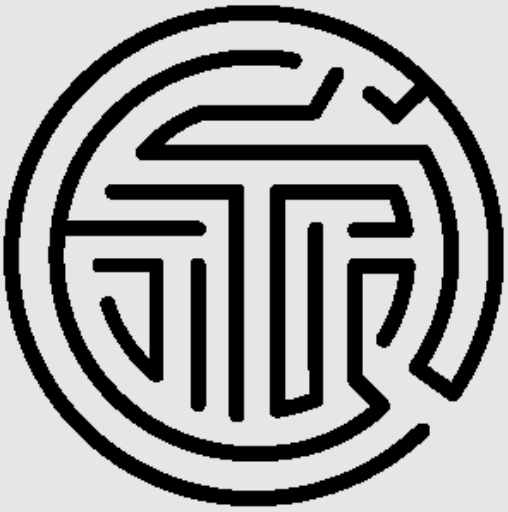
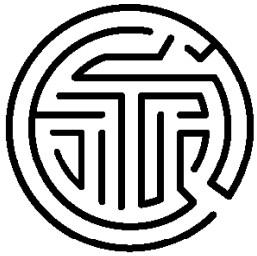


INTEL TEACH TO THE FUTURE® U.S. CLASSIC PROGRAM CUMULATIVE PARTICIPANT TEACHER END-OF-TRAINING SURVEY DATA THROUGH Q4-2003

SUMMARY REPORT

CENTER FOR CHILDREN & TECHNOLOGY



CCT REPORTS
MARCH 2004

INTEL TEACH TO THE FUTURE® U.S. CLASSIC PROGRAM CUMULATIVE PARTICIPANT TEACHER END-OF-TRAINING SURVEY DATA THROUGH Q4-2003

SUMMARY REPORT

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INTRODUCTION

This report summarizes responses of Participant Teachers to selected questions in a program application form and a survey administered at the conclusion of every Intel Teach to the Future "Classic" training in the United States between July 2000 to December 2003. The data reported here demonstrate that teachers' responses to this training have been highly positive throughout the life of the program. Findings reported here include the following:

- Teachers give high ratings to their trainers and to the curriculum itself.
- Teachers report that the program focuses heavily on topics that are the core intended themes of the training.
- Teachers say the training has prepared them to integrate technology into their teaching.
- Teachers would recommend the training to a friend or colleague.

The data summarized here are referred to in other reports discussing findings from the evaluation of Intel Teach to the Future. Education Development Center's Center for Children and Technology (CCT) has been conducting an independent evaluation of the U.S. implementation of Intel Teach to the Future since March 2000. CCT will continue to collect and report on End of Training data throughout 2004, along with continuing other evaluation activities.

METHODS

Subjects

All teachers who completed the 40-hour Classic Intel Teach to the Future training were expected to complete this survey. Master Teachers from this program completed a slightly different version of this survey at the conclusion of their training, and those results are presented in a separate report. The total number of valid responses to this survey was 49,329. In addition, paired t-tests were used to calculate change in teachers' responses to some questions included both in the application to the program (prior to training) and in the survey administered at the conclusion of the training. The valid number of matched pairs varies for individual questions from 45,584 to 45,643.

Instruments

The survey is presented in Appendix A. The survey was developed by CCT in consultation with the ICT and Intel staff involved in the development of the curriculum. Minor revisions were made to the survey in Spring 2001.

Procedures

This survey was administered via the World Wide Web. Specifically, the survey was mounted within an extranet maintained by Intel for Intel Teach to the Future participants. Teachers were asked to complete the survey at the conclusion of their training. The data reported here were collected between July 2000 and December 2003, with 90% of submissions being made between June 2001 and June 2003. The largest number of submissions in a single month was 5,178, in November 2001.

FINDINGS

Participant demographics

Survey respondents were generally representative of the U.S. teaching population in terms of race and ethnicity. When asked to identify themselves by racial/ethnic group, 82.7% reported White/Caucasian, 9.6% reported Other, 5.2% reported Black or African American, 1.4% reported Asian, 0.8% reported American Indian or Alaskan Native, and 0.3% reported Native Hawaiian or Other Pacific Islander. Additionally, 14% reported themselves to be Hispanic or Latino (a category that the Census recognizes as also belonging to either the White/Caucasian or Black/African American category.) The percentage of Participant Teachers who identify themselves as Hispanic is higher than the percentage in the general U.S. K-12 teaching population. This is probably due in part to the fact that, similar to the U.S. Census, teachers completing the Intel Teach to the Future application form were first asked to identify their race and then were asked in a separate question whether they were Hispanic or not. Often survey questions about racial and ethnic identity do not allow respondents to select, for example, both African American and Hispanic. This is true of the U.S. Department of Education Schools and Staffing survey of 2000 (from which the national data reported here is drawn). In addition, many of the RTAs that participated in the program are located in states with large Hispanic populations, such as California, Texas, New Mexico, Arizona and Florida.

Regarding gender, the percentage of female participants in Intel Teach to the Future (80%) was higher than the percentage of females in the national teaching population (74.8%). See Table 1 for a comparison of these figures with national data.

TABLE 1: SEX AND RACE/ETHNICITY OF SURVEY RESPONDENTS (N=49,329) AND OF NATIONAL TEACHING POPULATION

		Intel Teach to the Future Participant Teachers	National Teaching Population*
Sex	Female	80%	74.8%
	Male	20%	25.2%
Race/Ethnicity	White	82.7%	84.3%
	Hispanic**	14%	5.6%
	Other	9.6%	-
	Black or African American	5.2%	7.7%
	Asian	1.4%	1.6%
	American Indian or Alaskan Native	0.8%	0.9%
	Native Hawaiian or Other Pacific Islander	0.3%	1.6%

*NCES, (2000). U.S. Department of Education, National Center for Education Statistics. Schools and Staffing Survey "Public Teacher Questionnaire." 1999-2000. ** The Intel Teach to the Future Application form asked teachers to indicate their race in one question, and then indicate if they were Hispanic or not Hispanic in a separate question. This is why the total percentage for Race/Ethnicity in the End of Training Survey data is greater than 100%.

Subject and grade levels taught

The End of Training Survey asked teachers about the subject and grade levels they teach. See Table 2 for a summary of subject areas these teachers reported specializing in. Totals sum to more than 100% because teachers sometimes marked more than one response. The most common response was "Self-Contained" (34.9%) which includes elementary grade teachers working with a single group of students all day. English was the next most common subject taught, by 25.3% of respondents. Math, Science, Social Studies/History, and working with special populations (special education, ESL or gifted) were each reported by between 15 and 20% of respondents.

There was also a wide range in teachers' reports of the grade levels they teach. Just over a quarter of respondents (26.4%) report teaching only grades K-3, 14.6% report teaching middle elementary (grades 4-5), and another 6.2% report teaching across grades K through 5. This means a total of 47.2% of respondents teaching in some combination of grades K through 5. A smaller group (22.4%) teach the middle school grades (6 through 8), and a similar number (23.8%) teach high school (grades 9-12). The remaining 6.7% of respondents teach some other combination of grades, such as 6 through 12, or 4 through 8 (See Table 3).

TABLE 2: SUBJECT TAUGHT* (N=49,329)

Subject	%
Self-Contained	34.9
English	25.3
Special Population	19.8
Math	17.7
Science	16.5
Social Studies/History	15.7
Other Humanities	10.7
Nonacademic	10.3
Computer Science	5.2

*Overlaps exist in teacher responses, e.g., if teacher listed science and math as subjects taught, the teacher's responses are counted for both science and math.

TABLE 3: GRADE LEVELS TAUGHT (N=49,329)

Grade	%
Lower Elementary (K-3)	26.4
High (9-12)	23.8
Middle/Junior High (6-8)	22.4
Middle Elementary (4-5)	14.6
K-5	6.2
6-12	2.3
K-8	1.9
4-8	1.1
K-12	0.9
4-12	0.2
K-5, 9-12	0.1
K-3, 9-12	0.1
K-3, 6-8	0.1

RTAs represented

Survey respondents represent fifteen RTAs. The largest group is from the University of North Texas (19.1%). Texas A&M has the second most respondents (17.6%). This means a total of 36.7%, or more than a third, of respondents coming from Texas. The next-best-represented RTA is Arizona, with 8.2% of respondents. See Table 4 for a complete report of RTAs represented in this survey.

TABLE 4: RTAS REPRESENTED

RTA	%
University of North Texas	19.1
Texas A&M	17.6
Asset (Ariz.)	8.2
New Mexico	6.4
ICT (Northern Calif.)	5.7
WGBH Educational Foundation (Mass.)	5.7
The Learning Space (Wash.)	5.6
Miami Museum of Science (Fla.)	5.3
NWRESD (Ore.)	5.1
Utah Education Network	5.0
HEAT (Colo.)	4.8
Potomac (D.C.)	4.6
Southern Calif.	3.3
Accelerated Schools Program (national)	3.0
Institute of Computer Technology (Ore.)	0.6

Response to the training

The large majority of participant teachers recognized Intel Teach to the Future as offering experiences that are consistent with the core goals of the program. Teachers felt that the program focused on the integration of technology into the curriculum; that it provided useful new ideas for teaching strategies to use with students; that it illustrated effective uses of technology with students; and that it provided opportunities to collaborate with other teachers (see Table 5).

TABLE 5. PARTICIPANT DESCRIPTION OF TRAINING EXPERIENCE. (N=49,329)

	Not at all %	Small extent %	Moderate extent %	Great extent %
The training focused on integration of technology into the curriculum.	0.6	1.6	11.7	86.2
The training provided useful new ideas for teaching strategies to apply with your students.	0.4	2.7	20.2	76.7
The training illustrated effective uses of technology with students.	0.3	2.0	17.9	79.6
The training provided opportunities to collaborate with other teachers during training.	0.4	3.2	18.8	77.6

Teachers felt strongly that this training would help them to integrate technology successfully into their students' activities. A majority of respondents (96.5%) said that this was "probably" (28.1%) or "definitely" (68.5%) true for them, while 2.5% responded that this was "probably not" true, and less than 1% of respondents (0.9%) said this was "definitely not" true.

Obstacles

Teachers have consistently reported that many issues are generally not significant obstacles to the integration of technology into their classrooms (see Table 6). For example, 82.4% of respondents report that "lack of administrative support" is "not an obstacle" to technology integration or is only a "minor obstacle," while 76.6% report ""lack of instructional support" is "not an obstacle" or is a "minor obstacle." "Lack of time for planning" and "lack of access to technology in the classroom" are reported to be the most significant obstacles (54.8% report "moderate" or "major obstacle," and 53.9% report "moderate" or "major obstacle," respectively).

TABLE 6: HOW MUCH OF AN OBSTACLE TO THE INTEGRATION OF TECHNOLOGY INTO YOUR TEACHING IS EACH OF THE FOLLOWING? (N=49,329)

	Not an obstacle %	Minor obstacle %	Moderate obstacle %	Major obstacle %
Lack of technology access im my classroom.	23.2	22.9	29.1	24.8
Lack of planning time.	15.9	29.4	32.2	22.6
Lack of flecible classroom time.	22.8	32.4	29.5	15.2
Lack of technology access in my school.	31.3	24.8	30.1	13.9
Lack of technical support.	39.8	31.7	19.5	8.9
Lack of instructional support.	42.9	33.7	17.4	5.9
Lack of administrative support.	58.9	23.5	12.3	5.3

Teachers' feelings of preparedness

In 1999 the U.S. Department of Education administered the Fast Response Survey System[1], a national survey collecting data on a range of issues related to teachers and their work lives. In that survey teachers were asked to report on how well prepared they felt to integrate technology into their teaching. Only 20% of teachers reported in that survey that they felt "adequately" or "well prepared" to do this.

We included a similar question in this survey in order to track whether teachers who took part in this training felt significantly more prepared to integrate technology into their teaching than they felt before the training, as well as to track the growth in their preparedness on several other issues. We found that teachers report a consistent, significant growth in their feelings of preparedness to integrate educational technology into the grade they teach, to support their students in using technology, and to evaluate their students' technology-based work.

Paired t-tests were used to calculate change in teachers' ratings on this question, which were collected both in their application to the program (prior to training) and at the conclusion of the training experience. Table 7 shows that teachers reported the largest increases in their readiness to evaluate technology-based work produced by students (Mpost-pre = 1.06 SD= .99). Before training, the teachers felt, on average, just over somewhat prepared to evaluate such work. After training, the teachers felt between moderately and very well prepared. Teachers also reported increased ability to integrate technology into the curriculum (Mpost-pre =.95 SD= .93) and support student use of technology in their schoolwork (Mpost-pre = .81 SD= .94).

TABLE 7. HOW WELL PREPARED DO YOU FEEL TO DO THE FOLLOWING ACTIVITIES WITH YOUR STUDENTS?
(Change in mean response [M] from pre- to post-test, with standard deviation [SD])

Evaluate technology-based work my students produce (N=45,595)	Mpost re = 1.06	SD= .99
Integrate educational technology into the grade or subject I teach (N=45,621)	Mpost pre = .95	SD= .93
Support my students in using technology in their schoolwork (N=45,609)	Mpost pre = .81	SD= .94
Align my teaching with state and national learning standards (N=45,584)	Mpost pre = .43	SD= 1.02
Support independent work by my students (N=45,643)	Mpost pre = .24	SD= 1.03

Smaller differences were found for teachers' perceptions of their readiness to implement methods of teaching that emphasize independent work by students and for their perceptions of their readiness to align teaching with state learning standards. These score increases were minimal, and given the very large sample size they were judged not to be meaningful, even though statistically significant. See Table 8 for complete data demonstrating the growth in teachers' ratings on these questions.

[1] National Center for Educational Statistics. (2000a). Teachers' tools for the 21st century: A report on teachers' use of technology [Online]. Washington, DC: Author. Available at: http://nces.ed.gov/pubsearch/pubsinfo.asp?pubid=2000102

TABLE 8: HOW PREPARED DO YOU FEEL TO DO THE FOLLOWING?

		Not at all prepared %	Somewhat prepared %	Moderately prepared %	Very prepared %
Evaluate technology-based work my students produce. (N=45,595)	Before training	18.4	41.4	30.1	10.1
	After training	1	10.2	39.1	49.7
Integrate educational technology into the grade or subject that I teach. (N=45,621)	Before training	12.5	45.6	31.6	10.3
	After training	0.8	11.5	40.7	47
Support my students in using technology in their schoolwork. (N=45,609)	Before training	10.3	40.9	34.8	14
	After training	0.9	11.8	40.6	46.8
Align my teaching and assessment with state learning standards. (N=45,584)*	Before training	4.5	24.6	41.9	29
	After training	1.3	10.9 3	6.9	51
Implement methods of teaching that emphasize independent work by students. (N=45,643)*	Before training	4.5	24.6	41.9	29
	After training	2.5	14.8	43.8	39

* When rounded to a tenth of a percent, the "before training" percentages for these two questions are the same.

Usefulness of training components

Most teachers found all elements of the training included in the survey to be "moderately" or "very useful," although there was some variation in the strength of their responses. Activities focused on creating student samples or support materials were generally rated as the most useful (see Table 9).

TABLE 9: HOW USEFUL WAS EACH OF THE FOLLOWING COMPONENTS OF THE TRAINING IN HELPING YOU LEARN HOW TO INTEGRATE TECHNOLOGY INTO YOUR TEACHING PRACTICES? (N=49,329)

	Not at all useful %	Somewhat useful %	Moderately useful %	Very useful %
Understanding and applying Fair Use and copyright law.	1.7	15.5	32.6	50.3
Creating, and exploring the uses of, Essential Questions and Unit Questions.	2.7	17.2	38.9	41.2
Discussing and thinking through the pedagogical topics.	3.2 1	9.9	41.5	35.4
Locating and evaluating resources for my unit.	0.8	6.7	29.9	62.7
Creating student multimedia presentations.	0.6	3.7	19.5	76.2
Creating student publications.	0.7	4.2	20.3	74.9
Creating teacher support materials.	0.7	4.4	23.0	71.9
Creating student web sites	1.7	8.3	25.9	64.1
Creating unit plan support materials.	0.9	7.0	29.8	62.4
Peer-reviewing unit plans.	2.7	14.1	37.8	45.4
Creating an implementation plan.	2.5	12.3	36.6	48.6

Response to trainers

Program participants consistently gave their trainers very high ratings on all dimensions of leadership and ability (Tables 10 and 11). The survey asked for responses to the trainers' leadership of the training overall, and also about trainers' ability to work effectively with individual teachers. In terms of overall leadership, ratings were high for all items. Participants felt that their trainers were least effective at leading discussions of pedagogical and classroom management issues, although ratings on this item were still high (91% of respondents felt their trainer was "moderately" or "very" effective at this task). Participants also gave high ratings to their trainers' ability to work effectively with individual teachers around a variety of issues, including addressing technical problems and developing unit plan ideas.

In response to a question asking for an overall rating of the trainer, 81.2% of respondents said that their trainer was "very effective," and 14.8% rated their trainer "adequately effective." Only 3.5% rated their trainer "somewhat effective," and less than 1% (0.6%) reported their trainer was "not at all effective."

TABLE 10: RESPONSE TO THE TRAINERS' LEADERSHIP OF THE TRAINING AS A WHOLE. (N=49,329)

	Not at all %	Somewhat %	Adequately %	Very %
How well prepared was he/she for each day's activities, on average?	0.6	3.4	13.1	82.8
How successful was he/she at exposing participants to the overall scope and sequence of the curriculum?	0.8	4.4	18.8	76.0
How successful was he/she at leading participants through the process of creating unit plans?	1.1	5.4	19.9	73.7
How successful was he/she at engaging the group in discussions of pedagogical and classroom management issues?	1.8	7.1	23.5	67.6

TABLE 11: RESPONSE TO THE TRAINERS' INTERACTIONS WITH INDIVIDUAL TEACHERS. (N=49,329)

	Not at all %	Somewhat %	Adequately %	Very %
How responsive was your trainer to teachers' questions about how to use the technology?	0.4	3.1	10.8	85.6
How effective was your trainer at working with teachers who were having trouble withportions of the curriculum?	0.8	4.4	13.9	80.9
How skilled was your trainer at helping teachers find resources to use in their unit plan?	0.7	4.2	17.4	77.7
How skilled was your trainer at helping teachers develop ideas for their unit plan?	0.9	4.6	18.9	75.6

Recommending the training to others

Teachers were asked whether they would recommend Intel Teach to the Future to a friend or colleague: 76.9% reported they would "definitely" do so, and 19.2% reported they "probably" would do so. Only 2.9% reported they "probably" would not recommend the training, and 1% "definitely" would not recommend it.

CONCLUSION

Overall findings from the analysis of application data from Participant Teachers reveal that these teachers are generally representative of the teaching population in the US, although there is a higher percentage of females and a higher percentage of respondents who identify themselves as Hispanic. Responses to the End of Training survey indicate positive responses across multiple areas addressed in this report. Teachers reported their satisfaction with the content and presentation of the training material, and demonstrated a shift in their perceptions of their preparedness to integrate technology into their classroom activities. These, and other findings identified above suggest that this program is providing appropriate, useful content to educators, employing effective trainers, and helping teachers to feel better-prepared to use technology with their students in the classroom.

APPENDIX A

Participant Teacher Training Evaluation
Intel Teach to the Future

1) To what extent do the following statements describe the Intel Teach to the Future training in which you participated?
For each item below, select the choice that best represents your experience.

The training:	*Not at all* *1*	*Small extent* 2	*Moderate extent* *3*	*Greatextent* *4*
a) Focused on integration of technology into the curriculum				
b) Provided useful new ideas for teaching strategies to apply with your students				
c) Illustrated effective uses of technology with students				
d) Provided opportunities to collaborate with other teachers during training				

2) Will the ideas and skills you learned from the Intel Teach to the Future training help you successfully integrate technology into your students' activities?
Please check one.

Definitely not
Probably not
Probably yes
Definitely yes

3) How much of an obstacle to the integration of technology into your teaching is each of the following?
For each item below, select the choice that best represents your experience.

	Not an obstacle 1	Small obstacle 2	Moderate obstacle 3	Major obstacle 4
a) Lack of technology access in my school				
b) Lack of technology access in my classroom				
c) Lack of planning time				
d) Lack of flexible classroom time				
e) Lack of administrative support				
f) Lack of technical support				
g) Lack of instructional support				

4) Having completed your training, how well prepared do you feel to do the following activities with your students?

For each item below, select the choice that best represents your experience.

	Not at all prepared 1	Somewhat prepared 2	Moderately well prepared 3	Very well prepared 4
a) Implement methods of teaching that emphasize independent work by students				
b) Integrate educational technology into the grade or subject I teach				
c) Support my students in using technology in their schoolwork				
d) Evaluate technology-based work my students produce				
e) Align my teaching and assessment with state learning standards				

5) How useful was each of the following components of the training in helping you learn how to integrate technology into your teaching practices?

For each item below, select the choice that best represents your experience.

	Not useful 1	Somewhat useful 2	Moderately useful 3	Very useful 4
a) Understanding and applying Fair Use and copyright law				
b) Creating, and exploring the uses of, Essential Questions and Unit Questions				
c) Discussing and thinking through the pedagogical topics				
d) Locating and evaluating resources for my unit				
e) Creating student multimedia presentations				
f) Creating student publications				
g) Creating teacher support materials				
h) Creating student web sites				
i) Creating unit plan support materials				
j) Peer-reviewing unit plans				
k) Creating an implementation plan				

6) Think about the trainer who led your workshop and his or her leadership of the training as a whole. In your opinion:
For each item below, select the choice that best represents your experience.

	Not at all 1	Somewhat 2	Adequately 3	Very 4
a) How successful was he/she at exposing participants to the overall scope and sequence of the curriculum?				
b) How successful was he/she at leading participants through the process of creating unit plans?				
c) How successful was he/she at engaging the group in discussions of pedagogical and classroom management issues?				
d) How well prepared was he/she for each day's activities, on average?				

7) Think about the trainer who led your workshop and his or her interactions with individual teachers, including yourself. In your opinion:
For each item below, select the choice that best represents your experience.

	Not at all 1	Somewhat 2	Adequately 3	Very 4
a) How responsive was your trainer to teachers' questions about how to use the technology?				
b) How skilled was your trainer at helping teachers develop ideas for their unit plan?				
c) How effective was your trainer at working with teachers who were having trouble with portions of the curriculum?				
d) How skilled was your trainer at helping teachers find resources to use in their unit plan?				

8) Overall, how effective was your trainer in facilitating your experience of this training?
Please check one.

Not at all
Somewhat
Adequately
Very

9) Would you recommend this training to a friend or a colleague?
Please check one.

Definitely not
Probably not
Probably yes
Definitely yes

10) If you have any comments about the training, please use the space below to explain.