Evaluation Report:
The Impact of Participating in the Urban Dreams
Technology Innovation Challenge Grants (TICG) Program
on the Technology Proficiency of Students
(based on data collected Spring 2003)

PURPOSE

The purpose of this evaluation report is to summarize the quantitative data collected during spring 2003 through paper and pencil surveys which focused on competencies related to technology that were administered to students at high school sites where teachers participating in the Urban Dreams (UD) program work.

The evaluation questions addressed are:

1. Do students (in the "experimental group") who were enrolled in at least one course taught by a teacher who participated in the Urban Dreams program, on average, report a higher level of technology proficiency than students who were not taught by such teachers (the "comparison" group)?
2. Are there systematic background differences between the experimental and comparison groups that might influence the attainment of technology proficiency (i.e., those that are not attributed to program impact such as gender or class level)?
3. Is there a statistically significant difference between the experimental and comparison groups' average level of reported technology proficiency after controlling for background factors that might influence the attainment of technology proficiency (i.e., those that are not attributed to program impact)?
4. For which, if any, of the technology proficiency items (survey questions 4 through 21, 23 through 25, 29 and 30), does the proportion of the experimental group who report having some proficiency (i.e., marking "somewhat true" "mostly true" or "very true") differ from that of the comparison group?
5. Is there a statistically significant difference between the average level of reported technology proficiency for any individual item after controlling for background factors that might influence the attainment of technology proficiency (i.e., those that are not attributed to program impact)?
6. Do the means of the experimental group and comparison group differ with respect to either of the classroom process variables (i.e., items 27 and 28 which are considered to be program outcomes in their own right)? Are the differences statistically significant after controlling for background factors as done in previous analyses?

METHODOLOGY

Selection of Teachers/Classes. The UD Program operates within a school district that serves more than 11,000 urban secondary students in an ethnically and linguistically diverse community. The sample of students who responded to the survey instrument attended one of six sites where teachers had the opportunity to participate in the UD program. For each school site, a list of the language arts and social studies teachers was made. Stratified sampling resulted in the random selection of six teachers (one from each site) for each of the following 4 groups: a language arts teacher involved in the UD program, a social studies teacher involved in the UD program, a language arts teacher who was not involved in UD, and a social studies teacher who was not involved in UD.

Description of Sample. A total of 1047 high school students responded to the survey. The percentage of females was comparable to that of the males (49% vs. 51%). The grade level distribution was 42% freshmen, 18% sophomores, 27% juniors, and 13% seniors. The ethnic distribution was 37% African American, 29% Asian, 2% Caucasian, 21% Hispanic, and 11% identifying themselves as Native American, Pacific Islander or "other." Eighty-two percent report having a computer in their homes; 43% report having taken a technology class at their school. Over 90% indicated they plan to attend college.

Description of "Experimental" and "Comparison" Groups. Ninety-eight percent (N=1026) of the students completed the question on the survey that allowed classification into the "experimental" vs. "comparison" group. For the purpose of this experimental study, being "treated" was operationally defined as having taken one or more classes during any of the prior two years or the current school year (2000-2003) from at least one teacher who was associated with the UD program (N=860; 84% of the respondents). The comparison group consisted of the 166 (16%) of the respondents who were students at the same sites but who did not have a UD program teacher within the last three years.

Sample size reductions due to incomplete responses. Of the 1026 cases that could be grouped into the experimental vs. comparison cases, 80 (9% of 860)) of the experimental cases and 17 (10% of 166) of the comparison cases for a total of 97 students (9.5% of 1026) did not complete all 23 of the technology proficiency items. T-tests and chi square analyses were used to verify that the dropped cases were not systematically different from the remaining cases on a variety of background factors. There was insufficient evidence to suggest that the exclusion of cases related to grade level, grades, gender, ethnicity, language proficiency, having a home computer or having taken a computer technology class at school. Therefore these cases are excluded from the analyses of student technology proficiency level, overall, though they are included in the analyses related to evaluation questions #4, #5, and #6 which inquire about particular skills and knowledge as gathered from the individual survey questions.

Instrumentation. The project evaluators conducted a web search to examine assessments designed to measure student technology proficiency based on the National Educational Technology Standards for Students (NETS-S) published by the International Society for Technology in Education (ISTE, 2000). The search did not generate student technology skills assessments that would meet the needs of the Urban Dreams program However, several websites provided curriculum scope and sequence technology plans, benchmarks, or skills continuums. Many of the technology skills and proficiencies expected of teachers were applicable to students. The California Technology Assistance Project (CTAP) Technology Assessment Profile was examined for the types of technology skills required by teachers and some of these questions (http://ctap2.iassessment.org) were adapted for students in constructing our measure.

The Student Technology Proficiency Inventory (STPI) items were contained within a paper-and-pencil survey that also asked students to report gender, typical course grades, grade level, ethnic background, whether they a) have a computer in their home, b) received a free computer, c) have taken a technology class at school, and d) plan to go to college. They also indicate which, if any, of the UD teachers they have taken classes from, whether their teachers encourage the use of the computer for school assignments, whether they have cooperated with a group of students to create a class project using computer technology, and whether they believe that knowing how to use the computer will be important for them in their future. The 23 technology proficiency items concern (a) basic operations and concepts; (b) social, ethical and human issues; (c) communication tools; (d) productivity tools; (e) research tools; and (f) problem-solving and decision making tools (with 5, 3, 3, 5, 2, and 5 items, respectively; see Appendix A).

To investigate the internal consistency of scores derived from the STPI, Cronbach's alpha was calculated. Sufficient evidence exists regarding the reliability of the scores with an alpha of .93 for the scale comprised of survey questions 4 through 21, 23 through 25, 29 and 30 which were completed by 929 students. Preliminary evidence of content validity relies upon knowing that the item writer is a professor of educational technology who relied upon the NETS-S (a standards framework that is highly regarded).

For additional evidence of validity, we looked to see whether higher scores were found among students (a) who had higher school grades, (b) with computers in their homes, (c) who had taken a technology class at their school, (d) who planned to go to college, and (e) who believed that knowing how to use the computer would be important for their future. Weak correlations, but statistically significant ($p < .01$) and in the predicted direction, were found between the level of technology skill the student self-reported and all the indicators listed above ($r's = .21, .27, .31, .20$, and $.39$, respectively), lending support for the validity of scores derived from the instrument.

Statistical Analyses. To address evaluation question one, an independent samples t-test was performed using the total score that results from summing responses to the 23 technology proficiency items (where response options are scored 1 through 4 resulting in scores potentially ranging from 23 to 92) as the dependent variable and group membership (experimental versus comparison) as the independent variable. This total

score is referred to as "level of technology proficiency" and resides under the variable name "sumskill" on the data file.

To address evaluation question two, differences between the experimental and comparison groups in terms of gender, ethnicity, having plans to attend college, having a home computer, having taken a technology class, and English language proficiency classifications were investigated with chi square tests of independence (also known as tests of association and tests of homogeneity). The proportion of experimental group students who belong to each category (e.g., male versus female) is compared to the proportion of comparison group students who do. Also, in addressing evaluation question two, differences between the experimental and comparison groups in terms of grade level, student-reported typical course grades, perceived importance of computer skills, and school absences were investigated with independent samples t-tests. The purpose of this evaluation question was to gauge whether the experimental and comparison groups varied in systematic ways that might threaten the internal validity of the study.

To address evaluation question three, hierarchical regression analysis was employed where blocks of variables are entered successively and those in prior blocks are controlled when examining the effects of variables entering in later blocks (see Table 1). The dependent variable was level of technology proficiency ("sumskill"). In one analysis, an indicator variable (whose name is "group" on the data file) was used to separate treatment from comparison cases in the 4th block. In a related, but separate, analysis, the number of UD teachers the student had served as a rough indication of the "dosage of treatment" received. On the file the latter variable's name is "numudtch."

Table 1. Variable blocks used in hierarchical regression analysis of program impact.

Block 1 (Demographic):
- Male (1=Yes, 0=No)
- Grade Level (9, 10, 11, 12)
- Ethnicity (indicators for 4 groups)

Block 2 (Academic Achievement/Aspirations):
- Self-Reported Grades
- Having Plans to Attend College (1=Yes, 0=No)

Block 3 (Computer-specific):
- Having Home Computer (1=Yes, 0=No)
- Took Technology Class (1=Yes, 0=No)
- Perceived Importance of Computer Skills (1-4)

Block 4 (Program Treatment):
- Experimental Group (1= Teacher Participated in Program, 0= No Teachers Participated in Program)
- -or-
- "Dosage of Treatment" (based on the number of UD teachers student had)

To address evaluation question four, the proportions of each group who report having some proficiency (i.e., marking "somewhat true" "mostly true" or "very true") were obtained though a cross-tabulation of group membership (experimental versus comparison) and a dichotomized response to the individual survey items (questions 4 through 21, 23 through 25, 29 and 30, separately) and a chi square test of independence was performed.

To address evaluation question five and six, a strategy analogous to addressing evaluation question three was employed but the individual items served as separate dependent variables and the original responses (rather than dichotomized ones) on a 4-point scale were used.

RESULTS

Evaluation Question One. The average level of technology proficiency that students in the experimental group indicated they had was 64.80 (SD=15.09) whereas the average for the comparison group was 63.92 (SD= 16.19). The mean difference of .88, unadjusted for background factors that may differ between the groups, was not statistically significant, $t(927)= 0.646$, $p= .519$. It should be kept in mind that the lack of statistical evidence for a difference between the groups could, in part, reflect initial group differences in background factors that may mask UD program effects. Thus, greater attention should be paid to the results of evaluation question three, where an attempt is made to control for selection threats, should they exist.

Evaluation Question Two. There is insufficient evidence to suggest that the experimental and comparison groups differ with respect to (self-reported) grades, perceived importance of computer skills, school absences, gender, ethnicity, having a home computer, having taken a technology class, college plans, or English language proficiency level. However, the comparison group was comprised of students in lower grade levels of high school, on average, than the experimental group, $t(257.001)= 7.48$, $p< .001$. The percentages of freshmen, sophomores, juniors and seniors in the comparison group are 70%, 7%, 19%, and 4% vs. 37%, 20%, 28%, and 14% for the experimental group, respectively. This is to be expected since the opportunity to be in at least one classroom of a teacher associated with the UD program increases for those who have taken more classes and as more teachers join the UD program over time. (In gauging program effects, an effort is made to control for group differences by employing hierarchical regression.)

Evaluation Question Three. When the group indicator is used (rather than that of "dosage"), there is insufficient evidence to suggest that the average level of technology proficiency of students in the treatment group (i.e., whose teachers participated in UD) differs from that of the comparison group after controlling for demographic, academic achievement/ aspiration, and computer-specific background variables. The results of the

hierarchical regression are summarized in Table 2a below where, in the last row, we note that the program impact failed to account for even one tenth of one percent.

Table 2a. Hierarchical regression results for level of technology proficiency by "group."

Predictor Variable Sets	R	Change Statistics				
		R Square Change	F Change	df1	df2	Sig. F Change
Block 1: Demographics	.203	.041	6.105	6	849	.000
Block 2: Academic Achievement/ Aspirations	.328	.066	31.530	2	847	.000
Block 3: Computer-Specific	.563	.209	85.896	3	844	.000
Block 4: Treated (vs. Not Treated)	.563	.000	0.261	1	843	.610

Table 2b shows the summary from the hierarchical regression when the "dosage" (i.e., number of UD teachers the student had) is used to gauge program effects. Though statistically significant, the change in the proportion of variance for the outcome (self-reported proficiency level) was less than 1%. The unstandardized regression coefficient, b, for the "numudtch" variable is 0.742 suggesting that for each additional class a student has taken with a UD teacher, the level of technology proficiency they report is raised less than one point on our scale that has a 69 point range. Thus, although some might claim the result to be statistically significant (using alpha=.05), the impact is of marginal practical significance, at best.

Table 2b. Hierarchical regression results for level of technology proficiency by "dosage."

Predictor Variable Sets	R	Change Statistics				
		R Square Change	F Change	df1	df2	Sig. F Change
Block 1: Demographics	.203	.041	6.105	6	849	.000
Block 2: Academic Achievement/ Aspirations	.328	.066	31.530	2	847	.000
Block 3: Computer-Specific	.563	.209	85.896	3	844	.000
Block 4: Number of UD Teachers	.567	.005	5.825	1	843	.016

It should be recognized that both estimates of program impact (via "group" and "numudtch") are conservative in that we control for computer-specific variables that the Urban Dreams program could, in fact, have impacted (e.g., the acquisition of a home computer, the decision to take a computer class, beliefs in the importance of having computer skills). In addition, the validity of self-reported knowledge and skills must always be questioned unless the intent is to get at respondents' perceptions of their abilities, which is not the case here.

Evaluation Question Four. In addressing this question, items appearing as number 4 through 21, 23 through 25, 29, and 30 on the survey are considered. In general (for 18 of 23 items) we find that a higher proportion of those in the experimental group report having some proficiency regarding the knowledge or skill (listed as separate items) than the proportion of those in the comparison group who do. This is true for all but 5 of the 23 items (see Table 3). Moreover, the differences, for the items where the proportion in the comparison group was higher (Item numbers 9, 20, 23, 29, and 30) were not statistically significant ($p > .05$). In contrast statistically significant differences were found, where the proportion of the experimental group exceeded that of the comparison regarding knowledge/skills listed as items 6, "I use different kinds of software," 11, "I know how to give web authors credit when I use their material in my papers by using citations & providing references," and 15, "I type my research papers and major assignments for school." It should be kept in mind that the statistically significant differences (or lack thereof) may, in part, be explained by initial group differences in background factors having little, if anything, to do with the UD program itself. Thus, greater attention should be paid to the results of evaluation question five where the reader is directed to the last column of Table 3.

Evaluation Question Five. Even after controlling for background factors that might influence the attainment of technology proficiency, the three items (#6, #11, and #15) for which t-tests detected differences between the groups remained statistically significant. In the hierarchical regression analyses summarized in the rightmost column of Table 3, the responses (on the 4-point Likert scale, rather than dichotomized as in addressing the last evaluation question) to each item are regressed on Blocks 1-3 outlined in Table 1 and "dosage of treatment" is then added. The purpose of this analysis is to determine whether the number of UD teachers' classes a student has been in, "dosage of treatment," significantly improves the proportion of variance in responses to the item that can be accounted for beyond that explained by the background variables we control for (i.e., gender, grade level, ethnicity, student-reported GPA, having plans to attend college, having a home computer, having taken a technology class, and belief in the importance of computer skills). This approach also identifies statistically significant positive associations ($p< .05$) between "dosage of treatment" and the level of proficiency students report in regards to the skills described by items 4, "I am able to start software programs easily," 16, "I am able to insert graphics into my documents," 24, "I am able to work independently to complete projects using a computer," and 25, "I am able to be creative and artistic with a computer." These are in addition to the statistically significant positive associations ($p< .05$) between "dosage of treatment" and the level of proficiency students report in regards to the skills listed as items 6, "I use different kinds of software," 11, "I know how to give web authors credit when I use their material in my papers by using citations & providing references," and 15, "I type my research papers and major assignments for school."

Table 3. Proportion in each group with some proficiency and probabilities for differences based on inferential tests when raw proportions are compared (via t-test) and when average responses to the 4-point Likert scale are controlled for background variables (via hierarchical regression and using "dosage of treatment").

Item Number and Wording	Program Partic. Prop.	Compar. Group Prop.	t-test Prob.	Hierarch. Reg'n Prob.
4. I am able to start software programs easily.	89	83	*ns*	**.007**
5. I know how to use icons, windows, and menus.	94	92	*ns*	*ns*
6. I use different kinds of software.	87	80	.038	**.001**
7. I am able to print my documents.	95	94	*ns*	*ns*
8. I can save documents to a floppy disk.	96	94	*ns*	*ns*
9. I am able to determine if information on a website is true.	88	91	*ns*	*ns*
10. I am honest, polite, and respectful when I e-mail and chat.	90	88	*ns*	*ns*
11. I know how to give web authors credit when I use their material in my papers by using citations & providing references.	77	69	.029	**.007**
12. I send e-mail to friends or family frequently.	76	73	*ns*	*ns*
13. I am able to send e-mail attachments.	79	73	*ns*	*ns*
14. I use chat or instant messaging often.	71	66	*ns*	*ns*
15. I type my research papers & major assignments for school.	95	87	**.003**	**.000**
16. I am able to insert graphics into my documents.	85	82	*ns*	**.003**
17. I can create graphs or pie charts in a spreadsheet program.	74	70	*ns*	*ns*
18. I am able to use spreadsheets to calculate sums & averages.	77	73	*ns*	*ns*
19. I can use the computer to create multimedia presentations (like PowerPoint or HyperStudio).	76	75	*ns*	*ns*
20. I know how to use an Internet search engine to locate information.	94	95	*ns*	*ns*
21. I can keep track of websites I have visited by using favorites or bookmarks.	89	86	*ns*	*ns*
23. I have created interesting and unique projects using a computer.	83	86	*ns*	*ns*
24. I am able to work independently to complete projects using a computer.	93	92	*ns*	.012
25. I am able to be creative and artistic with a computer.	87	84	*ns*	.048
29. I am able to design a web page.	63	66	*ns*	*ns*
30. I am able to create a database to store and retrieve info.	67	73	*ns*	*ns*

Note: *ns* is based on alpha=.05. Probabilities are based on 2-tailed tests.

It should be noted that the .05 level of significance was adopted for evaluation question five. Some might argue that this is too liberal given the numerous inference tests that were performed. In applying an alpha level of .01, we still find that program participation may have impacted competencies listed as items 4, 6, 11, 15, and 16. The probabilities associated with these statistical inference tests where alpha is less than .01 are bolded in Table 3 (page 8). To argue these results are of practical importance, however, may be difficult, given that only for Item #15, "I type my research papers & major assignments for school," is the increase in R^2 more than 1% (namely, it is 1.9%).

Evaluation Question Six. On average, the students in the experimental group (i.e., whose teachers participated in UD) more strongly endorsed item #27 as being true for them than did those in the comparison group (M= 2.93, SD= .97 vs. M= 2.74, SD= .99, respectively). In other words, the average response to the statement, "My teachers encourage the use of the computer for school assignments," was significantly higher for the experimental group, t(1008)= 2.384, p= .017. Even after controlling for initial group differences on background factors, the results of the hierarchical regression analysis using dosage of treatment show an effect of the intervention (R^2 change= 1.2%, p< .001).

The students in the comparison group more strongly endorsed item #28 as being true for them than did those in the experimental group (M= 2.71, SD= 1.13 vs. M= 2.60, SD= 1.15, respectively). However, the average response to the statement, "I have cooperated with a group of students to create a class project using computer technology," was not significantly higher for the comparison group, in a statistical sense, t(1007)= -1.112, p= .266. Similarly, the results of the hierarchical regression analysis using dosage of treatment failed to find a statistically significant effect in either direction, positive or negative (R^2 change= 0.2%, p= .165).

Thus, it may be that one or more of the findings related to evaluation question three or five can be explained on the basis of classroom practice differences whereby teachers involved in the UD program are more likely to encourage the use of the computer for school assignments (item 27). However, it is unlikely that one can explain the differences to result from differential classroom practices in regards to having students work in cooperative groups to create class projects using computer technology (item 28). Given that item 27 is about the individual's use and item 28 is about his or her group's use of computer technology, it seems reasonable to find item 27 more correlated with results where the dependent variable is about the individual student's level of proficiency. Also, it is likely that other unmeasured process variables operate to explain the results reported for evaluation questions three and five.

SUMMARY OF MAJOR RESULTS [a]

1. The average level of technology proficiency that students in the experimental group indicated they had was 64.80 (SD=15.09) and not significantly different from that of the comparison group (M= 63.92, SD= 16.19).

2. The comparison group was comprised of students in lower grade levels of high school, on average, than the experimental group, though the two groups were not found to appreciably differ in regards to nine other background factors that were investigated to gauge initial group differences.

3. There is insufficient evidence to suggest that the average level of technology proficiency of students in the treatment group (i.e., whose teachers participated in UD) differs from that of the comparison group after controlling for demographic, academic achievement/ aspiration, and computer-specific background variables. However, a modest effect was noted when the number of UD teachers the student had replaced the simple indicator of whether or not s/he had had a UD teacher in the final block of the regression analysis.

4. In general (for 18 of 23 items) we find that a higher proportion of those in the experimental group report having some proficiency regarding the knowledge or skill (listed as separate items) than the proportion of those in the comparison group who do. However, the difference was statistically significant for only items #6, #11, and #15.

5. After controlling for demographic, academic achievement/ aspiration, and computer-specific background variables, the number of UD teachers' classes a student has been in was found to be positively associated with responses to seven items:

    - I am able to start software programs easily. (item #4)
    - I use different kinds of software. (item #6)
    - I know how to give web authors credit when I use their material in my papers by using citations & providing references. (item #11)
    - I type my research papers and major assignments for school. (item #15)
    - I am able to insert graphics into my documents. (item #16)
    - I am able to work independently to complete projects using a computer. (item #24)
    - I am able to be creative and artistic with a computer (item #25)

6. The average response to the statement, "My teachers encourage the use of the computer for school assignments," was significantly higher for the experimental group than the comparison group. Even after controlling for initial group differences on background factors, and using the number of UD teachers the student had as an indicator of treatment "dosage," an effect was found. No difference between the groups, however, was found, in regards to the statement, "I have cooperated with a group of students to create a class project using computer technology."

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[a] Statistical significance is based on two-tailed tests using alpha= .05.

REFERENCES

International Society for Technology in Education (2000). National Educational Technology Standards for Students (NETS-S): Technology Foundation Standards for All Students. [Online] Retrieved July 17, 2002 from: http://cnets.iste.org/sfors.htm

Student Technology Survey ***APPENDIX A*** **Castlemont High School**

Your First Name:_____

(Please Print Clearly)

Last Name:_____

Today's Date (xx/xx/xx):_____ **Classroom Teacher:**_____

Please fill circles in completely. Use a dark pen or pencil.

I am a:	
Male	○
Female	○

My Grade:	
9th	○
10th	○
11th	○
12th	○

My Ethnicity (darken all that apply)	
African American	○
Asian	○
Caucasian	○
Hispanic	○
Native American	○
Pacific Islander	○
Other	○

My Typical Course Grades:	
Mostly A's	○
Mostly A's and B's	○
Mostly B's	○
Mostly B's and C's	○
Mostly C's	○
Mostly C's and D's	○
Mostly D's and Below	○

Please choose one answer for each of the next three questions. Fill circles in completely.

	Yes	No
1. I have a computer in my home.	○	○
2. I have taken a technology class at my school.	○	○
3. I plan to go to college.	○	○

How true is each of the following statements for YOU? Please fill circles in completely.

Basic Operations and Concepts	Not at all true	Somewhat true	Mostly true	Very true
4. I am able to start software programs easily.	○	○	○	○
5. I know how to use icons, windows, and menus.	○	○	○	○
6. I use different kinds of software.	○	○	○	○
7. I am able to print my documents.	○	○	○	○
8. I can save documents to a floppy disk.	○	○	○	○
Social, Ethical, and Human Issues	**Not at all true**	**Somewhat true**	**Mostly true**	**Very true**
9. I am able to determine if information on a website is true.	○	○	○	○
10. I am honest, polite, and respectful when I e-mail and chat.	○	○	○	○
11. I know how to give web authors credit when I use their material in my papers by using citations & providing references.	○	○	○	○

Technology Communication Tools	Not at all true	Somewhat true	Mostly true	Very true
12. I send e-mail to friends or family frequently.	○	○	○	○
13. I am able to send e-mail attachments.	○	○	○	○
14. I use chat or instant messaging often.	○	○	○	○
Technology Productivity Tools	**Not at all true**	**Somewhat true**	**Mostly true**	**Very true**
15. I type my research papers & major assignments for school.	○	○	○	○
16. I am able to insert graphics into my documents.	○	○	○	○
17. I can create graphs or pie charts in a spreadsheet program.	○	○	○	○
18. I am able to use spreadsheets to calculate sums & averages.	○	○	○	○
19. I can use the computer to create multimedia presentations (like PowerPoint or HyperStudio).	○	○	○	○

Technology Research Tools	Not at all true	Somewhat true	Mostly true	Very true
22. I know how to use an Internet search engine to locate information.	○	○	○	○
23. I can keep track of websites I have visited by using favorites or bookmarks.	○	○	○	○
Technology Problem-Solving and Decision Making Tools	**Not at alltrue**	**Somewhat true**	**Mostly true**	**Very true**
22. I know that a famous computer company is IBM.	○	○	○	○
23. I have created interesting and unique projects using a computer.	○	○	○	○
24. I am able to work independently to complete projects using a computer.	○	○	○	○
25. I am able to be creative and artistic with a computer.	○	○	○	○
26. I know how to use BMDP statistical software.	○	○	○	○
27. My teachers encourage the use of the computer for school assignments.	○	○	○	○
28. I have cooperated with a group of students to create a class project using computer technology.	○	○	○	○
29. I am able to design a web page.	○	○	○	○
30. I am able to create a database to store and retrieve information.	○	○	○	○
31. I believe that knowing how to use the computer will be important for me in my future.	○	○	○	○

Correct mark ● Incorrect mark ✓ ✗ ◒

	Yes	No	Don't Know
32. Has your family received a free computer from the school district, Marcus Foster Institute, or the Oakland Technology Exchange during the last three years?	○	○	○

33. Please fill in the bubble next to the name of each teacher with whom you have had a class either this year, last year, or two years ago.

Teacher's Name	This School Year 2002-2003	Last School Year 2001-2002	Two Years Ago 2000-2001
Molly Amico	○	○	○
Erin Carlson	○	○	○
Hafeezah Dalji	○	○	○
Nettie Flippen	○	○	○
Jamie Frucht	○	○	○
Sarah Fuchs	○	○	○
Susannah Gallin	○	○	○
Linda Halpren	○	○	○
Heather Hughes	○	○	○
Jason MacDonald	○	○	○
Patrick Maher	○	○	○
Jared Robinson	○	○	○
Vicki Stoneham	○	○	○
Hattie Tate	○	○	○
Ann Turiano	○	○	○
Dan Ziegler	○	○	○
Fill in this bubble if you have NOT had any of these teachers. →			○

Thank you for taking this survey!

Correct mark ● Incorrect mark ✓ ✗ ◒