

# Findings from the Spring 2005 Irving Laptop Surveys for Teachers<sup>1</sup>

## Introduction

This report contains findings for one of four components<sup>2</sup> of the Irving Independent School District (ISD) spring 2005 initiative to gather information that would aid in the refinement of the integration of laptops into the curriculum. Findings in this report are based on surveys completed by 634 teachers representing all four Irving high schools, two middle schools and two elementary schools.

The following surveys were administered to each teacher:

- Demographics
- Stages of Adoption of Technology (Stages)
- Teachers Attitudes Toward Computers (TAC) (4 scales)
- CBAM Level of Use of Technology (CBAM-LoU)
- Technology Proficiency Self Assessment (TPSA)
- Apple Classroom of Tomorrow (ACOT)- modified
- Items Specific to Laptops and Teaching/Learning

Stages of Adoption (Christensen, 1997) and the TAC (Christensen & Knezek, 1996) were developed by the authors of this document, while CBAM-LoU was adapted by Griffin and Christensen (1999) from the work of Hall, Loucks, Rutherford, and Newlove (1975). TPSA was created by Ropp (1999). ACOT was developed by researchers at Apple Computer Inc. (Dwyer, 1994). A new instrument was compiled specifically for this project. It included items previously used by the evaluators as well as new ones developed cooperatively with Irving ISD personnel. A copy of each survey may be found in the Instrument section of this report.

## Measurement Indices

Stage of Adoption (Christensen, 1997) is a self-assessment instrument of a teacher's level of adoption of technology, based on earlier work by Russell (1995). There are six possible stages in which educators rate themselves: Stage 1 - Awareness, Stage 2 - Learning the process, Stage 3 - Understanding and application of the process, Stage 4 - Familiarity and confidence, Stage 5 - Adaptation to other contexts, and Stage 6 - Creative application to new contexts.

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<sup>2</sup> The other components are findings from student surveys; findings from focus group interviews with school personnel; and classroom observations, findings for each of which are contained in separate reports.

The Teachers' Attitudes Toward Computers questionnaire measures attitudes toward computers in nine areas using a Likert scale of 1 = Strongly Disagree to 5 = Strongly Agree:

- Interest – enjoyment and satisfaction in using computers
- Comfort – lack of anxiety; comfortable using technology
- Accommodation – acceptance of computers; willingness to learn
- Email – usefulness of email with students
- Concern – fear that computers will have a negative impact on society
- Utility – belief that computers are useful for productivity and instruction
- Perception – overall feeling toward computers (Semantic Differential from 1 to 7)
- Absorption – belief that computers are a part of many areas of work and leisure
- Significance – belief that computers are important for student use.

Level Of Use (Griffin & Christensen, 1999) is a self-assessment instrument adapted from the Concerns-Based Adoption Model (CBAM) Level of Use (Hall, et al., 1975) designations for adoption of an educational innovation. There are 8 levels (coded for analysis as 1 – 8): 1 - Level 0 Non-use, 2 - Level 1 Orientation, 3 - Level 2 Preparation, 4 - Level 3 Mechanical Use, 5 - Level 4 A Routine, 6 - Level 4 B Refinement, 7 - Level 5 Integration, and 8 - Level 6 Renewal.

The Technology Proficiency Self-Assessment Instrument (TPSA) developed by Ropp (1999) was administered to determine the educators' self efficacy of their perceived technology skills. Four of Ropp's measurement scales (with 5 items each) were included: Email, Integrated Applications (IA), Teaching with Technology (TT), and the World Wide Web (WWW).

The Apple Classroom of Tomorrow (ACOT) instrument was developed by researchers at Apple Computer Inc. as a tool in a research project that spanned more than a decade (Dwyer, 1994). The descriptors for each of the levels has been modified from the original version. Educators are asked to estimate their current level of understanding and use of technology. The levels are ACOT1 - Entry, ACOT2 - Adoption, ACOT3 – Adaptation, ACOT4 – Appropriation, and ACOT5 – Invention.

## **Subjects**

Six hundred thirty-four teachers from the four Irving high schools, two middle schools and two elementary schools completed the online surveys. The high schools have been in the laptop program for at least two years and some as many as four years. The distribution of responses from these schools is listed in Table 1. The number of responses by school ranged from 50 to 117, which was deemed to be an adequate sample to represent the perceptions of teachers in each of the high schools across the district. Responses by 634 teachers represents an high return rate for the school teachers with regular instructional duties. As shown in Table 1, the responses were well-distributed across the schools from which data were requested.

**Table 1.***Number of Teacher Survey Responses by School, Spring 2005*

School	Frequency	Percent
Irving HS	128	20.2
McArthur HS	107	16.9
Nimitz HS	124	19.6
Academy of Irving	51	8.0
Brandenburg Elem.	45	7.1
Lively Elem.	61	9.6
Austin MS	61	9.6
DeZavala	57	9.0
Total	634	100.0

### Demographic Information

Gender. As shown in Table 2, the teachers who responded were approximately 71% female and 29% male. This indicates both genders were adequately represented in the responses to the survey. A higher percentage of female returns was anticipated since a higher proportion of teachers in Irving are female.

**Table 2.***Distribution by Gender for Teachers Responding to 2005 Irving Laptop Survey*

Gender	Frequency	Percent
Male	186	39.5
Female	448	70.7
Total	634	100.0

Age. As shown in Table 3, the ages of high school teachers responding from Irving were nearly equally spread across the <30, 30-40, 40-50, and 50+ age brackets. This indicates a healthy distribution for the district as a whole, not heavily weighted toward very young or older teachers.

**Table 3.***Distribution by Age for Teachers Responding to 2004 Irving Laptop Survey*

Age	Frequency	Percent
21-29	123	19.4
30-39	170	26.8
40-49	136	21.5
50+	205	32.3
Total	634	100.0

Highest Degree. As shown in Table 4, 61% of the teachers responding from Irving indicated that a bachelor’s degree was their highest degree earned, while 32% indicated they had a masters’ degree. Interestingly, 1% reported having a doctorate, and almost 3% reported having only a high school diploma.

**Table 4.**

*Distribution by Highest Degree for Teachers Responding to 2005 Irving Laptop Survey*

Highest Degree	Frequency	Percent
HS	17	2.7
BA/BS	388	61.2
MA/MS	205	32.3
PhD/EdD	8	1.3
Other	16	2.5
Total	634	100.0

Primary Subject Taught. As shown in Table 5, the largest percentage of teachers reported teaching English/Language Arts followed by Mathematics.

**Table 5.**

*Distribution of Teachers Responding to 2005 Irving Laptop Survey by Primary Subject Taught*

Primary Subject Taught	Frequency	Percent
Eng/LA	136	21.5
Math	82	12.9
Science	58	9.1
Social Studies	64	10.1
Languages Other Than English	30	10.1
Health Ed	10	1.6
Phys Ed	21	3.3
Fine Arts	36	5.7
TA	26	4.1
Other	171	27.0
Total	370	100.0

Years in Laptop Project. As shown in Table 6, respondents were bi-modally distributed regarding those who were first, second, third or fourth year participants in the Irving Laptop Project. More than 10% reported not being participants in the project, representing the control groups for the elementary and middle schools. There were significant differences ( $p < .05$ ) between teachers who had been in the program four years and those who were currently in their first year. The significant differences were in two technology integration measures – Stages ( $p = .025$ ) and CBAM Levels of Use ( $p = .020$ ). Teachers who had been in the program for four years were higher on both measures.

**Table 6.**

*Distribution of Teachers Responding to 2005 Irving Laptop Survey by the Number of Years in the Laptop Project*

Years in Laptop Project	Frequency	Percent
One	188	29.7
Two	69	10.9
Three	123	17.4
Four	177	27.9
Not in Project	76	12.0
Total	633	100.0

Home Laptop Use. As shown in Table 7, 62% of the Irving teachers reported that they make weekly (33.6%) or daily (28.2%) use of their laptop at home.

**Table 7.**

*“How often do you use your laptop at home?”*

	Frequency	Percent
Never	104	16.4
One time a month	138	21.8
One time a week	213	33.6
Daily	179	28.2
Total	634	100.0

Home Access to WWW. As shown in Table 8, 85.6% of the Irving teachers reported having access to the World Wide Web at home.

**Table 8.**

*“Do you have access to the WWW at home?”*

	Frequency	Percent
Yes	543	85.6
No	91	14.4
Total	634	100.0

Home Computer Use. As shown in Table 9, 22.4% of the Irving teachers reported using a computer at home 4 - 7 hours per week while 21% reported using the computer 8 - 15 hours per week at home. It appears that most of the teachers average at least an hour a day on their computer at home.

**Table 9.**

*“How many total hours per week do you currently use a computer at home (laptop or others - including standalone and WWW access)?”*

	Frequency	Percent
0 hours	30	4.7
1 hour	90	14.2
2-3 hours	138	21.8
4-7 hours	153	24.1
8-15 hours	135	21.3
16-31 hours	52	8.2
More than 31 hours	36	5.7
Total	634	100.0

### Teachers’ Use of Technology

As shown in Table 10, the most common stage of adoption of technology reported for high school teachers in Irving is stage 6, Creative Applications to New Contexts: “I can apply what I know about technology in the classroom. I am able to use it as an instructional tool and integrate it into the curriculum”. Forty-six percent reported being in this category. Close to 73% are in either Stage 5 or Stage 6. In the 2004 data, no teachers reported being in Stage One. However in 2005, three teachers reported being in Stage One<sup>3</sup>. The other five stage frequencies are similar to 2004. The average for Stage of Adoption of Technology was reported as 5.03, the same as in 2004. The mean Stage for the teachers from each school reporting data can be found in Table 11 and is graphically displayed in Figure 1.

**Table 10.**

*Distribution of Teachers Responding to 2005 Irving Laptop Survey by the Perceived Stage of Adoption, High School Teachers*

Stage	Frequency	Percent
1 - Awareness	3	.7
2 - Learning the process	7	1.7
3 - Understanding and application of the process	26	6.3
4 – Familiarity and confidence	72	17.6
5 - Adaptation to other contexts	131	32.0
6 - Creative application to new contexts	170	41.5
Total	409	100.0

<sup>3</sup> These are likely new teachers and serve as reminders that special programs may be needed to bring true beginners up to the high level of the general teacher population in Irving.

**Table 11.**

*Mean Stages of Adoption of Technology Integration by School, 2005*

Schools	Stages
Irving HS	4.98
MacArthur HS	4.76
Nimitz HS	5.17
Academy	5.37
Elem Control	4.96
Lively Elem	4.82
MS Control	4.85
DeZavala MS	4.91

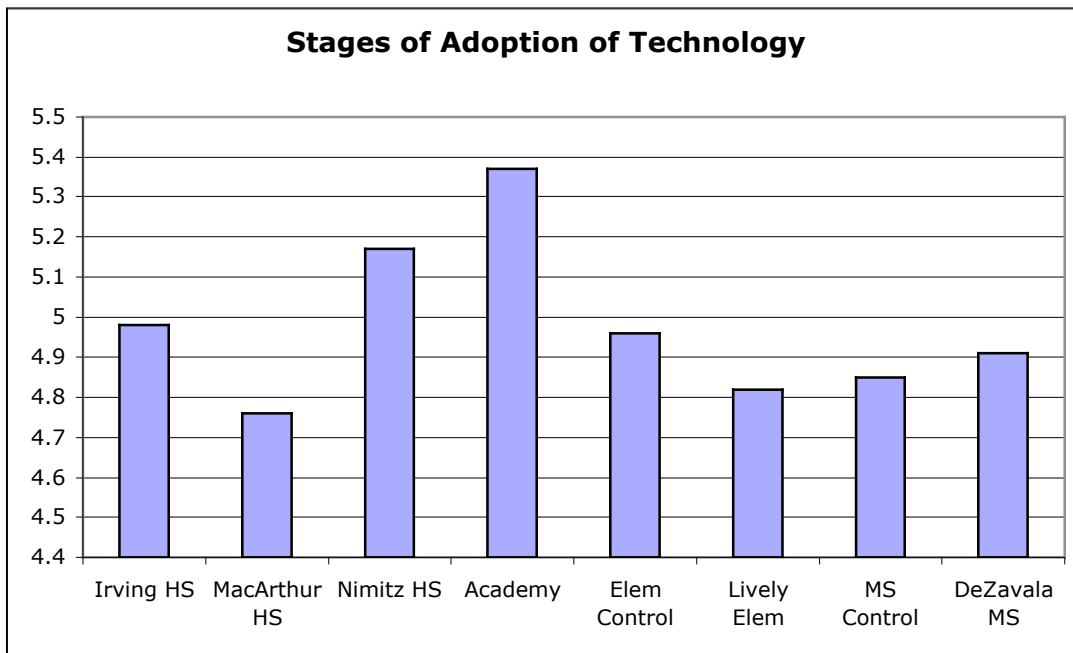


Figure 1. Mean Stage of Adoption of Technology of Integration by school.

CBAM Level of Use. As shown in Table 12, the most commonly reported (modal) level of technology integration for Irving high school teachers was level 6, (4B) Refinement: “I vary the use of information technology in education to increase the expected benefits within the classroom. I am working on using information technology to maximize the effects with my students”. Sixty-nine percent reported being at this level or higher (compared to 58% last year). The average level of use reported was 5.89 (compared to 5.88 in 2004). A more detailed examination of CBAM LoU for treatment vs. control school teachers revealed that teachers in the TIP laptop schools had higher levels of use of technology. This was true for the elementary school level (Effect size = +.09 for treatment mean = 5.80, std = 1.28, n = 61 vs. control mean = 5.68, std. = 1.29, n = 44) as well as the middle school level (Effect size = +.16 for treatment mean = 5.70, std = 1.17, n = 56 vs. control mean = 5.44, std. = 1.62, n = 61). Table 13 includes the mean CBAM

Levels of Use for teachers from each of the schools. They are graphically displayed in Figure 2.

**Table 12.**

*Distribution of Teachers Responding to 2005 Irving Laptop Survey by the Perceived CBAM Levels of Use, High School Teachers*

CBAM LoU	Frequency	Percent
<b>1 - Level 0: Non-use</b> I have little or no knowledge of information technology in education, no involvement with it, and I am doing nothing toward becoming involved.	3	.7
<b>2 - Level 1: Orientation</b> I am seeking or acquiring information about information technology in education.	5	1.2
<b>3 - Level 2: Preparation</b> I am preparing for the first use of information technology in education.	2	.5
<b>4 - Level 3: Mechanical Use</b> I focus most effort on the short-term, day-to-day use of information technology with little time for reflection. My effort is primarily directed toward mastering tasks required to use the information technology.	53	13.0
<b>5 - Level 4 A: Routine</b> I feel comfortable using information technology in education. However, I am putting forth little effort and thought to improve information technology in education or its consequences.	64	15.6
<b>6 - Level 4 B: Refinement</b> I vary the use of information technology in education to increase the expected benefits within the classroom. I am working on using information technology to maximize the effects with my students.	154	37.7
<b>7 - Level 5: Integration</b> I am combining my own efforts with related activities of other teachers and colleagues to achieve impact in the classroom.	88	21.5
<b>8 - Level 6: Renewal</b> I reevaluate the quality of use of information technology in education, seek major modifications of, or alternatives to, present innovation to achieve increased impact, examine new developments in the field, and explore new goals for myself and my school or district.	40	9.8
<b>Total</b>	<b>409</b>	<b>100.0</b>

**Table 13.**

*Teacher Means for CBAM Levels of Use by School*

School	CBAM
Irving HS	6.03
MacArthur HS	5.60
Nimitz HS	5.91
Academy	6.14
Elem Control	5.68
Lively Elem	5.80
MS Control	5.44
DeZavala MS	5.70

Comparative Results from Integration Instruments. Stages of Adoption (Mean = 5.03) and CBAM Level of Use (Mean = 5.89) were both high for the typical Irving teacher on an absolute scale. The average teacher reported being able to “think about the computer as a tool to help me, and I am no longer concerned about it as technology. I can use it in many applications and as an instructional aid” (Stage 5). This indicates the laptop initiative continues to foster a high level of technology professional development among Irving teachers.

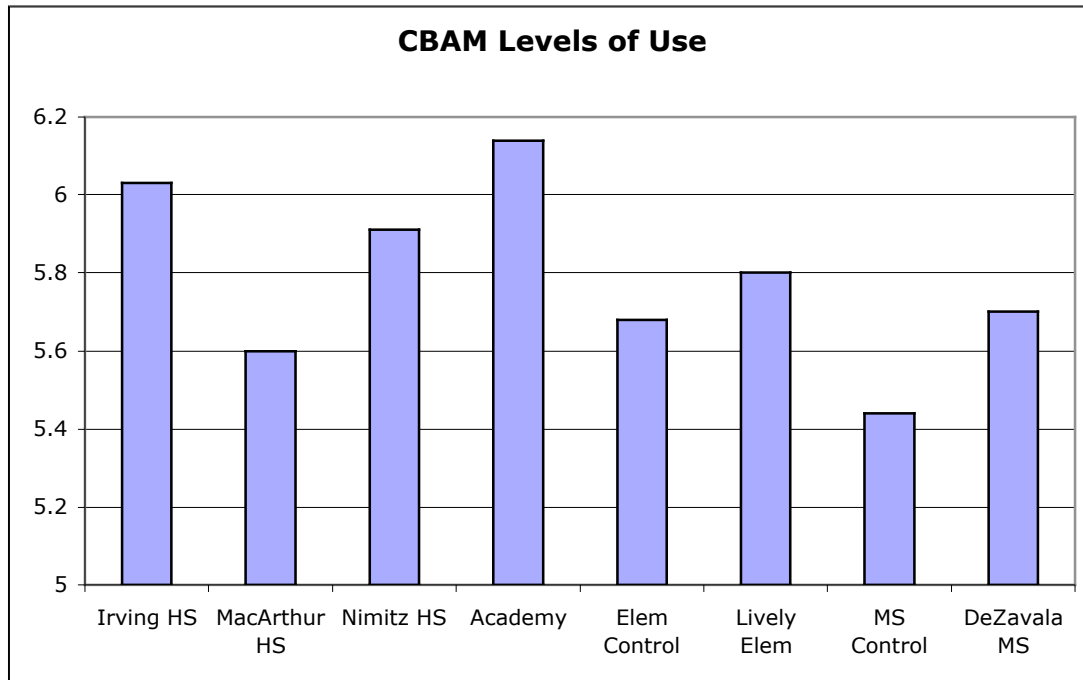


Figure 2. Mean CBAM Level of Use for each school.

Skills-based Confidence Measures. The Technology Proficiency Self Assessment (TPSA) has twenty items that comprise four scales: Email, World Wide Web, Integrated Applications and Teaching with Technology. Educators self-rate themselves on perceived confidence in each of these areas. Table 14 contains the mean scores for each of the four scales. For the high school teachers there were no changes on these measures from 2004. Among elementary and middle schools, seven of the eight measures were higher for the teachers involved in the TIP vertical integration laptop program, compared their comparison school counterparts. The binomial probability of seven or more being in the intended direction is  $p = .03$ . This implies that the professional development provided for the TIP initiative was effective in raising the technology skills of teachers in the program.

**Table 14.**

*Technology Proficiency Self Assessment (TPSA) Scale Mean Scale Scores for Irving Teachers*

TPSA Measure	HS 2005	MS Treatment	MS Control	Elem Treatment	Elem Control
TP-email	4.54 (.650)	4.54 (.615)	4.53 (.551)	4.58 (.511)	4.54 (.467)
TP-WWW	4.27 (.705)	4.35 (.723)	4.26 (.701)	4.33 (.658)	4.32 (.450)
TP-IA	3.87 (.971)	4.01 (.827)	3.86 (.929)	3.91 (.918)	3.78 (.911)
TP-TT	3.85 (.932)	3.88 (.751)	3.74 (.863)	3.79 (.806)	3.86 (.556)
n	410	57	61	61	45

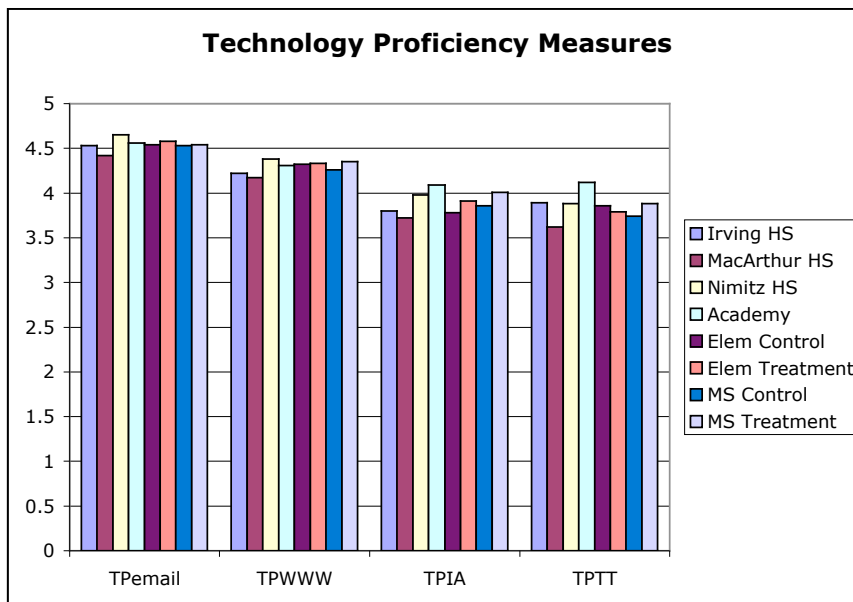


Figure 3. Means for four technology proficiency measures by school.

Attitudinal Measures. The Teachers' Attitudes Toward Computers questionnaire measures attitudes toward computers in nine areas using a Likert scale of 1 = Strongly Disagree to 5 = Strongly Agree. Only 4 of the 9 scales were chosen to include in this survey. Those scales are:

- Interest – enjoyment and satisfaction in using computers
- Comfort – lack of anxiety; comfortable using technology
- Utility – belief that computers are useful for productivity and instruction
- Significance – belief that computers are important for student use.

As shown in Table 15, it appears that the Irving teachers feel comfortable using computers. This is a good indicator that they have little anxiety toward the actual use of technology. No evidence was found in the analysis of TAC data to indicate that treatment teachers differ from their comparison school counterparts in computer attitudes.

**Table 15.**

*Teachers' Attitudes Toward Computers (TAC) Mean Scale Scores for Irving Teachers, 2005*

TAC Measure	HS 2004	HS 2005	MS Treatment	MS Control	Elem. Treatment	Elem. Control
Interest	4.00 (.723)	4.01 (.785)	4.06 (.780)	4.10 (.891)	4.23 (.705)	4.14 (.581)
Comfort	4.22 (.804)	4.29 (.758)	4.22 (.781)	4.25 (.923)	4.19 (.979)	4.28 (.670)
Utility	3.91 (.765)	3.94 (.782)	3.92 (.693)	4.22 (.609)	4.09 (.834)	4.16 (.453)
Significance	4.21 (.623)	4.18 (.650)	4.20 (.626)	4.49 (.501)	4.40 (.567)	4.41 (.405)
n	365	410	57	61	61	45

### **Differences in Technology Indicators by Teaching Experience and Home Access**

As shown in Table 16 for all teacher subjects in this study, number of years teaching experience is negatively correlated ( $p < .01$ ) with the Attitudinal measures of Comfort and Utility as well as Stages of Adoption, Technology Proficiency with email, WWW, Integrated Applications and Teaching with Technology. Interestingly there is no correlation for CBAM Levels of Use for number of years of teaching. The high negative correlation with Stages is possibly an indication that younger teachers (with fewer years of experience) are coming in to Irving with higher technology skills than those employed in the past. The lack of significant correlation with CBAM LoU may be the result of required high level of use by all teachers. (Stages of Adoption is a measure that assesses more of what teachers are able to do, while CBAM LoU is more of an indicator of the technology activities actually performed by teachers on a daily basis.)

**Table 16.**

*Correlations for Technology Proficiency, Teaching Experience, and Home Use of Technology*

		YrsTch Exp	HOME USE	TACP T1	TACP T2	TACP T3	TACP T4	STAG ES	CBA M	TPEM AIL	TPWW W	TPIA	TPTT
YrsTch Exp	Pearson Corr	1	-.049	-.066	-.204	-.112	-.074	-.124	.001	-.257	-.293	-.288	-.198
	Sig. (2-tailed)		.213	.098	.000	.005	.061	.002	.979	.000	.000	.000	.000
	N	634	634	634	634	634	634	632	631	634	634	634	634
HOME USE	Pearson Corr	-.049	1	.178	.152	.145	.082	.250	.189	.176	.198	.200	.188
	Sig. (2-tailed)	.213		.000	.000	.000	.040	.000	.000	.000	.000	.000	.000
	N	634	634	634	634	634	634	632	631	634	634	634	634
TACP T1	Pearson Corr	-.066	.178	1	.311	.564	.494	.304	.274	.292	.318	.291	.362

	Sig. (2-tailed)	.098	.000	.	.000	.000	.000	.000	.000	.000	.000	.000	.000
	N	634	634	634	634	634	634	632	631	634	634	634	634
TACP T2	Pearson n Corr	-.204	.152	.311	1	.279	.250	.540	.431	.405	.462	.470	.407
	Sig. (2-tailed)	.000	.000	.000	.	.000	.000	.000	.000	.000	.000	.000	.000
	N	634	634	634	634	634	634	632	631	634	634	634	634
TACP T3	Pearson n Corr	-.112	.145	.564	.279	1	.754	.290	.267	.306	.326	.286	.347
	Sig. (2-tailed)	.005	.000	.000	.000	.	.000	.000	.000	.000	.000	.000	.000
	N	634	634	634	634	634	634	632	631	634	634	634	634
TACP T4	Pearson n Corr	-.074	.082	.494	.250	.754	1	.199	.222	.367	.368	.272	.373
	Sig. (2-tailed)	.061	.040	.000	.000	.000	.	.000	.000	.000	.000	.000	.000
	N	634	634	634	634	634	634	632	631	634	634	634	634
STAG ES	Pearson n Corr	-.124	.250	.304	.540	.290	.199	1	.608	.393	.442	.528	.518
	Sig. (2-tailed)	.002	.000	.000	.000	.000	.000	.	.000	.000	.000	.000	.000
	N	632	632	632	632	632	632	632	630	632	632	632	632
CBAM	Pearson n Corr	.001	.189	.274	.431	.267	.222	.608	1	.294	.353	.436	.481
	Sig. (2-tailed)	.979	.000	.000	.000	.000	.000	.000	.	.000	.000	.000	.000
	N	631	631	631	631	631	631	630	631	631	631	631	631
TPEM AIL	Pearson n Corr	-.257	.176	.292	.405	.306	.367	.393	.294	1	.770	.637	.584
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000	.000	.000	.	.000	.000	.000
	N	634	634	634	634	634	634	632	631	634	634	634	634
TPWW W	Pearson n Corr	-.293	.198	.318	.462	.326	.368	.442	.353	.770	1	.735	.670
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000	.000	.000	.000	.	.000	.000
	N	634	634	634	634	634	634	632	631	634	634	634	634
TPIA	Pearson n Corr	-.288	.200	.291	.470	.286	.272	.528	.436	.637	.735	1	.772
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.	.000
	N	634	634	634	634	634	634	632	631	634	634	634	634
TPTT	Pearson n Corr	-.198	.188	.362	.407	.347	.373	.518	.481	.584	.670	.772	1
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.
	N	634	634	634	634	634	634	632	631	634	634	634	634

\*\* Correlation is significant at the 0.01 level (2-tailed).

- Correlation is significant at the 0.05 level (2-tailed).

## **Implementation of Instruction with Laptops**

A series of questions regarding instructional strategies, instructional activities, teacher and student roles in the classroom, assessment with laptops, reflections of the use of laptops, professional development and overall perceptions of the use of laptops were also asked to the teachers. The responses were analyzed in three groups – the sample of 61 teachers from Lively Elementary, 57 teachers from DeZavala Middle School and 410 teachers representing all four high schools. Highlighted findings are listed below. The complete tables by group are included after the report summary to allow readers to view this information in greater detail.

- High school teachers report less small group instruction than either the middle school or elementary school teachers
- Middle school and high school teachers report more frequent direct teaching/lecture than elementary teachers
- All teachers reported that they agree or strongly agree that they learn along with their students more often now that they have laptops.
- Elementary teachers reported that students work as independent learners more often than did the middle school and high school teachers.
- About 90% of all teachers reported that they agree or strongly agree that their computer skills have improved because of the laptop initiative.
- The elementary and middle school teachers tend to feel more strongly that their schools have developed effective policies and procedures for the laptop program.
- Most of the teachers in all three groups feel that they have had adequate professional development opportunities
- More middle school and high school teachers reported that planning had become more difficult now that the students use laptops. Very few elementary teachers agreed with that statement.
- When asked how often their students used laptops for instruction in the classroom, elementary teachers reported a higher frequency for daily than either the middle school or high school teachers.
- High school and middle school teachers feel a more immediate need for professional development in classroom management using laptops than do elementary teachers.
- High school teachers have had the most district laptop training of the three groups, followed by the middle school teachers.
- While most teachers agree that the laptop initiative has had a positive impact on their teaching, they also agree that it has added additional duties for classroom management to their workload.
- The majority of teachers also agree or strongly agree that the laptop initiative has had a positive impact on their own professional development.

## **Summary**

As a whole, the Irving teachers surveyed have maintained a high level of technology proficiency during the 2004-2005 school year. The overall averages for spring 2005 are nearly identical to the ratings for spring 2004. Given that some of the schools represented in the 2005 survey are comparison sites without laptop computers, this indicates a healthy situation for educator professional development in the district as a whole.

There is also some indication that Irving is receiving (or still employs) some teachers at very low levels of technology integration abilities. Special initiatives may need to be implemented to seek out and assist these teachers.

Quasi-experimental research findings indicated that the TIP program has been effective in enhancing technology skills among teachers. Treatment teachers as a group were higher on seven of eight technology proficiency self-assessment categories spanning elementary and middle schools. This event is significant at the  $p = .03$  level.

**Implementation of Instruction Table for  
Lively Elementary Teachers<sup>4</sup>**

**Instructional strategies:** In class(es) where my students use laptop computers. . . .  
Indicate how often you use this strategy

	Never	Once a Month	Once a Week	Every Day
Whole class instruction.	25.9%	12.1%	37.9%	24.1%
Small group projects or presentations.	25.4%	27.1%	30.5%	16.9%
Direct teaching/lecture.	26.3%	17.5%	35.1%	21.1%
Analyzing and interpreting information.	27.1%	18.6%	39.0%	15.3%
Organizing, summarizing or displaying information.	25.4%	23.7%	25.4%	25.4%
Guiding/facilitating student learning.	19.0%	13.8%	37.9%	29.3%
Cooperative learning.	27.6%	20.7%	31.0%	20.7%
Specific TEKS instruction.	22.0%	16.9%	30.5%	30.5%

**Instructional activities.** In class(es) where my students use laptop computers, students . .

	Never	Once a Month	Once a Week	Every Day
Access online databases, reference materials, newspapers & periodicals.	37.9%	19.0%	25.9%	17.2%
Access online libraries.	50.0%	20.7%	13.8%	15.5%
Use email to communicate with other students.	86.4%	5.1%	6.8%	1.7%
Use email to communicate with experts in a particular field.	81.0%	6.9%	5.2%	6.9%
Use electronic bulletin board (ex. Blackboard) to discuss academic content, issues, assignments.	75.9%	12.1%	8.6%	3.4%
Work on projects that take one (1) week or more to complete.	44.1%	37.3%	11.9%	6.8%
Work on projects that apply critical thinking and problem solving skills.	39.7%	29.3%	19.0%	12.1%
Work on a project, gather data, conduct an experiment or research project.	47.5%	28.8%	22.0%	1.7%
Design their own problems to solve.	63.2%	21.1%	10.5%	5.3%

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<sup>4</sup> N = 61

**Teachers and student roles:**

*Now that we use laptop computers in the classroom...*

	SD	D	U	A	SA
I learn along with my students more often.	1.7%	8.5%	20.3%	45.8%	23.7%
Students carry responsibility for their learning more often.	3.4%	3.4%	35.6%	35.6%	22%
Students suggest or plan classroom activities more often.	3.4%	16.9%	45.8%	22%	11.9%
Students work as independent learners more often.	1.7%	3.4%	33.9%	40.7%	20.3%

*When assessing students who use laptop computers, I have students . . .*

	Never	Once a Month	Once a Week	Every Day
evaluate and improve their own work.	33.3%	19.3%	26.3%	21.1%
present as part of a group on projects or presentations.	51.7%	25.9%	19.0%	3.4%
confer with other students about their work.	36.2%	19.0%	22.4%	22.4%
write an essay.	47.5%	16.9%	27.1%	8.5%
present as individuals.	50.0%	24.1%	22.4%	3.4%
prepare a research paper on an assigned or approved topic.	57.9%	35.1%	3.5%	3.5%
make a product.	42.1%	29.8%	21.1%	7.0%
demonstrate their work to an audience.	53.6%	33.9%	8.9%	3.6%
take a test or quiz.	59.3%	10.2%	23.7%	6.8%

*Compared to before the laptop project, students who use laptop computers. . . .*

	SD	D	U	A	SA
master new skills better than students who did not use laptop computers.	3.4%	3.4%	50.8%	27.1%	15.3%
remediate the skills they have not mastered better than students who did not use laptop computers.	3.4%	1.7%	55.9%	25.4%	13.6%
express themselves in writing better than students who did not use laptop computers.	3.4%	6.8%	57.6%	16.9%	15.3%
communicate with other people better than students who did not use laptop computers.	3.4%	6.8%	62.7%	10.2%	16.9%
find out about ideas and information better than students who did not use laptop computers.	1.7%	6.8%	37.3%	39.0%	15.3%
analyze information better than students who did not use laptop computers.	3.4%	6.8%	52.5%	23.7%	13.6%
present information to an audience better than students who did not use laptop computers.	5.1%	5.1%	45.8%	27.1%	16.9%

learn to work collaboratively better than students who did not use laptop computers.	3.4%	5.1%	50.8%	25.4%	15.3%
learn to work independently better than students who did not use laptop computers.	1.7%	3.4%	42.4%	39.0%	13.6%

**COMMENTS:** *What would you like to tell us about your instructional practice that we have not asked – See Appendix for open-ended comments.*

## Reflections

Thinking about possible impacts of the laptop program, I believe:

	SD	D	U	A	SA
My computer skills have improved.	0%	1.6%	11.5%	52.5%	34.4%
The school has developed effective laptop policies and procedures for the laptop program.	1.7%	3.3%	21.7%	45%	28.3%
The school climate has changed.	3.3%	1.6%	26.2%	42.6%	26.2%
I have had adequate professional development opportunities.	3.3%	6.7%	15%	45%	30%
The curriculum in my class has changed.	0%	21.7%	23.3%	36.7%	18.3%
My role in the classroom has changed.	1.7%	22%	27.1%	28.8%	20.3%
Student achievement in my classes has improved.	5%	5%	51.7%	25%	13.3%
My understanding of how people learn has changed.	6.7%	16.7%	31.7%	31.7%	13.3%
My beliefs about teaching and learning have changed.	5%	15%	40%	25%	15%
At school, my thoughts and opinions about teaching and learning are heard and considered.	3.4%	11.9%	33.9%	37.3%	13.6%
Planning has become more difficult (harder) now that students use laptop computers.	8.6%	34.5%	39.7%	6.9%	10.3%

*Now that I teach students who use laptop computers, I spend, on average, \_\_\_\_ hours each week planning for instruction.*

Hours per week	Frequency in Percentages
0	10.3%
1	5.2%
2-3	56.9%
4-7	22.4%
8-15	5.2%
16-31	0%
More than 30 hours	0%

*Before teaching students who use laptop computers, I spent, on average, \_\_ hours each week planning for instruction.*

Hours per week	Frequency in Percentages
0	7.0%
1	17.5%
2-3	38.6%
4-7	28.1%
8-15	7.0%
16-31	1.8%
More than 30 hours	0%

*Now that I teach students who use laptop computers, students typically work in groups:*

	Frequency in Percentages
Never	15.8%
Once a month	12.3%
Once a week	33.3%
Every day	38.6%

*Before working with students who use laptop computers, students typically worked in groups:*

	Frequency in Percentages
Never	14.5%
Once a month	9.1%
Once a week	36.4%
Every day	40.0%

*How often do your students use laptops for instruction in your classroom?*

	Frequency in Percentages
Never	24.1%
Once a month	13.8%
Once a week	25.9%
Every day	36.2%

*How often do you use your computer for instructional purposes?*

	Frequency in Percentages
Never	12.5%
Once a month	12.5%
Once a week	25.0%
Every day	50.0%

On average, I teach students who use laptop computers as a whole class \_\_ times each week.

Times per week	Frequency in Percentages
0	21.8%
1	21.8%
2-3	25.5%
4-7	16.4%
8-15	9.1%
More than 15 times per week	5.5%

Before working with students who use laptop computers, on average, I taught students as a whole class \_\_\_ times each week.

Times per week	Frequency in Percentages
0	13.8%
1	15.5%
2-3	27.2%
4-7	22.4%
8-15	17.2%
More than 15 times per week	13.8%

### Professional Development

Instructions: Rate each of the following according to your professional development needs.

	Already Trained in This	Feel Some Need	Need it Immediately	Not Ready for this Yet
Basics of Computer Operation	91.7%	6.7%	0%	1.7%
PowerPoint Basics	75.0%	23.3%	0%	1.7%
Excel Basics	50.8%	44.3%	1.6%	3.3%
Blackboard Basics	38.3%	50.0%	10.0%	1.7%
Excel Intermediate	19.7%	59.0%	6.6%	14.8%
Blackboard Intermediate	6.6%	57.4%	16.4%	19.7%
Outlook Intermediate	55.7%	34.4%	4.9%	4.9%
E-communication in the Classroom	27.9%	58.3%	0%	6.7%
Shared Folders	35.0%	58.3%	0%	6.7%
Classroom Management Using Laptops	35.6%	47.5%	5.1%	11.9%
Integrating Technology into the Curriculum	39.7%	50.0%	6.9%	3.4%

*How many days of laptop training offered by Irving ISD did you attend?*

Number of Days	Frequency in Percentages
None	22.4%
1-2 days	36.2%
3 days	19.0%
4 days	5.2%
5 days	3.4%
More than 5 days	13.8%

*What types of training/assistance in addition to the laptop sessions have you completed?  
(Check all that apply)*

Type of Training	Frequency in Percentages
Individual assistance from technology specialist	57.4%
Peer assistance (other teachers)	65.6%
Campus workshops	82.0%
District workshops	41.0%
Other district training	13.1%
Training outside the district (please specify)	TCEA, other districts, etc.

*What other kinds of training do you need to support teaching with laptops? (Check all that apply)*

	Frequency in Percentages
Online research techniques	0%
Troubleshooting/maintenance	0%
Content area training	24.6%
Electronic journaling	0%
Engaging reluctant learners	0%
Classroom management	0%
Cooperative learning / flexible grouping	0%
Other (please specify):	0%

### **Overall Perceptions**

	SD	D	U	A	SA
The laptop initiative has had a positive impact on my teaching.	0%	8.3%	26.7%	38.3%	26.7%
The laptop initiative has had a positive impact on student learning.	0%	5.0%	26.7%	40%	28.3%
The laptop initiative has had a positive impact on my own professional development.	0%	5.1%	20.3%	40.7%	33.9%
The laptop initiative has added additional duties for classroom management to my workload	4.9%	28.8%	23.7%	23.7%	13.6%

*What do you consider to be the #1 barrier to using laptops in instruction?*

Barrier	Frequency in Percentages
I do not feel properly prepared to use it for instruction.	16.0%
I see no need to use it in my curriculum.	8.0%
I do not have time to plan new lessons to integrate the laptops in my teaching.	18.0%
Students do not bring their computers to class.	6.0%
We experience technical difficulties too often.	16.0%
Other: fill in	36.0%

The last item also allowed for additional open-ended comments which can be found in the Appendix.

**Implementation of Instruction Table for  
DeZavala Middle School Teachers<sup>5</sup>**

**Instructional strategies:** *In class(es) where my students use laptop computers. . . .*

Indicate how often you use this strategy

	Never	Once a Month	Once a Week	Every Day
Whole class instruction.	3.6%	16.4%	49.1%	30.9%
Small group projects or presentations.	10.9%	58.2%	23.6%	7.3%
Direct teaching/lecture.	7.0%	21.1%	42.1%	29.8%
Analyzing and interpreting information.	12.3%	31.6%	35.1%	21.1%
Organizing, summarizing or displaying information.	7.0%	26.3%	35.1%	31.6%
Guiding/facilitating student learning.	5.4%	17.9%	33.9%	42.9%
Cooperative learning.	17.9%	30.4%	35.7%	16.1%
Specific TEKS instruction.	8.9%	21.4%	26.8%	42.9%

**Instructional activities.** *In class(es) where my students use laptop computers, students . .*

	Never	Once a Month	Once a Week	Every Day
Access online databases, reference materials, newspapers & periodicals.	25.0%	33.9%	23.2%	17.9%
Access online libraries.	34.5%	38.2%	18.2%	9.1%
Use email to communicate with other students.	62.5%	7.1%	10.7%	19.6%
Use email to communicate with experts in a particular field.	71.4%	14.3%	5.4%	8.9%
Use electronic bulletin board (ex. Blackboard) to discuss academic content, issues, assignments.	21.8%	9.1%	36.4%	32.7%
Work on projects that take one (1) week or more to complete.	29.1%	54.5%	7.3%	9.1%
Work on projects that apply critical thinking and problem solving skills.	16.4%	56.4%	14.5%	12.7%
Work on a project, gather data, conduct an experiment or research project.	23.2%	55.4%	14.3%	7.1%
Design their own problems to solve.	60.7%	32.1%	3.6%	3.6%

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<sup>5</sup> N=57

**Teachers and student roles:**

*Now that we use laptop computers in the classroom...*

	SD	D	U	A	SA
I learn along with my students more often.	1.8%	10.9%	12.7%	54.5%	20%
Students carry responsibility for their learning more often.	5.5%	23.6%	20%	40%	10.9%
Students suggest or plan classroom activities more often.	10.9%	43.6%	16.4%	25.5%	3.6%
Students work as independent learners more often.	5.6%	16.7%	29.6%	40.7%	7.4%

*When assessing students who use laptop computers, I have students . . .*

	Never	Once a Month	Once a Week	Every Day
evaluate and improve their own work.	20.0%	34.5%	30.9%	14.5%
present as part of a group on projects or presentations.	33.9%	53.6%	8.9%	3.6%
confer with other students about their work.	26.8%	25.0%	30.4%	17.9%
write an essay.	50.0%	35.7%	8.9%	5.4%
present as individuals.	35.2%	53.7%	7.4%	3.7%
prepare a research paper on an assigned or approved topic.	60.7%	33.9%	3.6%	1.8%
make a product.	25.5%	50.9%	16.4%	7.3%
demonstrate their work to an audience.	42.9%	42.9%	12.5%	1.8%
take a test or quiz.	26.8%	39.3%	26.8%	7.1%

*Compared to before the laptop project, students who use laptop computers. . . .*

	SD	D	U	A	SA
master new skills better than students who did not use laptop computers.	5.4%	17.9%	42.9%	28.6%	5.4%
remediate the skills they have not mastered better than students who did not use laptop computers.	5.4%	16.1%	32.1%	42.9%	3.6%
express themselves in writing better than students who did not use laptop computers.	5.4%	21.4%	35.7%	28.6%	8.9%
communicate with other people better than students who did not use laptop computers.	5.4%	23.2%	28.6%	32.1%	10.7%
find out about ideas and information better than students who did not use laptop computers.	3.6%	3.6%	16.1%	64.3%	12.5%
analyze information better than students who did not use laptop computers.	8.9%	17.9%	30.4%	33.9%	8.9%
present information to an audience better than students who did not use laptop computers.	1.8%	8.9%	33.9%	41.1%	14.3%

learn to work collaboratively better than students who did not use laptop computers.	1.8%	16.1%	26.8%	44.6%	10.7%
learn to work independently better than students who did not use laptop computers.	3.6%	10.9%	20.0%	58.2%	7.3%

**COMMENTS:** *What would you like to tell us about your instructional practice that we have not asked?* – See Appendix for open-ended comments.

**Reflections**

*Thinking about possible impacts of the laptop program, I believe:*

	SD	D	U	A	SA
My computer skills have improved.	1.8%	0%	3.5%	56.1%	38.6%
The school has developed effective laptop policies and procedures for the laptop program.	3.6%	7%	14%	61.4%	14%
The school climate has changed.	1.8%	5.4%	19.6%	58.9%	14.3%
I have had adequate professional development opportunities.	5.3%	8.8%	8.8%	57.9%	14.3%
The curriculum in my class has changed.	3.5%	26.3%	15.8%	43.9%	10.5%
My role in the classroom has changed.	0%	33.3%	19.3%	35.1%	12.3%
Student achievement in my classes has improved.	12.5%	32.1%	32.1%	17.9%	5.4%
My understanding of how people learn has changed.	3.6%	23.2%	37.5%	28.6%	7.1%
My beliefs about teaching and learning have changed.	1.8%	29.8%	22.8%	35.1%	10.5%
At school, my thoughts and opinions about teaching and learning are heard and considered.	5.3%	15.8%	29.8%	40.4%	8.8%
Planning has become more difficult (harder) now that students use laptop computers.	1.8%	33.9%	12.5%	35.7%	16.1%

Now that I teach students who use laptop computers, I spend, on average, \_\_\_ hours each week planning for instruction.

Hours per week	Frequency in Percentages
0	0%
1	7.1%
2-3	41.1%
4-7	41.1%
8-15	10.7%
16-31	0%
More than 30 hours	0%

Before teaching students who use laptop computers, I spent, on average, \_\_\_ hours each week planning for instruction.

Hours per week	Frequency in Percentages
0	0%
1	23.1%
2-3	38.5%
4-7	32.7%
8-15	5.8%
16-31	0%
More than 30 hours	0%

Now that I teach students who use laptop computers, students typically work in groups:

	Frequency in Percentages
Never	12.5%
Once a month	32.1%
Once a week	42.9%
Every day	12.5%

Before working with students who use laptop computers, students typically worked in groups:

	Frequency in Percentages
Never	7.3%
Once a month	34.5%
Once a week	45.5%
Every day	12.7%

How often do your students use laptops for instruction in your classroom?

	Frequency in Percentages
Never	3.6%
Once a month	19.6%
Once a week	42.9%
Every day	33.9%

*How often do you use your computer for instructional purposes?*

	Frequency in Percentages
Never	1.9%
Once a month	14.8%
Once a week	31.5%
Every day	51.9%

*On average, I teach students who use laptop computers as a whole class \_\_\_\_\_ times each week.*

Times per week	Frequency in Percentages
0	9.3%
1	13.0%
2-3	40.7%
4-7	22.2%
8-15	3.7%
More than 15 times per week	11.1%

*Before working with students who use laptop computers, on average, I taught students as a whole class \_\_\_\_\_ times each week.*

Times per week	Frequency in Percentages
0	12.7%
1	3.6%
2-3	23.6%
4-7	43.6%
8-15	7.3%
More than 15 times per week	9.1%

**Professional Development**

*Rate each of the following according to your professional development needs.*

	Already Trained in This	Feel Some Need	Need it Immediately	Not Ready for this Yet
Basics of Computer Operation	93.0%	5.3%	1.8%	0%
PowerPoint Basics	89.5%	8.8%	1.8%	0%
Excel Basics	57.9%	38.6%	1.8%	1.8%
Blackboard Basics	63.2%	29.8%	7.0%	0%
Excel Intermediate	21.4%	66.1%	5.4%	7.1%
Blackboard Intermediate	26.8%	60.7%	8.9%	3.6%
Outlook Intermediate	48.2%	48.2%	1.8%	1.8%
E-communication in the Classroom	28.6%	64.3%	5.4%	1.8%
Shared Folders	33.3%	63.2%	3.5%	0%
Classroom Management Using Laptops	47.4%	42.1%	10.5%	0%
Integrating Technology into the Curriculum	33.3%	50.9%	15.8%	0%

*How many days of laptop training offered by Irving ISD did you attend?*

	Frequency in Percentages
None	0%
1-2 days	23.6%
3 days	32.7%
4 days	12.7%
5 days	7.3%
More than 5 days	23.6%

*What types of training/assistance in addition to the laptop sessions have you completed?  
(Check all that apply)*

	Frequency in Percentages
Individual assistance from technology specialist	70.2%
Peer assistance (other teachers)	68.4%
Campus workshops	91.2%
District workshops	56.1%
Other district training	14.0%
Training outside the district (please specify)	0%

*What other kinds of training do you need to support teaching with laptops? (Check all that apply)*

	Frequency in Percentages
Online research techniques	0%
Troubleshooting/maintenance	0%
Content area training	42.1%
Electronic journaling	0%
Engaging reluctant learners	0%
Classroom management	0%
Cooperative learning / flexible grouping	0%
Other (please specify):	0%

### **Overall Perceptions**

	SD	D	U	A	SA
The laptop initiative has had a positive impact on my teaching.	3.6%	10.7%	25%	39.3%	21.4%
The laptop initiative has had a positive impact on student learning.	5.4%	10.7%	39.3%	32.1%	12.5%
The laptop initiative has had a positive impact on my own professional development.	3.6%	5.4%	8.9%	64.3%	17.9%
The laptop initiative has added additional duties for classroom management to my workload	1.8%	14.5%	21.8%	47.3%	14.5%

*What do you consider to be the #1 barrier to using laptops in instruction?*

Barrier	Frequency in Percentages
I do not feel properly prepared to use it for instruction.	5.1%
I see no need to use it in my curriculum.	2.4%
I do not have time to plan new lessons to integrate the laptops in my teaching.	8.3%
Students do not bring their computers to class.	25.3%
We experience technical difficulties too often.	25.9%
Other: fill in	33.1%

The last item also allowed for additional open-ended comments which can be found in the Appendix.

**Implementation of Instruction Table for  
Irving High Schools<sup>6</sup> (four schools)**

**Instructional strategies:** *In class(es) where my students use laptop computers. . . .*  
*Indicate how often you use this strategy*

	Never	Once a Month	Once a Week	Every Day
Whole class instruction.	13.6%	24.1%	36.5%	25.8%
Small group projects or presentations.	17.0%	44.3%	32.0%	6.8%
Direct teaching/lecture.	15.7%	17.5%	34.4%	32.4%
Analyzing and interpreting information.	16.7%	24.0%	34.8%	24.5%
Organizing, summarizing or displaying information.	14.0%	24.8%	34.3%	26.8%
Guiding/facilitating student learning.	11.1%	22.2%	31.2%	35.5%
Cooperative learning.	17.8%	28.4%	35.3%	18.5%
Specific TEKS instruction.	18.1%	22.1%	29.1%	30.7%

**Instructional activities.** *In class(es) where my students use laptop computers, students . .*

	Never	Once a Month	Once a Week	Every Day
Access online databases, reference materials, newspapers & periodicals.	18.5%	38.6%	30.6%	12.3%
Access online libraries.	34.0%	37.5%	23.0%	5.5%
Use email to communicate with other students.	28.5%	14.9%	15.9%	40.7%
Use email to communicate with experts in a particular field.	55.6%	18.2%	15.9%	10.4%
Use electronic bulletin board (ex. Blackboard) to discuss academic content, issues, assignments.	50.8%	19.8%	15.6%	13.8%
Work on projects that take one (1) week or more to complete.	27.3%	55.1%	11.5%	6.1%
Work on projects that apply critical thinking and problem solving skills.	19.0%	42.1%	26.7%	12.3%
Work on a project, gather data, conduct an experiment or research project.	26.5%	49.2%	18.9%	5.4%
Design their own problems to solve.	55.4%	31.3%	9.0%	4.4%

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<sup>6</sup> N = 410

**Teacher and student roles:**

*Now that we use laptop computers in the classroom. . . .*

	SD	D	U	A	SA
I learn along with my students more often.	3.2%	12.4%	18.8%	50.5%	15.1%
Students carry responsibility for their learning more often.	12.7%	23.4%	25.6%	32.6%	5.7%
Students suggest or plan classroom activities more often.	13.7%	35.6%	29.4%	18.4%	3.0%
Students work as independent learners more often.	14.5%	18.5%	20.3%	38.5%	8.3%

*When assessing students who use laptop computers, I have students . . .*

	Never	Once a Month	Once a Week	Every Day
evaluate and improve their own work.	31.4%	31.6%	28.1%	8.9%
present as part of a group on projects or presentations.	27.7%	52.1%	17.1%	3.0%
confer with other students about their work.	22.3%	31.1%	30.6%	15.9%
write an essay.	40.5%	38.2%	19.1%	2.3%
present as individuals.	36.5%	49.6%	11.3%	2.5%
prepare a research paper on an assigned or approved topic.	43.4%	50.5%	4.6%	1.5%
make a product.	44.9%	40.4%	11.1%	3.5%
demonstrate their work to an audience.	36.1%	51.0%	11.1%	1.8%
take a test or quiz.	34.8%	37.0%	26.4%	1.8%

*Compared to before the laptop project, students who use laptop computers. . . .*

	SD	D	U	A	SA
master new skills better than students who did not use laptop computers.	9.5%	17.3%	37.3%	26.8%	9.0%
remediate the skills they have not mastered better than students who did not use laptop computers.	10.0%	19.8%	34.6%	28.3%	7.3%
express themselves in writing better than students who did not use laptop computers.	12.2%	20.9%	40.6%	21.2%	5.0%
communicate with other people better than students who did not use laptop computers.	12.7%	20.0%	34.4%	27.4%	5.5%
find out about ideas and information better than students who did not use laptop computers.	5.7%	5.5%	20.4%	54.9%	13.5%
analyze information better than students who did not use laptop computers.	8.8%	18.5%	38.3%	28.7%	5.8%

present information to an audience better than students who did not use laptop computers.	6.2%	11.2%	32.9%	39.2%	10.5%
learn to work collaboratively better than students who did not use laptop computers.	9.5%	19.5%	37.2%	27.4%	6.5%
learn to work independently better than students who did not use laptop computers.	10.0%	15.2%	32.9%	33.2%	8.7%

**COMMENTS: What would you like to tell us about your instructional practice that we have not asked – See Appendix for open-ended comments.**

**Reflections on Instruction**

*Thinking about possible impacts of the laptop program, I believe:*

	SD	D	U	A	SA
My computer skills have improved.	1.0%	3.4%	4.2%	49.5%	41.9%
The school has developed effective policies and procedures for the laptop program.	10.0%	16.9%	19.9%	38.0%	15.2%
The school climate has changed.	1.7%	3.0%	20.0%	46.8%	28.6%
I have had adequate professional development opportunities.	1.7%	7.6%	10.3%	54.5%	25.8%
The curriculum in my classes has changed.	3.0%	20.3%	20.1%	42.7%	13.9%
My role in the classroom has changed.	2.5%	21.8%	20.3%	38.6%	16.8%
Student achievement in my classes has improved.	11.4%	25.1%	37.0%	21.3%	5.2%
My understanding of how people learn has changed.	4.7%	22.1%	31.0%	34.2%	7.9%
My beliefs about teaching and learning have changed.	5.8%	23.5%	30.3%	30.5%	10.0%
At school, my thoughts and opinions about teaching and learning are heard and considered.	10.0%	11.7%	33.1%	36.1%	9.2%
Planning has become more difficult now that students use laptop computers.	6.0%	31.0%	25.9%	26.2%	10.8%

*Now that I teach students who use laptop computers, I spend, on average, \_\_\_ hours each week planning for instruction.*

Hours per week	Frequency in Percentages
0	4.4%
1	8.5%
2-3	39.1%
4-7	29.0%
8-15	13.9%
16-31	4.6%
More than 30 hours	.5%

*Before teaching students who use laptop computers, I spent, on average, \_\_\_hours each week planning for instruction.*

Hours per week	Frequency in Percentages
0	5.9%
1	9.4%
2-3	37.3%
4-7	30.3%
8-15	11.3%
16-31	5.4%
More than 30 hours	.5%

*Now that I teach students who use laptop computers, students typically work in groups:*

	Frequency in Percentages
Never	11.9%
Once a month	33.1%
Once a week	42.9%
Every day	12.1%

*Before working with students who use laptop computers, students typically worked in groups:*

	Frequency in Percentages
Never	11.3%
Once a month	37.6%
Once a week	39.7%
Every day	11.3%

*How often do your students use laptops for instruction in your classroom?*

	Frequency in Percentages
Never	12.5%
Once a month	26.3%
Once a week	35.2%
Every day	26.0%

*How often do you use your computer for instructional purposes?*

	Frequency in Percentages
Never	5.7%
Once a month	16.0%
Once a week	30.2%
Every day	48.2%

On average, I teach students who use laptop computers as a whole class \_\_\_\_\_ times each week.

Times per week	Frequency in Percentages
0	17.7%
1	16.5%
2-3	33.2%
4-7	24.2%
8-15	3.6%
More than 15 times per week	4.9%

Before working with students who use laptop computers, on average, I taught students as a whole class \_\_\_\_\_ times each week.

Times per week	Frequency in Percentages
0	11.6%
1	6.8%
2-3	26.1%
4-7	38.2%
8-15	8.4%
More than 15 times per week	8.9%

### Professional Development

Rate each of the following according to your professional development needs.

	Already Trained in This	Feel Some Need	Need it Immediately	Not Ready for this Yet
Basics of Computer Operation	89.7%	9.4%	1.0%	0%
PowerPoint Basics	74.9%	21.4%	3.0%	.7%
Excel Basics	57.7%	36.1%	3.2%	3.0%
Blackboard Basics	54.6%	37.7%	6.5%	1.2%
Excel Intermediate	34.1%	47.7%	5.4%	12.8%
Blackboard Intermediate	28.8%	50.9%	8.4%	11.9%
Outlook Intermediate	57.9%	35.2%	3.5%	3.5%
E-communication in the Classroom	42.2%	44.9%	4.8%	8.1%
Shared Folders	37.0%	49.6%	7.4%	6.0%
Classroom Management Using Laptops	48.5%	37.7%	10.8%	3.0%
Integrating Technology into the Curriculum	42.4%	44.9%	9.5%	3.3%

*How many days of laptop training offered by Irving ISD did you attend?*

Days of Training	Frequency in Percentages
None	9.0%
1-2 days	18.0%
3 days	20.8%
4 days	7.3%
5 days	8.0%
More than 5 days	36.8%

*What types of training/assistance in addition to the laptop sessions have you completed?  
(Check all that apply)*

	Frequency in Percentages
Individual assistance from technology specialist	74.4%
Peer assistance (other teachers)	66.6%
Campus workshops	75.6%
District workshops	60.0%
Other district training	18.0%
Training outside the district (please specify)	0%
Others include: Region 10, teacher conferences, TCEA, graduate school	

*What other kinds of training do you need to support teaching with laptops? (Check all that apply)*

	Frequency in Percentages
Online research techniques	0%
Troubleshooting/maintenance	0%
Content area training	37.3%
Electronic journaling	0%
Engaging reluctant learners	0%
Classroom management	0%
Cooperative learning / flexible grouping	0%
Other (please specify):	0%

### **Overall Perceptions**

	SD	D	U	A	SA
The laptop initiative has had a positive impact on my teaching.	8.9%	11.2%	20.1%	37.2%	22.6%
The laptop initiative has had a positive impact on student learning.	10.7%	15.6%	21.1%	36.5%	16.1%
The laptop initiative has had a positive impact on my own professional development.	4.7%	8.2%	14.6%	46.7%	25.8%
The laptop initiative has added additional duties for classroom management to my workload.	3.0%	11.3%	23.9%	34.3%	27.5%

*What do you consider to be the #1 barrier to using laptops in instruction?*

Barrier	Frequency in Percentages
I do not feel properly prepared to use it for instruction.	5.1%
I see no need to use it in my curriculum.	2.4%
I do not have time to plan new lessons to integrate the laptops in my teaching.	8.3%
Students do not bring their computers to class.	25.3%
We experience technical difficulties too often.	25.9%
Other: fill in	33.1%

The last item also allowed for additional open-ended comments which can be found in the Appendix.