consumers of what they read, nor that technology kept them interested in schoolwork.

Table 34, on the following page, shows how students rated their technology preparation compared to others in their classes.

Table 34: Graduates' Ratings of their Preparation for High School Compared to Other Students (N = 27)

	Mean	More	Same
I am prepared to use technology	2.52	52%	48%
I use computers to do my schoolwork/homework.	2.52	52%	48%
I am prepared to use multimedia programs.	2.48	48%	52%

Scale: 1 = less, 2 = same, 3 = more

It is interesting to note that none of the respondents felt they were less prepared to use technology than other students in their classes. Overall, respondents believed they were either as prepared or better prepared than others in their classes.

Students were asked to rate how well they use the computer to do various tasks related to schoolwork. Table 35 displays this information.

Table 35: Graduates' Ratings of their Personal Computer Skills (N = 27)

	Mean	Very well/well	Ok/somewhat well
Browse or search Internet	4.79	96%	4%
Write stories/essays	4.77	96%	4%
E-mail	4.65	92%	4%
Keep track of due dates and activities on a digital calendar.	3.85	65%	27%
Create a digital presentation or project that uses words, pictures and audio/video.	3.81	58%	34%
Collect and analyze data.	3.58	54%	38%

Scale: 1 = Not at all well, 2 = Somewhat well, 3 = Ok, 4 = Well, 5 = Very well

Overall, students were positive about their competency with computer skills, very few rated themselves as not being able to do the variables listed above in Table 35.

Data from the 9th grade survey suggest that Del Mar prepared students well to use a variety of technology skills. They rated themselves as very prepared to write, to use the Internet, to use a digital calendar and to create digital presentations, and collect and analyze data. About one half of the respondents believed that they were more prepared than others in their classes, and none of the students thought they were less prepared than others.

It is disappointing, therefore, that feedback suggest they are not using more advanced technology skills in high school as much as they did at Del Mar. Table 32 shows that over 50% of the respondents rated seven of the eleven variables as “do this less or never” compared to while at Del Mar.

Finally students were asked to write any comments about how to improve the Del Mar technology program. Few comments were written and none focused on ideas of how to make the program better.

Summary and Recommendations

Careful planning on the part of the Millennial Laptop Project team enabled this project to meet with success. A primary goal of the RUSD was that teachers would increase their knowledge of and use of technology to further the curriculum and learning available to district students. It appears that this goal is being met.

Support from the Superintendent and Board of Trustees along with a willingness to foster a sense of “think outside the box” and “can do” attitudes has resulted in a strong, award winning program that should improve and find even greater success over time.

Overall, the findings from the two-year study suggest that teacher and student technology use and knowledge increased based on laptop experiences at both Bel Aire and Del Mar. Additionally, laptop use enhanced the core academic subjects while motivating and engaging both students and teachers.

Del Mar Teachers

On average, the Del Mar teaching staff believed that they were skilled users of technology and that they were prepared to use technology in instruction. Del Mar teachers reported that they often used their laptop to facilitate their work through communication with other teachers and parents, to manage student information, for research, to post resources and homework, for organization, and to create instructional materials and homework. Teacher respondents continued to be positive about how technology has impacted their teaching. Teachers increased their ability to individualize instruction through the use of technology from Fall '07 to Spring '09. Individualizing student needs has been a key goal of the program since it's inception, it is gratifying to see that teachers are meeting that goal supported by technology.

A majority of teachers also agreed or strongly agreed that teaching with technology impacted a variety of aspects of teaching including:

- clearer parent communication,
- the ability to explore topics in greater depth,
- the ability to make content more relevant,
- the ability to assign project-based work,
- the use of authentic assessment when possible,
- the ability to develop critical thinking skills, and
- more effective teaching.

Although the quantitative data for teacher use did not show many significant increases from the baseline to the final survey data, the qualitative feedback demonstrated a major change in skill use, curriculum integration, and in a more positive attitude about using technology in the curriculum.

From November '07 to June '09 there were many significant increases reported by the Del Mar teachers in student use of the laptop for academic purposes. Teachers reported increases in: individualizing instruction and compensating for learning challenges, having students work collaboratively, researching online, designing and giving presentations using multimedia, using visualizations and simulations to work with interactive instructional material, using peripherals such as digital cameras, microscopes, and scanners, submitting homework, drill and practice, and taking quizzes and tests. This was a remarkable impact in a short time period. These positive and impressive changes indicated that Del Mar teachers made the commitment to integrating technology into the curriculum.

Del Mar teachers also reported an increase in student interest in doing schoolwork on the laptops from the baseline to the final survey. Although not showing a statistical change, a majority of responding teachers reported that when using the laptops students helped each other more, were not distracted, focused on schoolwork rather than surfing the Internet, did not share inappropriate material off the Internet, did not waste time when in groups, and did not play games on the computer during class time.

Over 80% of the Del Mar teachers reported that increased teacher preparation time to use the laptops in the curriculum continued to be a challenge. It is well documented from other technology studies that integrating technology into the curriculum is time consuming and will most likely continue to be a challenge. When describing the challenges on the final survey, issues most often mentioned were: the time that it takes to learn new programs, to design curriculum that integrates technology, and student misuse of the laptops.

Overall, teachers reported few challenges to the laptop program. Two variables became less of a challenge for teachers from the baseline to the final survey. Teachers felt that technology support was better than in the previous year, and that class periods were not too short to use the laptops effectively. Greater emphasis was placed on technology support and response time to teacher technology issues during the second year of the study.

Bel Aire Teachers

The fourth and fifth grade teachers appeared to be avid, willing users of technology. Their ratings on the impact of technology to their teaching were extremely positive with 100% of the respondents agreeing that their teaching has benefited from using a laptop, that they explored topics in greater depth, and that they used authentic assessment when possible.

Bel Aire teachers were asked to rate how they felt about teaching with one-to-one student laptops compared to teaching without them. Over 70% of all responding teachers agreed or strongly agreed that the laptop program made a difference in the curriculum and in student achievement. Teachers reported that the overall quality of student work and of the education offered to students was better using laptops. They also agreed that student interest, involvement, and engagement in schoolwork increased with the laptops.

Bel Aire teachers reported that they had the necessary technology skills to use computers in the classroom. Data suggest that Bel Aire's technology focus and the District trainings had a positive effect on the Bel Aire staff.

Most Bel Aire teachers used their laptop to communicate, to do research for lessons, to manage student information, to create instructional materials for class use, and to post classroom resources online. About one half of the fourth and fifth grade teachers published student work on the Web, used iCal, and used the laptop to create interactive lessons, digital media presentations, and assessment tools.

Overall, these truly positive ratings suggest that Bel Aire classroom teachers were strong supporters of the laptop program and the use of technology in the curriculum. The Bel Aire principal, as an early adopter of educational technology, had set high expectations for the staff and students. Innovative examples of technology were seen throughout the school on a regular basis.

Bel Aire students were asked by their teachers to use the laptops most often for word processing and editing written material, to research a topic and browse the Internet, to support individualized learning, and to design presentations using multimedia and work with interactive instructional material.

As with the Del Mar staff, Bel Aire teacher respondents also found the increased teacher preparation time to be challenging. Yet, "technical problems hindered learning" decreased as a problem on the final survey. This rating supports the increased presence and response time of the Director of Technology and the tech staff to teacher complaints or problems.

Del Mar Parents

From the parents' perspective, students used their laptops most often for homework, research for school, exploring the Internet and to listen to music, and rarely for social networking.

Nearly all (90%) of the parents believed that there was educational value in technology in education. A high percentage (90% or more) of responding parents rated that their child's use of a laptop in school had a positive impact on: improved computer skills, enjoyment of writing, and in student's pride in his/her schoolwork. Over 80% of responding parents agreed that their child treated their laptop respectfully, and was more likely to revise their work on the laptop. Responding parents' perspective on the value of technology in the classroom remained positive from June '08 to June '09.

Several parent comments supported the positive ratings:

It is wonderful that Del Mar is able to evolve the teaching process to meet the needs of the 21st century. I have observed that MANY teachers are now far more comfortable using the computer as a learning tool and that students are able to interact with higher level thinking skills as a result. It is an amazing program and imperative that it be continued.

A laptop is as essential as pen and paper were fifty years ago. Therefore I can not imagine a complete education without it.

Parents also wrote about what they felt was beneficial about the program and what concerns they had. Most often mentioned as benefits were: opportunities for research, technology knowledge and skills necessary for the future, using the laptop for writing and editing, as an organization tool, developing 21st Century skills, to complete projects and create presentations, for communication, and to instill independence and responsibility.

Concerns focused on: using the laptop for fun, not homework, difficulties monitoring the use of the laptop at home, accessing the teacher websites and using the information provided, distraction, exposure to inappropriate material on the Web, usefulness in academics, laptop weight, and time management.

Students

Comparison data for three sets of students over a period of two years indicated that a renewed focus on technology by the District resulted in significant growth in student use and knowledge of technology. It was impressive to see that by the time students graduated from the Reed District they had increased their use of the laptops to write and take notes, to revise and edit their work, for research, as an organizational tool, for assessment, and to create digital presentations.

All three sets of students agreed that schoolwork was more interesting when using the laptops, that they had a better understanding of their work, that they preferred writing on the laptop, that they used the Internet to research additional information on subjects, that they worked more independently, and that technology helped them to be better students. They also agreed that their overall computer skills had improved and that the quality of their schoolwork continued to improve.

On average, students reported being skilled at word processing, browsing and researching using the Internet, keeping organized using iCal, taking notes, and creating digital presentations using multimedia tools and programs. Students completing 6th and 8th grades in '09 also had the ability to participate in wikis and to produce podcasts. Knowing that students have these skills will allow teachers to continue to integrate technology more fully and to continue to provide opportunities within the curriculum to stretch the imagination.

Recommendations

Teacher Support

- Continue a planned and focused structure for technology professional development throughout the school year.
- Vary the delivery of the technology trainings to include District-wide, site-based, and grade level offerings. Also include a variety of group size.
- Continue addressing the needs of all levels of technology users. Offer tiered technology instruction.
- Continue to offer support for Data Director.
- Address classroom management techniques, such as ways to monitor appropriate student laptop use in the classroom.
- Adopt a cyberbullying curriculum and offer training focused on cyber-safety and cyber-ethics.
- Encourage teachers to share technology infused projects on their classroom website.

- Set up classroom visits for teachers to view technology used at other sites and in other grade levels.
- Primary goal of the site technology facilitators should be to support all classroom teachers.
- Site administrators need to model technology use in communication, collaboration, and site organization.
- Consider using faculty meetings to address 21st Century education goals. Discussions might include: What should 21st century learning look like? How do we assess student learning in new and different ways? How does technology support our goals?
- Create teacher based technology committee at school level to help school and the district committee address specific needs and curriculum integration for each site.
- Have technology Teacher/Facilitator work with fellow teachers to incorporate new ISTE standards into curriculum.
- Offer online software training resources for teachers (e.g. Atomic Learning).
- Continue to look at ways to incorporate Web 2.0 Tools and distance learning.

Parent Support

- Technology in the curriculum needs to be more visible to parents. Teacher websites provide the visibility.
- Continue to address issue of ease of classroom website accessibility.
- Work with Redwood High School to ensure that Del Mar graduates will pass out of the 9th grade technology requirement.
- Continue a focused effort for parent education. Offer trainings at different times and repeat trainings as needed to reach the maximum number of parents.
- Continue to have administrators share technology goals and information.
- Address District website issues of accessibility and overall common look for the three schools.
- Add search field to District website.
- Consider offering online software training resources for parents (e.g. Atomic Learning)

Student Support

- Support goal of reducing load for students to carry home each day.
- At the beginning of school year go over student Technology guidelines.
- Use the technology certification at Bel Aire to develop one for 6 – 8 grades.
- Inform students about their “Digital Footprint” and Social Networking.
- Identify students at Del Mar who can be assistants for staff and students (Cyber-squad idea from Bel Aire).
- Create a student Cyber-squad help desk either as club or Class Elective.
- Offer online software training resources for students (e.g. Atomic Learning).

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Millennial Project – Year 1 Report

Reed Union School District Millennial Laptop Project: Findings from Year 1

INTRODUCTION

The Reed Union School District (RUSD) implemented a laptop program at the beginning of the 2005-2006 academic year. As part of the program, RUSD provided laptop computers to District faculty in 1999, to Del Mar students in 2005, and to all 5th grade students in 2007. Training for faculty was offered the year prior to students receiving laptops and for the first two years of the project. ROCKMAN *ET AL* began working with RUSD in fall 2007 to conduct a two-year evaluation of the project. The evaluation, designed to determine how the laptop implementation is progressing, includes: teacher, student and parent surveys, and one-on-one interviews with teachers.

This report presents findings from the evaluation of the 2007-2008 academic year. Some data presented here was previously shared with the Superintendent and Director of Technology.

METHOD

Teachers

Evaluators, in collaboration with the superintendent, technology director, and Del Mar and Bel Aire principals, developed an online teacher survey designed to gather information about their technology background, attitudes about and uses of the laptops, and their impressions of students' uses and attitudes about the laptops. The survey was housed on the ROCKMAN *ET AL* server in order to maintain confidentiality of responses.

Del Mar and Bel Aire teachers were asked to complete the survey twice; first as a baseline survey in Fall 2007 and then again as an end-of-year survey in Spring 2008. The principals administered the baseline survey at staff meetings in November 2007. Twenty-five Del Mar and 26 Bel Aire teachers (6 of these teachers taught 5th grade) submitted surveys in the Fall. In June 2008, all Del Mar teachers and fifth grade Bel Aire teachers

were sent an email request by the evaluator to complete the end-of-year survey. As an incentive for completion, each teacher was offered an honorarium of \$30. Eighteen Del Mar teachers completed the post-survey. Only one fifth-grade teacher completed the post-survey, therefore there is no pre/post analysis for Bel Aire teachers. Fall 2007 data will be used as baseline data and compared with end-of-year survey data from Spring 2009.

One-on-one interviews were also conducted with 8 Del Mar teachers and all of the fifth grade teachers regarding their experiences with the Laptop Project. The evaluator took care to include teachers of a variety of academic subjects and to interview both veteran teachers and teachers who were completing their first year. Interviews were conducted during February and March.

Parents

Evaluators, in collaboration with the superintendent and the technology director, designed an online parent survey in order to gather information about what Del Mar parents think about the program, and to give them an opportunity to give feedback. Parents were informed about the survey through the Del Mar Principal's newsletter in June 2008. Ninety-three parent surveys were received from 277 families with children attending Del Mar, resulting in a response rate of 34%. According to Instructional Assessment Resources a 30% response rate for an online survey is considered acceptable for the purpose of generalizability.¹

Students

Evaluators, in collaboration with the superintendent, technology director, and principals, designed a baseline and end-of-year online student survey for grades 5-8. Evaluators received 109 5th grade (Bel Aire) and 314 6th- 8th grade (Del Mar) surveys in the fall 2007. Due to scheduling difficulties at the end of the school year, the student end-of-year

¹ The Instructional Assessment Resources (IAR) Web site is a comprehensive resource to assist in assessing student learning, classroom teaching, and instructional technology. <http://www.utexas.edu/academic/diia/assessment/iar/teaching/gather/method/survey-Response.php> 2007

survey was not administered in the Spring. Student data is not included in this report, but will be used as baseline data and compared with data from the 2008-2009 school year.

RESULTS

This section begins with a summary of findings from the Del Mar teacher pre/post surveys and is followed by findings from the teacher interviews and the Del Mar parent survey.

Del Mar Teacher Survey Results

Teacher Background

On average Del Mar teachers have taught for 15 years (Range = 2 to 28 years), there was no difference between the two groups of survey respondents ($t_{(40)} = -.338, p > .05$).

Four teachers worked with 6th graders and taught science, Spanish, social studies and physical education; four worked with 7th graders and taught social studies, math, science and language arts; and 10 worked with 8th grade and taught a variety of technology electives, physical education, visual arts, math, Spanish, language arts, and social studies.

Teachers were asked to choose from a list of options, how they reached their current level of technology use and knowledge. On average, teachers selected two to three choices (there was no difference in the number of choices selected by survey; $t_{40} = .417, p > .05$). Their responses are shown in Table 1, below.

Table 1: How Teachers Reached their Current Level of Technology Knowledge

	Fall Survey (n = 25)	Spring Survey (n = 18)
I am primarily self taught	17	11
From teachers at my school	15	13
By attending in-service workshops through the District	18	12
By attending workshops or in-services outside the district	13	7

Teachers were also asked to rate their general skill level for using laptops for instruction. On average, teachers rated themselves as “advanced²,” there was no difference in ratings between teachers completing the fall or spring surveys. Only 4 of the 25 teachers who completed the Fall Survey and 5 of the 18 teachers who completed the Spring Survey rated their skill level as “novice” or “beginner.” Table 2, below, shows the average ratings for how prepared respondents thought they were to use technology in instruction.

Table 2: Ratings of Level of Preparedness for Using Technology in Instruction

Technology items	Fall Survey (n = 25)	Spring Survey (n = 18)	Overall Average (N = 43)
Maintain a classroom Web site/page.	3.52	3.89	3.67
Do basic computer trouble shooting (freezes, lost documents, etc).	2.72	3.56	3.07*
Find, insert and manipulate graphics.	3.00	3.17	3.07
Create a complex word processing document. (e.g. brochure).	2.76	3.33	3.00
Use presentation software (PowerPoint, Keynote).	2.96	3.06	3.00
Use peripheral equipment (scanner, video camera, probe).	2.75	3.24	2.95
Use iphoto in class assignments/activities.	2.76	2.94	2.84
Use data processing programs (e.g., Excel).	2.60	2.89	2.72
Use iTunes in class assignments/activities.	2.68	2.78	2.72
Create an edited video/iMovie.	2.28	2.39	2.33
Use computational tools (graphing calculator, probeware).	2.21	2.39	2.29
Use iDVD in class assignments/activities.	2.08	2.33	2.19
Use Garage Band in class assignments/activities.	1.96	1.94	1.95

Scale: 1 = Not at all prepared, 2 = Somewhat prepared, 3 = Prepared, 4 = Very prepared

* Statistically significant rating from Fall to Spring Survey, $t_{(41)} = -3.43$, $p = .01$. There were no differences in survey ratings for any of the other items in this category.

² Categories were: novice, beginner (word processing, email), intermediate (spreadsheets, PowerPoint), advanced (integrating technology into the curriculum), expert (can teach others how to operate various programs and supportive technology).

As Table 2 shows, Del Mar teachers felt most prepared to maintain a classroom Web site/page, to do basic computer trouble shooting, and to find, insert, and manipulate graphics. Staff felt least prepared to use Garage Band or iDVD in class assignments, to create an edited video/iMovie, or to use computational tools. There was one difference in teacher ratings from fall to spring suggesting that teachers feel more competent to do basic computer trouble shooting.

Use of Laptops

Teachers were asked to rate how frequently they performed various tasks using their laptops. Their average ratings are reported in Table 3, on the next page. Teachers used their laptops most often for communication, to manage information, to create homework and instructional activities, and to keep track of dates and activities. Using a scale of never, not often, often, and most of the time, on average, teachers often used their laptop to facilitate their work. There were no differences between ratings on the fall and spring surveys.

Table 3: Ratings of the Frequency with which Teachers Perform Tasks on Laptops

Tasks	Fall Survey (n = 25)	Spring Survey (n = 18)	Overall Average^a (N = 43)
Communicate/collaborate with other Del Mar teachers.	3.68	3.83	3.74
Communicate with students' families.	3.52	3.50	3.51
Manage student information.	3.48	3.39	3.44
Create homework assignments.	3.33	3.47	3.39
Create instructional materials for use in class.	3.29	3.50	3.38
Keep track of due dates and activities on a digital calendar.	3.38	3.17	3.29
Do research that contributes to lesson plans/curriculum design.	3.16	3.22	3.19
Create assessment tools for instructions.	3.00	3.33	3.14
Communicate with students.	3.00	3.33	3.14
Post homework online for student use.	3.13	3.11	3.12
Post classroom resources for student use.	3.00	3.06	3.03
Communicate with other professionals and experts outside the Reed District.	2.72	2.89	2.79
Create lessons for interactive use.	2.68	2.72	2.70
Create digital media presentations for the classroom.	2.46	2.28	2.38
Publish student work on the Web.	2.09	2.22	2.15

Scale: 1 = Never, 2 = Not very often, 3 = Often, 4 = Most or all the time

^aThere were no statistical differences between Fall and Spring ratings.

Teachers were then asked to compare teaching with laptops to their prior experience teaching without laptops. Using a 4-point agree/disagree scale, they rated 20 variables focused on student learning. Overall, teachers were positive about the impact of laptops on students' academic work. There were no statistical differences between ratings on the fall and spring surveys.

Table 4: Comparison of Teaching with Laptops to Prior Teaching without Laptops

	Fall Survey (n = 25)	Spring Survey (n = 18)	Overall Average^a (N = 43)
*Students have great access to current information.	3.63	3.72	3.67
Students get more involved with in-depth research.	3.04	3.17	3.10
Students explore topics in more depth.	3.04	3.06	3.05
Students revise their work more.	2.91	2.83	2.88
Students help other students more.	2.75	2.83	2.79
*Students are better able to evaluate information.	2.79	2.72	2.76
Students spend more time giving presentations.	2.63	2.89	2.74
Students are better able to work independently.	2.83	2.61	2.74
The quality of my students' education has improved.	2.71	2.78	2.74
Students' writing quality is better.	2.75	2.56	2.67
Students' overall quality of work is better.	2.71	2.56	2.67
Student engagement in schoolwork has increased.	2.70	2.61	2.66
Students take more initiative outside of class time.	2.74	2.50	2.63
Students are better organized.	2.71	2.50	2.62
*Students are more productive in class.	2.58	2.61	2.60
Students are more involved in class activities.	2.63	2.53	2.59
Students are more interested in class.	2.54	2.50	2.52
Student participation has increased.	2.43	2.50	2.46
Students interact with teachers more.	2.33	2.44	2.38
Students come prepared to class.	2.29	2.33	2.31

Scale: 1 = Strongly disagree, 2 = disagree, 3 = Agree, 4 = Strongly agree

^aThere were no statistical differences between Fall and Spring ratings.

*indicates the variable was taken from the previous District Teacher Survey

For both the fall and spring surveys, all responding teachers agreed or strongly agreed that students had greater access to current information with their laptops. And, over 75%

of the respondents agreed that when teaching with laptops, students explored topics in more depth and got more involved with in-depth research.

Teachers also rated variables focused on how teaching with technology had impacted their teaching. Table 5, below, shows teachers' average ratings by survey.

Table 5: Ratings of how Technology Impacted Teaching

Technology Impact	Fall Survey (n = 25)	Spring Survey (n = 18)	Overall Average (N = 43)
Parent communication is clearer due to posting homework and grades online.	3.29	3.50	3.38
*I am able to explore topics in greater depth.	3.26	3.41	3.33
*My workload has increased.	3.29	3.24	3.27
*My teaching has benefited from laptop use.	3.17	3.22	3.19
*I am able to make content more relevant to students' lives.	2.96	3.33	3.12 ^a
I feel my teaching is more effective.	2.79	3.00	2.88
*I have changed my classroom management practices.	2.88	2.83	2.86
*I find myself in the role of facilitator more often than I used to.	2.83	2.83	2.83
*My expectations for students' work have increased.	2.88	2.72	2.81
I am better able to individualize instruction	2.75	2.83	2.79
*It is difficult for me to monitor appropriate laptop use in my classroom.	2.50	2.50	2.50
My ability to monitor student progress has improved through the use of Data Director.	2.00	2.00	2.00

Scale: 1 = Strongly disagree, 2 = disagree, 3 = Agree, 4 = Strongly agree

^a Statistically significant rating from Fall to Spring Survey, $t_{(40)} = 2.30$, $p < .05$. There were no differences in ratings for any of the other items in this category.

*indicates the variable was taken from the previous District Teacher Survey

On average, teacher respondents were quite positive about how laptops have impacted their teaching. Nearly all of the respondents to both surveys agreed that their teaching has benefited from laptop use (93%) and that they are able to explore topics in greater depth (91%). Del Mar teachers also agreed that parent communication was clearer, that their

teaching had become more relevant and effective, and not surprisingly, that their workload had increased. In fact, from fall to spring, not only did teachers' average rating of their ability to make content more relevant to students' lives increase, but all respondents to the survey either agreed or strongly agreed with that item.

Teachers were asked to share some successes they experienced due to the one-to-one laptop project. Increased research skills by students and specific academic activities were mentioned most often. Examples of their successes follow.

Students are using a blog to post work, see each other's work, and give feedback. This involves students in evaluating work and taking ownership of it.

Students are able to post book reviews & podcasts on library website.

Process of managing a complex movie project from idea through brainstorm, storyboarding, scripting, filming and editing, soundtrack, all done in a combination of individual work and group collaboration.

I am happy with the in depth, differentiated research lab report produced by my students.

One success for me as a teacher has been the parent communication piece. All parents now have access to student assignments and grades.

We were able to complete several great projects this year using the laptops, which demonstrated content knowledge through podcasting, Keynote slideshows, and imovie. This allowed the students' strengths to shine, as well as allow accommodations for struggling students.

Student Use of Laptops

Del Mar teachers rated how often their students used their laptops in class, individually or in groups. There were no statistical differences between teacher ratings on the fall and spring surveys.³ Table 6, below, shows the overall percent of teachers choosing each response choice.

³ Chi-Square tests, $p > .05$, controlling for familywise error.

Table 6: Student Frequency of work on Laptops Alone or in Groups (N = 43)

	Never	Rarely	Sometimes	Often	Always
Independently	12%	7%	14%	41%	26%
Collaborate using 1 or more laptops with one other student.	17%	12%	45%	26%	0%
Collaborate using 1 or more laptops in small groups of 3 or more students.	28%	33%	25%	12%	2%

Scale: 1 = Never, 2 = Rarely, 3 = Sometimes, 4 = Often, 5 = Always

As the table above shows, the majority of teachers reported that their students tend to work on their laptops independently, more often than in groups. Further statistical analysis found no difference in teachers' ratings by grade (MANOVA tests, $p > .05$). It is important to note that when the fall survey data for this question was shared with the Del Mar principal and site technology coordinator, they questioned the accuracy of the findings and suggested that teachers did not understand the wording of the question. Based on their concern, the item descriptions were changed on the spring survey⁴, nonetheless, there were no differences in teacher ratings.

Teachers also rated items about their students' general attitude and use of laptops. There were no differences in teacher ratings between the fall and spring surveys. Table 7, on page 11, shows their overall average ratings and the percent of teachers who agreed with each statement.

⁴ On the Fall Survey, items were Independently, With one other student, and In groups of 3 or more. The wording presented in Table 6 reflects that of the Spring Survey.

Table 7: Ratings of Student Attitudes and Use of Laptops (N = 43) ^a

Students' Attitudes and Uses of Laptops	Overall Average	% who chose "agree" or "strongly agree"
Are more interested in doing schoolwork on the laptops.	2.90	80%
Treat the laptops respectfully	2.60	69%
Help each other more	2.76	69%
*Cheat more easily (e.g., copy other's work, messaging answers, etc.)	2.60	60%
Share inappropriate material off the Internet	2.50	52%
Surf the Internet instead of doing their work	2.45	50%
Play non-academic computer games during class time	2.33	40%
*Are very distracted	2.38	38%
Waste time when we work in groups on the laptops	2.32	34%

Scale: 1 = Strongly disagree, 2 = disagree, 3 = Agree, 4 = Strongly Agree

^aThere were no statistical differences in teacher ratings between surveys, thus, data presented combines findings from the Fall and Spring survey results;

*indicates the variable was taken from the previous District Teacher Survey

As the table above shows, the majority of teachers (80%) agreed that Del Mar students were more interested in doing schoolwork on laptops. And, more than two-thirds of the teachers said that students helped each other more and treated the laptops respectfully. Several variables focused on potential negative uses of the laptops. Of these, at least half of the teachers agreed that students cheat more easily, surf the Internet instead of doing their work, and that they share inappropriate material off the Internet.

Teachers rated the frequency in which students used their laptops for different types of class work. Table 8, on the next page, shows teachers' average ratings from the fall and spring surveys.

Table 8: Academic Use of the Laptops by Students

Academic Uses of Laptops	Fall Survey Average (n = 25)	Spring Survey Average (n = 18)	Overall Average^a (N = 43)
*Keeping track of schedules, due dates, etc. (Calendar).	4.33	4.39	4.36
*Word processing.	4.13	4.17	4.14
*Editing written material.	3.88	4.00	3.93
*Communicating using email.	3.42	3.89	3.62
Browsing or searching the Internet	3.63	3.56	3.60
* Supporting individualized learning.	3.22	3.63	3.38
*Working collaboratively with other students.	3.30	3.44	3.37
*Researching a topic using online resources.	3.29	3.33	3.31
*Taking notes.	3.33	3.17	3.26
*Submitting homework assignments.	2.86	3.35	3.08
*Creating culminating projects to show what they have learned.	2.96	3.17	3.05
*Designing presentations using multimedia.	3.00	2.94	2.97
*Compensating for a disability or learning challenge.	2.83	3.00	2.90
Working with interactive instructional material	2.63	2.94	2.76
*Using peripherals (digital camera, microscope, scanner, etc.).	2.54	2.83	2.67
*Creating visual displays of data/information (graphs, charts, maps, etc.).	2.50	2.78	2.62
*Using visualizations or simulations online.	2.58	2.67	2.62
Collecting and analyzing data.	2.50	2.53	2.51
*Taking quizzes or tests.	2.43	2.22	2.34
Drill and practice	2.29	2.33	2.31
Communicating with other students/professionals/experts world wide	2.29	2.28	2.29
*Working with spreadsheets.	2.13	2.11	2.12
A reward for finishing other work.	1.92	2.06	1.98

Scale: 1 = Never, 2 = Rarely, 3 = Once a week, 4 = A few times a week, 5 = Often

^aThere were no statistical differences in teacher ratings between surveys.

*indicates the variable was taken from the previous District Teacher Survey

Data in Table 8 indicate that students used laptops most often to keep their work organized, to write and edit, to use email and to search on the Internet. Teachers rarely asked students to use the laptops to collect and analyze data, to take tests, for drill and practice, to communicate outside the district, to work with spreadsheets, or as a reward for finishing work.

Technology Challenges for Teachers

Teachers were also asked to rate their level of agreement on challenges to the Millennial Project. Table 9, on the following page, shows teachers' average responses for each variable, and the percentage of those respondents who agreed or strongly agreed on the end-of-year survey. Again, the variables were written as challenges, i.e. in negative terms.

The majority of respondents believed they were adequately prepared to teach with technology (88%) and that the length of class periods was not too short to take full advantage of using laptops (91%). Increased teacher preparation time and issues with printing were rated as most challenging. Furthermore, more than half of the teachers thought that there were increased discipline problems as the result of technology and that inequalities in home Internet access were a problem.

Table 9: Del Mar Teacher Ratings of Challenges to the Millennial Project ^a

A challenge to the Millennial Project is...	Overall Average (N = 43)	% who chose “agree” or “strongly agree” on post survey (n = 18)
Printing issues.	3.16	83%
Increased teacher preparation time.	3.05	78%
Increased discipline problems as a result of technology.	2.74	67%
Inequalities in home Internet access.	2.61	67%
Laptops are a distraction that encourage unauthorized uses of technology.	2.60	50%
Difficulties with classroom management associated with laptop use.	2.44	39%
A lack of digital or online content aligned with curriculum objectives.	2.37	22%
Lack of professional development focused on integrating laptops into the curriculum.	2.36	44%
Lack of opportunity for professional collaboration.	2.34	39%
Data loss.	2.32	39%
Lack of evidence that laptops are an improvement for teaching and learning.	2.31	39%
Frequent technical problems hinder learning.	2.29	39%
Laptop weight.	2.28*	28%
Reliability of the wireless network.	2.26	44%
Lack of tech support.	2.14	17%
Students’ lack of adequate technology literacy.	2.10	11%
It is difficult to integrate computer activities into my lessons.	1.95	17%
Class periods are too short to take full advantage of laptops.	1.83	6%
I don’t feel adequately prepared to teach with technology.	1.79	11%

Scale: 1 = Strongly disagree, 2 = Disagree, 3 = Agree, 4 = Strongly agree

^aThere were no statistical differences in teacher ratings between surveys, thus, data presented combines findings from the Fall and Spring survey results.

*Due to a technical error, there is no data for this item from the Fall Survey. Thus, the numbers reported are only from the Spring surveys (n = 18).

Teachers were also asked to discuss the most challenging parts of having laptops. When describing the challenges, teachers mentioned time issues most often, followed by laptop breakage leading to missed assignments or data loss. Some representative comments from teachers about what they found to be the most challenging part of having a school laptop are included below:

Engaging in multiple endeavors (differentiated instruction, foreign language implementation, professional learning communities, Data Director, web integration) without allowing sufficient time for mastery. Changes in technology arising faster than teachers' ability to learn.

Expectations of what you can do or offer in a day have increased. Grades online, websites, e-mails and questions when you don't respond quickly.

Basically, the biggest challenge is students not having their laptops because of breakage, malfunction, it not being charged, or forgetting it at home. The second biggest challenge is that if they do forget their laptop, and they don't properly save their work to the server, students can't even use a desktop computer to work. Then they get behind, and they have nothing to work on in class!

Large amount of breakage, and lack of consequences for students breaking their machine. There is no real tough consequence for the students and no ownership of the machines they use.

General Comments and Suggestions by Teachers

Teachers were also asked to include additional general comments about the laptop program. Several teachers offered suggestions, which follow:

For the most part, the laptops have been fantastic - an integral part of teaching and learning here. However, there are some key problems that need to be solved for them to be used efficiently. Most of the damage occurs when they lug the computers in/out of the cars. We need places to store the computers in our classrooms when not in use (they end up on the floor where they get stepped on or in big piles on the table where kids can't find theirs fast). Perhaps a computer storage cart? Printing is a big problem. And, like many teachers here, I am super frustrated with fighting the battle over computer games, both during class time and at recess.

It's been quite a journey of ups and downs. 1. As we enter year four, staff support and training and modeling needs to become more embedded in what we do.

2. Teacher evaluation must change to include realistic and educationally sound use of tech by teachers and students. 3. After we learn how to "use" the tech features of a new program or new piece of hardware, then we need support and direction for effective and appropriate implementation. 4. Look at growth of ELL and RSP students with and without tech. That could be a goldmine of information IF such comparisons could be made. 5. Develop site specific guidelines for use of our tech tools. For example, middle school websites (teacher sites) serve a VERY different purpose from the elementary websites.

Finally, teachers were asked to suggest technology focused professional development.

Suggestions were:

More practical, every day applications: Exploring Word, for example--learning more shortcuts to make technology more useful!

Smart board, assessment of student learning using technology.

Training with the publisher of the new math adopted series - Holt Rinehart

Use of CTAP - would like to see their representatives do in-services on staff development days.

Teachers also need to be given (paid) TIME to work on integrating technology into the curriculum.

I would like to have a staff day where we share the projects we have done, as well as useful websites teachers use for rubrics, interactive curriculum, etc.

Advanced tech for teachers: blogging, creating interactive tools, evaluating tech tools, peer mentors.

Best of all were the after-school sessions that brought tech experts from all sites to Del Mar so we could break into one of three or four focus groups and do actual work together to accomplish something.

Teacher Interviews

Evaluators spoke with the 5th grade team as a group, the Bel Aire technology facilitator, and interviewed eight teachers at Del Mar (English, science, math, Spanish, social studies, technology facilitator). Overall, teachers at Del Mar and Bel Aire were excited about the laptop project, believed that high access to technology in education is here to stay, and were not interested in going back to shared tech carts. They also believed that students benefited from 1-to-1 technology accessibility and that technology integration has stimulated their teaching. Most of the teachers felt they were competent users of technology and that tech support people were responsive to hardware problems.

That said, teachers also expressed frustration with aspects of the laptop project. Common issues raised by the teachers fit into several categories: professional development, leadership, and students. The issues are discussed below and include recommendations that can hopefully be addressed over the summer. Again, this memo was written with the goal of providing information for the administrators to focus on specific concerns raised by the teachers regarding the laptop program.

Professional Development

Teachers reported that there has been no formal technology-focused professional development this year. Informal support, on an as needed basis, occurs when teachers ask the site technology staff for specific help. Some teachers who are considered to be “techies” will also help when asked. Every teacher agreed that continuing professional development is necessary for all levels of technology users.

Advanced users need to stay motivated by learning new educational technology tools and techniques and less advanced teachers need help in order to make progress in integrating technology into the curriculum. The lack of professional development affects all the teachers and also, they believe, sends a message that technology is not important. Several teachers commented on this issue. Comments follow:

Differentiated staff knowledge – support is needed at all the levels.

Need more training within the district specific to the needs of teachers and focused on content areas.

As team leader it is my goal to ask this question to the team- how can we embed technology in our content. I do not want students to do the same tech skill in every class. If the grade level teams can have this discussion can decide who will use Keynote, excel, etc. However, this is not happening. We have not been given any time – focus for every team meeting is PLC.

Teachers are being asked to teach what they don't know.

Staff turnover occurs annually and new teachers coming into the 1-to-1 laptop environment for the first time need training as well. This issue will arise for both Bel Aire and Del Mar as technology becomes more integrated in the curriculum and culture of the schools. As one teacher noted, “Administration assumes that new teachers are tech literate – they are tech users but many are not ready to integrate technology into the curriculum. They need training too.”

Every teacher at Del Mar mentioned printers, as a concern. Although this is not a professional development issue, teachers see this as an issue of professionalism. There is a perception of inequity among the staff – “We who struggle a little don't get the attention or extras that ‘the techies’ get.” Also, they stated that sharing printers is inconvenient – sending students out of the classroom, interrupting the “printer classroom.”

Leadership

Leadership was consistently brought up – it is the umbrella for the direction and focus of any District-wide or site-based program. The perception of the staff is that there is a new district-wide focus each year, one year it was technology, this year PLC, and next year, perhaps foreign language. The concern is that with each new focus the previous one is expected to continue but without the necessary time, vision or support.

The Del Mar staff believes that because there has been a different principal each year since the inception of the laptop project, there has been inconsistent technology leadership. Further, there is a perception that the principal and assistant principal need to become more technology literate (resulting in greater sensitivity to student and teacher uses and barriers), and that there needs to be specific direction from administrators to allow time to discuss and develop technology integration.

Students

The most pressing need, from the Del Mar teachers perspective, is that the schools address the issue of cyberbullying. Bel Aire developed a year-long student certification that focuses on four areas of responsibility: Tools, Service, Character, and Parent education. This innovative and unique resource promotes a sense of privilege for the use of the laptop rather than entitlement. Del Mar does have an introductory session prior to distributing the laptops in the fall, however, additional student focused expectations would be useful.

Teachers felt that cyberbullying caught them by surprise, that is was not anticipated. Teachers reported that students used email and social networks to tease, spread rumors, or embarrass other students.

Del Mar Parent Survey Results

Background

A total of 93 online surveys were submitted. Nine of the parents reported having more than one child attending Del Mar. Parents represented 47 6th grade, 27 7th grade, and 27 8th grade students; 48 boys and 46 girls.⁵

Parents were asked several questions regarding their home technology equipment and Internet accessibility. Table 10, below, displays their responses. As the table shows,

⁵ There is some inconsistency in the numbers as some parents did not provide grade and/or gender information.

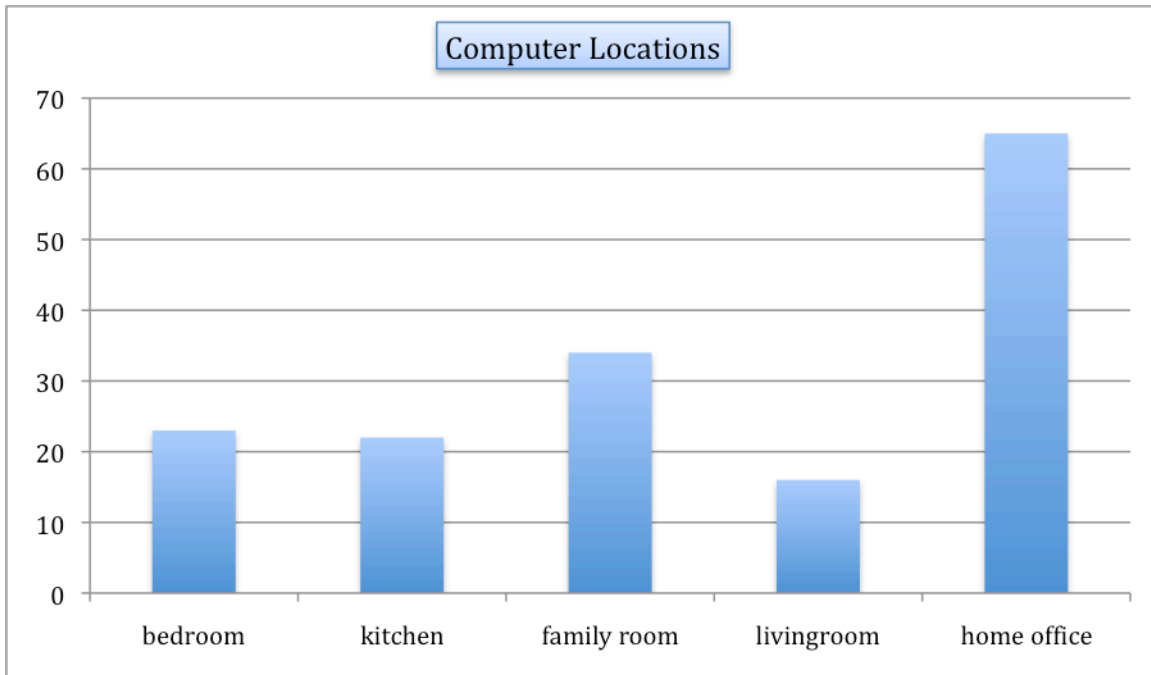
nearly all responding parents had high speed Internet access at home. Of those, 87% also reported having wireless connectivity. This suggests that Internet access at home was not an issue.

Table 10: Technology at home (N=93)

Access/Connection/Equipment	Number of Yes
Internet access	92
High speed (DSL, cable)	92
Dial up	0
Wireless connectivity	80
Provider: Comcast	65
ATT	17
AOL	4
Other (Earthlink, Pacbell, Sprint, SBC)	8
Printer Kind: HP (57), Brother, Canon, Epson, Don't know (22)	89
Camcorder	61

Parents were asked for the number of additional computers at home other than the school provided laptop. Eighty-two respondents (88%) reported that they have additional computers at home: 13 had 1 additional, 22 had 2 additional, 25 had 3 additional, 16 had 4, 5 had 5, and one home had 8 additional computers. Parents were then asked to indicate where the computers were located. The Figure below indicates that most computers were located in home offices.

Figure 1: Home location of computers (N=93)



Parents also reported that family members, other than the Del Mar student, rarely (Mean = 1.6) used the school provided laptop (scale: 1=never, 2=sometimes, 3=often)

Laptop Use at Home

Respondents were asked to indicate how often their child used their laptop to do various activities at home. Table 11, below, indicates that, from the parents’ perspective, students most often used their laptops for homework, and rarely for social networking.

Table 11: Student laptop use at home (N= 93)

Activity	Mean	% of Often
Homework	2.83	82%
Research for school	2.66	66%
Explore internet for fun/personal interest	2.57	62%
Listen to music	2.49	59%
Email	2.26	47%
Play games	2.17	35%
Watch videos	2.01	28%
Social network (MySpace, FaceBook,etc.)	1.65	20%

Scale: 1=Never, 2=Sometimes, 3=Often

Respondents were also asked to rate the influence of using a laptop on their child's education and success at school. Responses are presented in Table 12, on the next page.

Table 12: Laptop use at school (N – 93)

	Average	% of Agree/Strongly agree	# of Don't know
My child's overall computer skills have improved.	3.58	94%	0
I believe there is educational value in students having access to technology.	3.50	95%	1
My child treats the laptop respectfully.	3.35	91%	0
My child likes to use the laptop to write.	3.31	84%	0
My child is proud of his/her schoolwork.	3.25	87%	3
My child is more likely to revise/edit work on a laptop.	3.21	76%	7
The presentations and reports my child writes have improved.	3.17	77%	6
My child works more independently on the laptop.	2.98	70%	2
The laptop helps my child to be better organized.	2.90	64%	4
The quality of my child's education has improved since the laptop program began.	2.83	61%	17
The quality of my child's schoolwork has improved.	2.72	59%	11
My child seems more interested in schoolwork since receiving the laptop.	2.60	47%	5
My child's grades have improved.	2.35	34%	13

Scale: 1 = Strongly disagree, 2 = Disagree, 3 = Agree, 4 = Strongly Agree

An option of "Don't Know" was also available. This rating was not included in any calculations.

The data in Table 12 show that over 90% of responding parents agreed or strongly agreed that use of the laptop improved their child's computer skills, that there was educational value in having access to technology at school, and that their child treated the laptop respectfully. Over 80% of responding parents also agreed or strongly agreed that students liked using the laptop to write, and were proud of their schoolwork. Over 75% of respondents agreed or strongly agreed that their child was more likely to revise or edit work on the laptop and that written reports and presentations had improved. Less than

half of the parents thought that children seemed more interested in schoolwork or that their child's/children's grades had improved due to use of the laptop.

Table 13, below, shows parents responses about how beneficial technology was to each subject matter. Responses suggest that parents believed that technology was most beneficial to social studies, science, and language arts. They believed technology was less beneficial for art and math.

Table 13: Benefit of technology for subjects (N=93)

	Mean	# of Don't know
Social studies	2.48	4
Science	2.44	2
LA	2.34	5
Spanish	1.79	29
Music	1.73	12
Art	1.65	18
Math	1.64	5

Scale: 1 = Not beneficial, 2 = Beneficial, 3 = Very beneficial

An option of "Don't Know" was also available.

Nearly a third of the responding parents checked the "don't know" box for Spanish. Many parents also did not know the benefit of technology for the subjects of art or music.

Communication

Parents were asked about classroom websites. Nearly all responding parents (97%) were aware of teacher/classroom websites. Ninety percent of respondents had visited the websites. Of those who visited the websites, one-third of the parents rarely visited classroom websites, 37% visited the websites monthly, and 27% visited weekly or more. The majority of parents (79%) found the information on the sites helpful and informative, and 73% used the information in discussions with their students.

Cyberbullying

Administrators and teachers were concerned with the issue of cyberbullying. Parents were asked about this issue on the survey. Most parents (72%) reported that their child had not talked about cyberbullying at home. Of those who said that their child had mentioned the issue of cyberbullying (28%), few reported (9%) that their child had been the recipient of cyberbullying. Only three respondents reported that their child had been a participant in any cyberbullying. This data suggests that although students may be aware of the issue, most are likely are not sharing instances with their parents.

The following are the comments shared by parents about cyberbullying.

Someone created a site with her pictures and name on "Bebo". (A social media network)

I know that a lot of "trash talking" goes on online (emails and IM) - nasty blogging on social moth has been really disturbing. There has also been a lot of kids taking "private" emails and broadcasting them to a wide group which has been hurtful. Also kids taking hand written material (journals, cards, notes) scanning them and putting them up on the web.

She has received a malicious e-mail from a classmate.

Another Del Mar student has sent harassing e-mail to my child.

Threatening anonymous emails.

Benefits and Concerns of the Laptop Program

Parents were asked open-ended questions about the greatest benefit to their child using a laptop, what was their greatest concern, and then any other thoughts they had about the overall program.

Most parents, 90%, provided explanations about what they considered to be the greatest benefit of the laptop program. their comments were coded into themes and the number of responses in each category, along with sample comments, are presented in Table 14, below.

Table 14: Benefits to the Laptop

Benefits	# of times mentioned	Sample comments
Research/Information	21	Research is made much easier and it makes his projects a lot more organized and professional.
Homework/Writing/ Editing	20	Easy to write/edit homework report. Ease in putting together a report. She is able to take notes accurately and write readable papers.
Organization / Responsibility	19	Helps him organize himself and facilitates him in organizing his thoughts in writing papers. Greatest benefit for this son is he has learned to be a self advocate thru the laptop (seeing his grades and then talking with teachers if has questions). Also organizational/time management.
Proficient/Comfortable with computers	15	My son produces neater work because he types his assignments. He has learned to type faster. He has learned to do research online.
Future	8	This is the future, these children are getting more prepared for High School and College and the work force.
Multimedia/Programs	6	The quality of presentations has improved and one of my daughters enjoys composing music on her laptop.
Computer literacy	5	She is able to get work done faster and more efficiently. She knows what to do and how to use applications. She knows how to operate on not only a Mac computer, but also on Windows.

Many parents, (83%), wrote about their concerns with the program. Responses were coded into themes and are presented in Table 15, below. Most of the concerns centered on the difficulty of monitoring student time and focus on the computer, and the weight of the laptop. Others commented on the laptop breakdowns, Mac versus PC/printer problems, and the appropriateness for this age group to have unlimited access to the Internet resulting in social isolation and yet too much social networking at the same time.

Table 15: Parent Concerns about the Laptop

Concerns	# of times mentioned	Sample comments
Parent monitoring needs	22	<p>Homework takes longer because my child wastes times taking breaks to do e-mail, surf the Internet, or play online games. It is very hard for parents, even vigilant ones, to control this, short of hovering over the child physically all afternoon/evening, or cutting off the household's Internet access.</p> <p>Unless you spend 2-3 hours a night sitting next to your child as they do their homework, which is not realistic for most parents these days, it is impossible to determine if your child is doing their homework or socializing on line.</p>
Laptop weight	19	<p>My biggest concern is the weight of it and the fact that it makes it hard for him to walk to and from school because of it. I would like to see them use it at school but then be able to use the home computer at home. This lugging it around is too much.</p> <p>It was insane that the kids had to carry the laptop PLUS a heavy binder around to every class. My child's backpack - with just the required material she needed in class - weighed over 20 lbs and she experienced neck and shoulder pain on and off all year.</p> <p>The students should use flash drives to carry information back and forth, they should have computers that stay at school.</p>
Teacher issues	15	<p>The promise of the program bringing about better ways of teaching, especially for visual learners has simply not been realized. i think the teachers need MUCH more training for this program to be successful.</p> <p>Teachers are always saying to check their websites, but they are not updated on a regular basis. When my child was home sick from school, he could not get current information from many of his teachers' sites.</p>
Breakage	12	<p>I am concerned about the amount of repair our laptop seemed to require. Don't know if we just happened to get a lemon, but there were often problems. Sometimes the repairs caused late/missed homework, with no alternative way to complete the assignment.</p>

Maturity	9	High School may be different in that the children should be more mature in their use of the laptop, and to prepare for college.
Socialization	8	Another concern is the use of his laptop for games, etc. at lunch time in school instead of socializing or playing outdoors.
Quality of	7	Students depend on spell check/grammar check instead of doing it themselves. Students cursive writing and printing are becoming illegible.
Tech support	5	The tech dept. at school could be a little more approachable and helpful.
Printers	4	Also you need to let the parents put printer drivers on the laptops. We had to buy her own printer because we couldn't put the driver on her laptop

Parents were asked if they thought the laptop program should continue at Del Mar and if they would like to see laptops used in the high schools. The majority believed that the laptop program should continue at Del Mar (70%), and that it should continue on in the high schools (81%).

Close to one half (45%) of the respondents provided additional comments at the end of the survey. Many reiterated what they had written in the prior comment sections. The following responses illustrate their overall mixed feelings about the laptop program.

Del Mar is preparing our children for the 21st century. Learning the key board, being able to do most anything on an ibook benefit my child greatly, now and in the years to come.

I was very skeptical at first. I am not comfortable using the computer and was unclear about the benefits. I completely changed my mind as a result of the program at Del Mar. I think it is fantastic. I am very impressed at how the school has integrated the curriculum using the computers. My girls comfort level and expertise has grown enormously.

I believe students should have access to computers at school the way they have access to library books. However, I'm not sure I see the benefit of the daily carrying back and forth. If the school is committed to the laptops, I would like to see the teachers accept homework by email. The printing process is cumbersome.

Great program. I don't believe that our teachers are using the network as effectively as they could be: keep hw pages up-to-date. Be more specific when placing information in ical. Be consistent, and set proper expectations with students and parents.

I am not sure that the technology enhances the quality of children's learning at all. I strongly believe that children need to learn how to think and problem solve before obtaining the habit of copying info off the internet or typing as fast as they can without deep thinking process.

There are definite advantages to having laptops accessible for the students. The technology is, however, becoming the ends instead of the means to the end of an enriching education. It would be great to have the students have access when needed but not have the burden of lugging them to every class.

Summary and Recommendations

Results from teachers and parents suggest that the Millennial Project is progressing successfully.

Del Mar teachers felt prepared to use technology in a variety of ways, including maintaining a Web site, doing basic trouble shooting, creating a complex word processing document, using presentation software and peripheral equipment, using data processing programs, and iTunes and iPhoto. They often used their laptops to communicate with other teachers, students and parents, to manage student information, to create homework assignment and instructional materials, and to post homework and resources online for students.

Teachers were also very positive about the impact of technology on their teaching. On average, respondents agreed that communication with parents had improved due to posting homework and grades online, that they were better able to explore topics in depth, that they made content more relevant to their students, and that their teaching was more effective. They felt better able to individualize instruction and had raised their academic expectations for student work.

Compared to teaching without laptops, teachers believed that the laptops allowed students to have greater access to information and to explore topics in more depth. They felt that students revised work more often, were better able to evaluate information, and worked better independently. They also believed that the quality of their student's education had improved and that students were more interested in their schoolwork. Teachers reported that students used their laptops most often to keep organized, to write and edit, and to email. They mentioned that access to the Internet allowed students to cheat more easily, to find inappropriate material, and to surf the Internet rather than focusing on work. Other challenges included additional discipline problems, increased teacher preparation time, and printing difficulties. Teachers also mentioned that when laptops were broken or forgotten by students it was difficult to revise lessons for those students.

Parents reported that students used the laptop primarily for homework when at home. They also agreed that their child's computer skills had improved, that they liked to write on the laptop and to revise and edit their work, that their child was more organized, and that the overall quality of education had improved. A few parents commented that technology is important for the future and that they were pleased that the District thought it was important.

Primary concerns for the parents were that homework was negatively impacted by the laptops. They felt unable to monitor their student's work, that children spent too much time saying they were doing homework when, in fact, they were using the computer for email, Internet surfing and games. They were also worried about the weight of the laptop and problems with transporting it back and forth to school. Parents mentioned being concerned that teacher websites were not current or easy to navigate and that teachers need more training to meet needs of different style learners.

Administration Support Recommendations

- A District-wide renewed focus on technology needs to be clear to site administrators and staff.
- Use District technology committee members as trainers for RUSD staff; bring in outside trainers as necessary.
- Encourage principals to give all staff the opportunity to present at faculty meetings. A teacher who does not consider herself to be a ‘techie’ said, “Believe it or not, I have things I can share with other teachers!”
- The new Technology Administrator position is the appropriate person to take on the leadership issues and structure of the district technology. Questions to answer may include: Where does the District Tech committee fit into an overall structure? What are the responsibilities of this group? Who should represent the sites? Could some of the site responsibility be given to a teachers committee, along with a budget?
- Encourage site administrators to participate in ongoing technology training.
- Plan the structure and support of professional development focused on technology for 2008-2009.

Teacher Support Recommendations

- Conduct a needs assessment with the staff. Structure two to three training sessions per year based on staff needs. Vary delivery – whole school for district issues, (e.g. Cyberbullying), small group for specific program training or integration techniques, individual tutoring as needed. Encourage all teachers to attend one technology workshop outside the district.
- Use the train-the-trainer model. Structure individual or small group inservices by subject area and/or grade level.
- Teachers requested that the tech lunch support concept be reintroduced, where teachers can drop in for a quick curriculum idea or software tutorial.
- Use early dismissal Thursdays for technology trainings.
- Create a tech mentor for newly hired teachers. Offer integration training prior to school start.

- Provide printers for each classroom.
- Consider a monthly “Teacher Tech Tip”. This might include new software, links for curriculum integration ideas for specific subject areas, technology training opportunities (for example: CTAP), and technology information pertinent to RUSD.

Student Support Recommendations

- Extend the Bel Aire certification to Del Mar. Create a curriculum that builds on what was done in 5th grade and continues for each grade level.
- Integrate a cyber-ethics curriculum into the DM advisory period.
- Train teachers in cyberbullying issues.
- Set clear consequences for laptop/cyberbullying abuse and ensure they are enforced.
- Develop a laptop free policy so that students cannot spend every break on the computer.

Parent Support Recommendations

- Continue to educate and involve parents. Address cyberbullying at school functions, invite speaker to PTA or evening meeting. Include links in information that is sent home, such as the online newsletters.
- Teacher websites can be used to help parents understand how the laptops integrate into the curriculum. Teachers can post a short synopsis of the uses of technology for lessons. Include URLs that students are using, so parents can see impact of technology.
- Ask teachers to consider weight of laptops, books, and notebooks. Remind students to take home only what they need for that night’s homework.

Del Mar Teacher Survey

RUSD Millennial Project
Del Mar Teacher Survey June 2009

ROCKMAN *ET AL* is an independent, educational research and consulting firm, specializing in technology and learning. As evaluators for this project, we would like to learn more about your own use of technology and about technology in your classroom. Please complete this survey to let us know what you think about having and using a laptop computer. Your opinions are very important in completing a thorough evaluation of the Millennial Project. Please know that any information you provide in this survey is considered strictly confidential and absolutely no information will be reported that may identify you. Thank you!

Background Information

1. Which grades do you currently teach?: 6 7 8
 2. How many years have you been teaching? _____ years
 3. I am an elective/specialist teacher or support staff. Yes
 4. I teach and academic subject. Yes

5. Which subject(s), at each grade level, do you teach? Check all that apply.

	6	7	8
Science			
English			
Social Studies			
Mathematics			
History			
Foreign Language			
Other (please specify)			

Teacher Use of Laptops

6. How would you rate your overall skill level in the use of the laptop for instruction:

- _____ Novice
 _____ Beginner (i.e. word processing, email)
 _____ Intermediate (i.e. Spreadsheets, PowerPoint, etc.)
 _____ Advanced (i.e. integrating technology into class work)
 _____ Expert (i.e. can teach staff how to operate various programs and supportive technology)

7. How frequently do you perform the following tasks using your laptop?

	Most or all the time	Often	Not very Often	Never	Does not apply
Create instructional materials for use in class.					
Do research that contributes to lesson plans/curriculum design.					
Create digital media presentations for the classroom.					
Create assessment tools for instruction.					

Post classroom resources for student use.					
Publish student work on the Web.					
Communicate with students.					
Communicate with other teachers in the school.					
Keep track of due dates and activities on a digital calendar.					
Create homework assignments.					
Communicate with students' families.					
Manage student information.					
Create lessons for interactive use.					
Post homework online for student use.					
Communicate with other professionals and experts outside the Reed District.					
Utilize Web 2.0 technology (eg. Google docs, wikis, YouTube)					

8. As a result of using technology in teaching...

	Strongly agree	Agree	Disagree	Strongly disagree
I find myself in the role of facilitator more often than I used to.				
I have changed my classroom management practices.				
My teaching has benefited from laptop use.				
My workload has increased.				
I am able to explore topics in greater depth.				
It is difficult for me to monitor appropriate laptop use in my classroom.				
My expectations for students' work have increased.				
I am able to make content more relevant to students' lives.				
I am better able to individualize instruction				
I feel my teaching is more effective				
Parent communication is clearer due to posting homework and grades online.				
My ability to monitor student progress has improved through the use of Data Director.				
I am able to develop critical thinking skills within the curriculum.				
I use authentic assessment when possible.				
I assign project-based work.				

9. Please describe one or two successes you and/or your students have experienced because of participating in the laptop project.

Student Use of Laptops

9. How often do your students use the laptop in the following ways while in the classroom?

	Always	Often	Sometimes	Rarely	Never
Independently					
Collaborate with one other student on a project using laptops.					
Collaborate in small groups of three or more students on a project using laptops.					

10. Use the Agree/Disagree scale to rate the following statements.

	Strongly agree	Agree	Disagree	Strongly disagree	NA
<i>Overall, students in my classes. . .</i>					
Treat the laptops respectfully.					
Play non-academic computer games during class time.					
Are very distracted.					
Surf the Internet instead of doing their work.					
Share inappropriate material off the Internet.					
Help each other more.					
Waste time when we work in groups on the laptops.					
Are more interested in doing school work on the laptops.					
Cheat more easily. (eg., copy other's work, messaging answers, etc.)					

11. My students use their laptops for:

	Often	A few times a week	Once a week	Rarely	Never
Drill and practice					
Keeping track of schedules, due dates, etc. (Calendar)					
Word processing					
Editing written material.					
Communicating using email.					

Working collaboratively with other students.					
Taking notes.					
Submitting homework assignments.					
Researching a topic using online resources.					
Taking quizzes or tests.					
Designing and giving presentations using multimedia.					
Working with spreadsheets.					
Creating visual displays of data/information (graphs, charts, maps, etc.).					
Creating culminating projects to show what they have learned.					
Using visualizations or simulations online.					
Compensating for a disability or learning challenge.					
Supporting individualized learning.					
Using peripherals (digital camera, microscope, scanner, etc.).					
Communicating with other students/professionals/experts world wide					
Browsing or searching the Internet					
Working with interactive instructional material					
Collecting and analyzing data.					
A reward for finishing other work.					
Using Web 2.0 skills (Google docs, wikis, etc.)					

Overall

12a. Are you aware of any cyberbullying at Del Mar? yes no

12b. Do you feel able to handle this issue with students? yes no

13. In your direct experience, a challenge to the Millennial Project is...

	Strongly agree	Agree	Disagree	Strongly disagree
A lack of digital or online content aligned with curriculum objectives.				
Increased teacher preparation time.				

Laptops are a distraction that encourage unauthorized uses of technology.				
Reliability of the wireless network.				
Printing issues.				
Increased discipline problems as a result of technology.				
Students' lack of adequate technology literacy.				
Laptop weight.				
Lack of tech support.				
Data loss.				
Difficulties with classroom management associated with laptop use.				
Inequalities in home Internet access.				
I don't feel adequately prepared to teach with technology.				
Lack of evidence that laptops are an improvement for teaching and learning.				
Lack of opportunity for professional collaboration.				
Frequent technical problems hinder learning				
It is difficult to integrate computer activities into my lessons				
Class periods are too short to take full advantage of laptops				
Lack of subject specific support focused on integrating technology into the curriculum.				
Lack of professional development focused on technology tools.				
Lack of technology hardware. (laptops, printers, smartboards, etc.)				

14. Please describe any challenges you have experienced with the laptop project.

15. How prepared are you to do the following?

	Very prepared	Prepared	Somewhat prepared	Not at all Prepared
Do basic computer trouble shooting. (freezes, lost documents, etc)				
Create a complex word processing document. (e.g. brochure)				
Use data processing programs. (Excel)				
Use presentation software. (PowerPoint,				

Keynote)				
Use peripheral equipment. (scanner, video camera, probe)				
Find, insert and manipulate graphics.				
Create and edit video/iMovie.				
Use computational tools. (graphing calculator, probeware)				
Maintain a classroom Web site/page.				
Use iTunes in class assignments/activities.				
Use Garage Band in class assignments/activities.				
Use iphoto in class assignments/activities.				
Use iDVD in class assignments/activities.				
Use Web 2.0 tools (Google docs, YouTube, wikis, blogs)				

Professional Development

16. Did you attend any technology training this year? (Check all that apply)

<input type="checkbox"/> No	<input type="checkbox"/> Yes, Web based
<input type="checkbox"/> Yes, site based training	<input type="checkbox"/> Yes, at a conference
<input type="checkbox"/> Yes, district-wide training	<input type="checkbox"/> Yes, outside RUSD (other district, college, CTAP)
<input type="checkbox"/> Yes, offered by MCOE	

17. How do you prefer technology training be delivered (check all that apply)

<input type="checkbox"/> Large group	<input type="checkbox"/> Curriculum/subject specific
<input type="checkbox"/> small group	<input type="checkbox"/> Casually, 1 to 1 as needed
<input type="checkbox"/> Skill specific	<input type="checkbox"/> At a training facility (not RUSD)

18. Please list the technology training you would like to see offered.

19. Would you like to observe technology use in another class in the district? Yes No

20. Please include any other comments that you think may help us in assessing the impact of the laptop project.

THANK YOU!

Questions? Please contact Jane– jane@rockman.com

Bel Aire Teacher Survey

RUSD Millennial Project
Bel Aire Teacher Survey
June 2009

ROCKMAN *ET AL* is an independent, educational research and consulting firm, specializing in technology and learning. As evaluators for this project, we would like to learn more about your own use of technology and about technology in your classroom. Please complete this survey to let us know what you think about having and using a laptop computer. Your opinions are very important in completing a thorough evaluation of the Millennial Project. Please know that any information you provide in this survey is considered strictly confidential and absolutely no information will be reported that may identify you. Thank you!

Background Information

1. Which grade do you teach? (If you are a Specialist, please don not check any grade) :

3 4 5

If specialist, please list the subject _____

2. How many years have you been teaching? _____ years

3. How would you rate your overall skill level in the use of the laptop for instruction:

_____ Novice

_____ Beginner (i.e. word processing, email)

_____ Intermediate (i.e. Spreadsheets, PowerPoint, etc.)

_____ Advanced (i.e. integrating technology into class work)

_____ Expert (i.e. can teach staff how to operate various programs and supportive technology)

Teacher Use of Laptops

4. How frequently do you perform the following tasks using your laptop?

	Most or all the time	Often	Not very often	Never	Doesn't apply
Create instructional materials for use in class					
Do research that contributes to lesson plans/curriculum design					
Create digital media presentations for the classroom					
Create assessment tools for instruction					
Post classroom resources for student use.					
Publish student work on the Web.					
Communicate with students.					
Communicate with other teachers in the school.					
Keep track of due dates and activities on a digital calendar.					
Create homework assignments					

Communicate with students' families					
Manage student information.					
Create lessons for interactive use.					
Post homework online for student use.					
Communicate with other professionals and experts outside the Reed District.					
Utilize Web 2.0 technology (eg Google docs, wikis, YouTube)					

5. As a result of using technology in teaching...

	Strongly Agree	Agree	Disagree	Strongly Disagree	Doesn't apply
I find myself in the role of facilitator more often than I used to.					
I have changed my classroom management practices.					
My teaching has benefited from laptop use.					
My workload has increased.					
I am able to explore topics in greater depth.					
It is difficult for me to monitor appropriate laptop use in my classroom.					
My expectations for students' work have increased.					
I am able to make content more relevant to students' lives.					
I am better able to individualize instruction					
I feel my teaching is more effective					
Parent communication is clearer due to posting homework and grades online.					
My ability to monitor student progress has improved through the use of Data Director.					
I am able to develop critical thinking skills within the curriculum.					
I use authentic assessment when possible.					
I assign project-based work.					

6. Please describe a successful lesson you and/or your students have experienced because of using laptops in the classroom.

Student Use of Laptops

7. How often do your students use the laptop in the following ways while in the classroom?

	Always	Often	Sometimes	Rarely	Never
Independently					
Collaborate with one other student on a project using laptops.					
Collaborate in small groups of three or more students on a project using laptops.					

8. Use the Agree/Disagree scale to rate the following statements.

	Strongly agree	Agree	Disagree	Strongly disagree	Doesn't apply
<i>Overall, students in my classes. . .</i>					
Treat the laptops respectfully.					
Play non-academic computer games during class time.					
Are very distracted.					
Surf the Internet instead of doing their work.					
Share inappropriate material off the Internet.					
Help each other more.					
Waste time when we work in groups on the laptops.					
Are more interested in doing school work on the laptops.					
Cheat more easily. (eg., copy other's work, messaging answers, etc.)					

9. My students use their laptops for:

	Often	A few times a week	Once a week	Rarely	Never	Doesn't apply
Drill and practice						
Keeping track of schedules, due dates, etc. (Calendar)						
Word processing						
Editing written material.						
Communicating using email.						
Working collaboratively with other students.						
Taking notes.						
Submitting homework assignments.						
Researching a topic using online resources.						

Taking quizzes or tests.						
Designing and giving presentations using multimedia.						
Working with spreadsheets.						
Creating visual displays of data/information (graphs, charts, maps, etc.).						
Creating culminating projects to show what they have learned.						
Using visualizations or simulations online.						
Compensating for a disability or learning challenge.						
Supporting individualized learning.						
Using peripherals (digital camera, microscope, scanner, etc.).						
Communicating with other students/professionals/experts world wide						
Browsing or searching the Internet						
Working with interactive instructional material						
Collecting and analyzing data.						
A reward for finishing other work.						
Using Web 2.0 skills (Google docs, wikis, etc.)						

Overall

10a. Are you aware of any cyberbullying at Bel Aire? yes no

10b. Do you feel able to handle this issue with students? yes no

11. In your direct experience, a challenge to the Millennial Project is...

	Strongly agree	Agree	Disagree	Strongly disagree	Doesn't apply
A lack of digital or online content aligned with curriculum objectives.					
Increased teacher preparation time.					
Laptops are a distraction that encourage unauthorized uses of technology.					
Reliability of the wireless network.					
Printing issues.					
Increased discipline problems as a result of technology.					

Students' lack of adequate technology literacy.					
Laptop weight.					
Lack of tech support.					
Data loss.					
Difficulties with classroom management associated with laptop use.					
Inequalities in home Internet access.					
I don't feel adequately prepared to teach with technology.					
Lack of evidence that laptops are an improvement for teaching and learning.					
Lack of opportunity for professional collaboration.					
Frequent technical problems hinder learning					
It is difficult to integrate computer activities into my lessons					
Class periods are too short to take full advantage of laptops					
Lack of subject specific support focused on integrating technology into the curriculum.					
Lack of professional development focused on technology tools.					
Lack of technology hardware. (laptops, printers, smartboards, etc.)					

12. Please describe any challenges you have experienced with the laptop project.

13. How prepared are you to do the following?

	Very prepared	Prepared	Somewhat Prepared	Not at all Prepared	Doesn't apply
Do basic computer trouble shooting. (freezes, lost documents, etc)					
Create a complex word processing document. (e.g. brochure)					
Use data processing programs. (Excel)					
Use presentation software. (PowerPoint, Keynote)					
Use peripheral equipment. (scanner, video camera, probe)					
Find, insert and manipulate graphics.					
Create an edited video/iMovie.					
Use computational tools. (graphing					

calculator, probeware)					
Maintain a classroom Web site/page.					
Use iTunes in class assignments/activities.					
Use Garage Band in class assignments/activities.					
Use iphoto in class assignments/activities.					
Use iDVD in class assignments/activities.					
Use Web 2.0 tools (Google docs, YouTube, wikis, blogs)					

Professional Development

14. Did you attend any technology training this year? (Check all that apply)

<input type="checkbox"/> No	<input type="checkbox"/> Yes, Web based
<input type="checkbox"/> Yes, site based training	<input type="checkbox"/> Yes, at a conference
<input type="checkbox"/> Yes, district-wide training	<input type="checkbox"/> Yes, outside RUSD (other district, college, CTAP)
<input type="checkbox"/> Yes, offered by MCOE	

15. How do you prefer technology training be delivered (check all that apply)

<input type="checkbox"/> Large group	<input type="checkbox"/> Curriculum/subject specific
<input type="checkbox"/> small group	<input type="checkbox"/> Casually, 1 to 1 as needed
<input type="checkbox"/> Skill specific	<input type="checkbox"/> At a training facility (not RUSD)

16. Please list the technology training you would like to see offered.

17. Would you like to observe technology use in another class in the district? Yes No

18. Please include any other comments that you think may help us in assessing the impact of the laptop project.

THANK YOU!

Questions? Please contact Jane– jane@rockman.com

Del Mar Parent Survey

RUSD Millennial Project
Del Mar Parent Survey

As you know, the Reed Union School District implemented a laptop program at Del Mar and Bel Aire. Rockman Et Al is evaluating the implementation, impact, and effectiveness of the laptop program Your feedback is very important in this evaluation! This survey may take approximately 15-20 minutes to complete. Your responses are completely confidential; we will not be using any names in our analyses or reports.

We hope to hear from you! Your feedback is important to the success of the program.

Background Information

1. Child/Children Grade(s): 6 7 8
 2. Gender: boy girl

Laptop Use at home

3. Do you have access to the Internet at home? Yes No
 4. What is the Internet connection?
 High speed (DSL, cable) Dial up/Modem

5. At home, my child uses the laptop to:

	Never	Sometimes	Often	Don't Know
E-mail friends				
Social network (MySpace, FaceBook, etc)				
Research for school				
Explore Internet for fun/personal interest				
Listen to music				
Watch videos				
Play games				
Complete homework				

6. Other than the school provided laptop, how many computers do you have at home? ____

Where are they located (check all that apply):

- bedrooms kitchen family room living room home office

7. How often do family members (other than your Del Mar student) use the school provided laptop?

Never	Sometimes	Often
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

8. Do you know how to access your student's work on the laptop? Yes No

Laptop Use at School

9. Please use the Agree/Disagree scale to rate the following statements regarding your child’s use of the school provided laptop:

	Strongly Disagree	Disagree	Agree	Strongly Agree	Don’t know
The quality of my child’s education has improved since the laptop program began.					
The quality of my child’s schoolwork has improved.					
My child is proud of his/her schoolwork.					
My child likes to use the laptop to write.					
My child is more likely to revise/edit his/her work on a laptop.					
The laptop helps my child to be better organized.					
My child’s overall computer skills have improved.					
The presentations and reports my child writes have improved.					
I believe there is educational value in students having access to technology.					
My child seems more interested in schoolwork since receiving the laptop.					
My child works more independently on the laptop.					
My child treats the laptop respectfully.					

School and District Communication

10. I am aware that each teacher has a classroom website. Yes No

If yes to #10, answer questions 11-15, If no, skip to question 16.

11. I have visited classroom websites. Yes No

12. About how often do you visit the teacher/classroom websites?

Never	Rarely (a few times a year)	Sometimes (monthly)	Often (weekly)
<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>

13. The information on the teacher website is very helpful and informative. Yes No

14. I have used the information provided on the website to discuss classroom activities with my child. Yes No

15. Are assignments and information easy to find on the Websites?

Yes No

16. How often do you read the RUSD Headline News (online newsletter).

Never	Rarely (a few times a year)	Sometimes	Regularly (monthly)
<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>

17. Has your child ever mentioned cyberbullying? Yes No

18. Has your child ever been the recipient of cyberbullying? (ex: email or social networks, such as MySpace, FaceBook) Yes No

If yes, please explain. _____

19. Has your child ever participated in cyberbullying? Yes No

If yes, please explain. _____

YOUR THOUGHTS

20. What do you see as the greatest benefit to your child's use of a laptop?

21. What, if any, is your concern about the laptop program?

26. I believe the 1-to-1 laptop program should continue. Yes No

27. I would like to see my child use a laptop in high school. Yes No

22. Please add any other comment about the laptop program if you would like.

Thank You!

Del Mar Student Survey

RUSD Millennial Project
Del Mar Student Survey June 2009

The School District has hired Rockman Et Al to find out how the students like the Laptop Program. Please complete this survey to let us know what you think about having and using a laptop computer. We are not asking for your name and your information will not be shown to any teacher or principal, so please be honest when you answer! All these questions are focused on the laptop given to you to use while at Del Mar. When you answer the questions please think about your use of the laptop you use at school!

THANK YOU!

Directions for the survey: Please check one box for each question.

Grade in June 2009: 6 7 8

Boy **Girl**

Laptop Use at home

1. Do you have access to the Internet at home? Yes No

2. Do you have your own email account at home? Yes No

3. If you have your own email, how many email accounts do you have? _____

4. Approximately how many hours a week do you spend using your laptop at home for schoolwork?

More than 6 hours 5 to 6 hours 3 to 4 hours 1 to 2 hours less than 1 hour

5. Approximately how many hours a week do you spend using your laptop at home for non-school related activities? (for example, games, music, video, email, facebook, etc.)

More than 6 hours 5 to 6 hours 3 to 4 hours 1 to 2 hours less than 1 hour

6. At home, I use the laptop to:

	Often	Sometimes	Never
E-mail	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Research for school	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Explore Internet for fun	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Download images/pictures	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Listen to music	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Watch videos	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Play games	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Email my teachers to ask questions/ get feedback about schoolwork.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Use email or chats to work on group projects.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Figure out how to use a new computer program.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Download homework or materials from a school or class website.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Socialize with friends online (email, twitter, facebook, etc.)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

7. When I am at home using my laptop, I most often access the Internet from:

- My bedroom Kitchen Family room Living room

8. I have my own website. Yes No

8a. If yes, my parents regularly check my website. Yes No

9. How often do other family members use your laptop?

Often	Sometimes	Never
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Laptop Use at School

10. At school, I use my laptop to:

	All the time	Much of the time	Not very often	Never
Write stories or essays. (Word process)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Take notes.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Work with a spreadsheet. (collect and analyze data)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Make digital pictures or videos. (iMovie, Keynote)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Work with graphics.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Research a topic using the Internet.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Make audio files.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Keep track of due dates and activities on a digital calendar. (iCal)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Create a digital presentation or project that uses words, pictures, and audio/video. (Keynote)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Take tests and quizzes.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Integrate music into my presentations. (GarageBand)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Revise and edit my work.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

11. Read each statement carefully, then use the Agree/Disagree scale to rate the following:

	Strongly agree	Agree	Disagree	Strongly disagree
Schoolwork has been more interesting since we got laptops.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I understand my schoolwork better when we use our laptops.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I like to use my laptop to read.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I like to use my laptop to write.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
When I'm learning something new, I use the Internet and computers to help me find more information.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I prefer using my laptop to write rather than writing by hand.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Computers help me learn about different places and people.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
My laptop is better for games than for doing schoolwork.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
It's easier to learn from books than from using a computer.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The Internet and computer programs make me a better student.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The laptops help me, and groups I'm in, work on school projects more independently.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

I can find help when I don't understand how to do something on my laptop.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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12. Please use the Agree/Disagree scale to rate the following statements:

	Strongly agree	Agree	Disagree	Strongly disagree
The quality of my education has improved since we received our laptops.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I am more involved in class activities when we use our laptops.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Having a laptop helps me to be better organized.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The laptop is more of a distraction than a help.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I like group work more when using the laptops.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I am more likely to revise/edit my work on a laptop.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The quality of my work has improved because of my laptop.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I use the library less for reading now that I have my laptop.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I use the library less for research now that I have my laptop.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Now that I have my laptop, I interact with my teachers more.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
My overall skill at using a computer has improved.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

13. How often do you use the laptop in the following ways while in the classroom?

	Always	Often	Sometimes	Rarely	Never
Work alone.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Collaborate with one other student on a project using laptops.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Collaborate in small groups of three or more students on a project using laptops.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

14. How often do you use technology for the following subjects?

	Daily	Every few days	Once a week	Once a month	Never
Social Studies	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Science	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Math	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Language Arts	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Music	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Spanish	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Art	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Journalism	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
PE	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other subject? _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

15. How well do you use the laptop to ...?

	Very well	Well	Ok	Somewhat	Not at all
Email	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Play educational games	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Browse or search the Internet	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Create a digital presentation or project that uses words, pictures, and audio/video. (Keynote)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Collect and analyze data (Excel)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Write stories or essays – word processing	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Search online encyclopedias	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Draw or create graphics	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Create video (iMovie)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Keep track of due dates and activities on a digital calendar. (iCal)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Take notes	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Join wikis or blogs	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Produce podcasts	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

16. Please read carefully, then use the Agree/Disagree scale to rate the following statements:

<i>Overall, students in my classes. . .</i>	Strongly agree	Agree	Disagree	Strongly disagree
Treat the laptops respectfully.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Play non-academic computer games during class time.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Are very distracted.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Surf the Internet instead of doing their work.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Share inappropriate material off the Internet.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Help each other more.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Waste time when we work in groups on the laptops.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Are more interested in doing schoolwork on the laptops.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Cheat more easily. (e.g., copy other's work, messaging answers, etc.)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

17. Use the Agree/Disagree scale to rate the following:

<i>Since I have been using a laptop...</i>	Strongly agree	Agree	Disagree	Strongly disagree
My computer keyboarding skills have improved.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
My research skills have improved.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The reports I write for classes have improved.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
It is easier to keep track of my assignments.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
It is easier to work with other students on group projects.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I am more interested in doing schoolwork.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I get better grades in classes like English, Social Studies, and Science.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
My writing has improved.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
My teachers expect more from me.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I feel more comfortable sharing my schoolwork.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I am proud of my schoolwork.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
My presentations are more interesting.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

18. Cyberbullying

	Yes	No
Are you aware of any cyberbullying at Del Mar?	<input type="checkbox"/>	<input type="checkbox"/>
Have you ever participated in cyberbullying another student?	<input type="checkbox"/>	<input type="checkbox"/>
Have you experienced cyberbullying?	<input type="checkbox"/>	<input type="checkbox"/>

YOUR THOUGHTS

Please complete the statements by writing your answers in the space below each starting phrase.

19. The best thing about using the laptop at school is ...

20. The hardest part about using the laptop at school is ...

Bel Aire Student Survey

RUSD Millennial Project
Bel Aire Student Survey June 2009

The School District has hired Rockman Et Al to find out how the students like the Laptop Program. Please complete this survey to let us know what you think about having and using a laptop computer. We are not asking for your name and your information will not be shown to any teacher or principal, so please be honest when you answer! All these questions are focused on the laptop given to you to use while at Bel Aire. When you answer the questions please think about your use of the laptop you use at school!

THANK YOU!

Directions for the survey: Please check one box for each question.

Grade: 6 7 8 **Boy** **Girl**

Laptop Use at home

- 1. Do you have a computer at home you can use?** Yes No
1a. If yes, how many computers? _____
2. Do you have access to the Internet at home? Yes No
3. Do you have your own email account at home? Yes No
3a. If you have your own email, how many email accounts do you have? _____

Laptop Use at School

4. At school, I use my laptop to:

	All the time	Much of the time	Not very often	Never
Write stories or essays. (Word process)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Take notes.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Work with a spreadsheet. (collect and analyze data)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Make digital pictures or videos. (iMovie, Keynote)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Work with graphics.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Research a topic using the Internet.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Make audio files.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Keep track of due dates and activities on a digital calendar. (iCal)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Create a digital presentation or project that uses words, pictures, and audio/video. (Keynote)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Take tests and quizzes.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Integrate music into my presentations. (GarageBand)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
To join wikis.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
To create podcasts	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

5. Read each statement carefully, then use the Agree/Disagree scale to rate the following:

	Strongly agree	Agree	Disagree	Strongly disagree
Schoolwork has been more interesting since we got laptops.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I like to use my laptop to read.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I like to use my laptop to write.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
When I'm learning something new, I use the Internet and computers to help me find more information.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I prefer using my laptop to write rather than writing by hand.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Computers help me learn about different places and people.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
My laptop is better for games than for doing schoolwork.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
It's easier to learn from books than from using a computer.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The Internet and computer programs make me a better student.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The laptops help me, and groups I'm in, work on school projects more independently.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I can find help when I don't understand how to do something on my laptop.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

6. Please use the Agree/Disagree scale to rate the following statements:

	Strongly agree	Agree	Disagree	Strongly disagree
The quality of my education has improved since we received our laptops.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I am more involved in class activities when we use our laptops.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Having a laptop helps me to be better organized.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The laptop is more of a distraction than a help.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I like group work more when using the laptops.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I am more likely to revise/edit my work on a laptop.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The quality of my work has improved because of my laptop.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I use the library less for reading now that I have my laptop.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I use the library less for research now that I have my laptop.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Now that I have my laptop, I interact with my teachers more.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
My overall skill at using a computer has improved.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

7. How often do you use the laptop in the following ways while in the classroom?

	Always	Often	Sometimes	Rarely	Never
Work alone.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
To work with one other student on a project using laptops.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
In small groups of three or more students using laptops.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

8. How often do you use technology for the following subjects?

	Daily	Every few days	Once a week	Once a month	Never
Social Studies	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Science	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Math	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Language Arts	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Music	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Spanish	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Art	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

9. How well do you use the laptop to do the following?

	Very well	Well	Ok	Somewhat	Not at all
Learn using online educational games	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Browse or search the Internet	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Create a digital presentation or project that uses words, pictures, and audio/video. (Keynote)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Collect and analyze data (Excel)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Write stories or essays – word processing	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Search online encyclopedias	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Draw or create graphics	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Create video (iMovie)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Keep track of due dates and activities on a digital calendar. (iCal)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Take notes	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Join wikis or blogs	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Produce podcasts	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

10. Please read carefully, then use the Agree/Disagree scale to rate the following statements:

<i>Overall, students in my classes. . .</i>	Strongly agree	Agree	Disagree	Strongly disagree
Treat the laptops respectfully.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Play non-academic computer games during class time.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Are very distracted.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Surf the Internet instead of doing their work.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Share inappropriate material off the Internet.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Help each other more.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Waste time when we work in groups on the laptops.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Are more interested in doing schoolwork on the laptops.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Cheat more easily. (e.g., copy other's work, messaging answers, etc.)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

11. Use the Agree/Disagree scale to rate the following:

<i>Since I have been using a laptop...</i>	Strongly agree	Agree	Disagree	Strongly disagree
My computer keyboarding skills are improving.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
My research skills are improving.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
It is easier to keep track of my assignments.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
It is easier to work with other students on group projects.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I am more interested in doing schoolwork.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I get better grades in classes like Reading, Social Studies, and Science.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
My writing is improving.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
My teachers expect more from me.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I feel more comfortable sharing my schoolwork.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I am proud of my schoolwork.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

12. Cyberbullying

	Yes	No
Are you aware of any cyberbullying at Bel Aire?	<input type="checkbox"/>	<input type="checkbox"/>
Have you ever participated in cyberbullying another student?	<input type="checkbox"/>	<input type="checkbox"/>
Have you experienced cyberbullying?	<input type="checkbox"/>	<input type="checkbox"/>

YOUR THOUGHTS

Please complete the statements by writing your answers in the space below each starting phrase.

13. The best thing about using the laptop at school is ...

14. The hardest part about using the laptop at school is ...

9th Grade Student Survey

**RUSD Millennial Program
9th Grade Student Survey
Spring 2009**

Hello Students:

As you know, you were among the first students to receive a personal laptop computer while attending Del Mar. I am studying the program for the school district. As part of the study, we are interested in hearing from you about how you use computers now that you are in high school. We are also interested in learning how using a laptop in middle school prepared you for high school. This survey should take approximately 15 minutes to complete. Your responses are completely confidential. We will not be using any names or identifying information in our analyses or reports.

Your experiences and views about the laptop program are important, so please answer the questions thoughtfully. Be honest.

Thank you!

Background Information

1. Name of your high school: _____
2. Gender: Male Female
3. Do you have use of a computer at home? Yes No
4. Did you pass out of any required high school computer class? (skip this questions if there was no requirement) Yes No

Laptop Use At School

5. Are you allowed to bring a personal computer to school? Yes No

6. If yes to #5, how often can you use it?

All classes-anytime	In most classes	In 2 to 3 classes	In 1 class

7. Do you have access at school to a computer? Yes No

9. If yes, how often can you use it?

All classes - anytime	Most classes each day	A few times a week	About once a week	Rarely

10. How often do you use a computer for homework?

Every day	A few times a week	About once a week	A few times a month	Rarely

10. How often do you use technology for the following subjects?

	Daily	Once or twice a week	Once a month	Never	I didn't take this class
Social Studies					
English					
History					
Foreign Language					
Math					
Science					
Art					
Music					
Journalism					
PE					
Other class (fill in):					

11. How often do your high school teachers encourage you to use technology in your schoolwork?

Every day	A few times a week	About once a week	A few times a month	Rarely

First, think about last year when you had laptop at Del mar and how much you used it, then decide how your use of computers has changed now that you are in high school.

Check the response below that best describes our previous use of computers compared to your current use of computers.

12. Rate your computer use in high school compared to use at Del Mar.

	I do this a lot more	I do this a little more	I do this the same amount	I do this less now	I never do this
Write stories or essays					
Take notes					
Revise written work					
Work with a spreadsheet (collect and analyze data)					
Make digital videos					
Work with graphics					
Research a topic using the Internet					
Make audio files					
Keep track of due dates and activities (calendar)					
Create a digital presentation or project that uses words, pictures, and audio/video.					
Take quizzes and tests					
Integrate music into my presentations. (GarageBand)					

13. Please use the Agree/disagree scale to rate the following statements. When answering, think about how your laptop use at Del Mar prepared you for high school.

<i>Because of the Del Mar laptop program, as a 9th grader...</i>	Strongly agree	Agree	Disagree	Strongly disagree
The quality of my schoolwork has improved.				
I do more research on the Internet.				
I use the computer to be organized.				
I am more likely to revise/edit my work on a computer.				
Using technology keeps me interested in schoolwork.				
I am a critical consumer of what I read on the Internet.				
I follow computer safety and ethical use.				
I am able to successfully integrate technology into my schoolwork.				
My writing continues to improve.				
I feel more comfortable sharing my schoolwork when using technology.				
My overall skill at using a computer continues to improve.				

14. Compared to other students in my classes...

	More	Same	Less
I am prepared to use technology.			
I am prepared to use multimedia programs.			
I use computers to do my schoolwork/homework.			

15. How well do you use the computer to ...

	Very well	Well	Ok	Somewhat well	Not at all well
E-mail.					
Word process (stories, essays)					
Browse or search the Internet.					
Create a multimedia digital presentation or project that uses words, pictures, and audio/video.					
Collect and analyze data (Excel)					
Keep track of due dates and activities on a digital calendar.					

16. I think my high school should support the use of laptops. Yes No

17. If you have any suggestions for how to improve the Del Mar computer program, Please share your ideas.

Thank You!