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U.S. Department of Education
Star Schools Program

TEAMS: Project IMPACT
(Improving Achievement Through Converging Technologies)

TEAMS Distance Learning
Los Angeles County Office of Education

1999-2000 Program Evaluation
1992-2000 Longitudinal Metadata Analyses

October, 2000

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Executive Summary
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TEAMS is one of the largest K-12 providers of distance learning in the United States. In 1999-2000, TEAMS regularly served over 150,000 K-8 students in 23 states, the District of Columbia and several territories. The areas served range from Maine to the Marshall Islands, as TEAMS added Hawaii and most of the islands in the South Pacific in 1999.

Since 1990, TEAMS has been awarded grants in a competitive process by the United States Department of Education Star Schools Program. It is estimated that TEAMS has directly served over one million students and another group that is largely uncounted because TEAMS programs are rebroadcast by public television stations and cable channels available to the public.

Evaluation Procedures 1999-2000

During the 1999-2000 school year, a number of evaluation procedures were conducted for the TEAMS Project IMPACT Star Schools Program. The evaluator made site visits to the majority of the project sites. During the site visits, teachers were observed as they used the TEAMS programs. Teachers, some students, and administrators were interviewed at the school sites.

Survey instruments were prepared for TEAMS teachers and principals/technology coordinators. Electronic instruments were used for the first time this year. Surveys were also available in PDF format for printing. Responses to electronic instruments were e-mailed directly to the evaluator. Respondents who chose to use the printed forms mailed the instruments directly to the evaluator.

The statistical data on students and variables regarding possible improvement was analyzed for the 1999-2000 school year and then compiled with the existing longitudinal data on student improvement which has been collected since 1992. The statistical data on teachers, principals and technology coordinators was compiled for the 1999-2000 school year. Survey instruments and transcribed focus interviews appear in the appendix of the full evaluation report.

The evaluation team worked with the TEAMS program manager to develop an assessment pilot to address student achievement. The TEAMS evaluation plan was extended to begin collecting data related to specific student achievement at the completion of various modules of instruction.

Electronic Data Collection

New electronic data collection instrument methods were tested this year as part of an ongoing attempt to determine new ways to collect information that would encourage participation by TEAMS teachers. Infopoll and Flash Forms were used. Infopoll had the advantage of providing statistical analysis during the period of time from when the evaluations were released through the time data was no longer collected. While this seemed like a very attractive feature, it was less relevant because of the limited analysis that it could provide. In order to do regressions and other advanced statistical analysis, the data had to be retrieved, extensively worked, and then imported into a statistical analysis program.

Infopoll will not be used until more useful and flexible versions are released. Flash Forms was used to create the instrument for used data collection about student attitudes and behaviors. The software has some limited analysis functions, but its primary strength is that it is easy to create instruments and move them to the Internet. Data is deposited in a database directly as the respondent answers the questions. As a result, there is no question as to whether the data was input correctly by a statistical assistant. The database is imported into the statistical software and can be analyzed immediately.

For those who could not respond online, the instruments were provided as PDF files which could be downloaded and quickly printed.

Respondents did not report any problems in using the electronic data collection instruments. However, it was observed that the online format makes it appear that the instruments are longer, when in fact they were shorter this year than they had been in previous years.

Respondents used a combination of electronic and printed surveys. Printed instruments were mailed to the evaluator directly. Data was input in the database.

Site Demographics

For the 1999-2000 school year, over forty-six percent of the schools were classified as urban, fifty-three percent were classified as suburban and none of the responding sites classified themselves as rural

Teacher and Student Demographics

Grades Served: The majority of service to the schools was reported as being to the upper elementary fourth through sixth grade teachers with the fourth grade representing the largest group served. The project is traditionally used by first through eleventh grades.

Class Size: Reported class sizes ranged from 20 to 90 students. The mean class size was thirty students; however the median was twenty-five and the mode was twenty-eight students in a class.

Social and Economic Sector: Teachers were asked to report the social and economic sector (SES) of students. Teachers report that 198 or 47.4 percent of students are of low socio-economic status, 154 or 36.8 percent are of middle status, and 66 or 15.8 percent are of high status. See Table 1.

Table 1 Social and Economic Sector (SES) of TEAMS Students1999-2000

Social and Economic Sector (SES)	Percent of Students	TEAMS Students N= 418
Low	47.4	198
Middle	36.8	154
High	15.8	66

Student Ethnicity: Student ethnicity is reported in percentages and numbers in Students' ethnicity is 103 or 26.4 percent African American, 125 or 32.1 percent Caucasian, 127 or 32.7 percent Hispanic, 22 or 5.6 percent American Indian, 11 or 2.8 percent Asian, and two others. See Table 2. The largest groups were white, African American and Hispanic.

Table 2 Student Ethnicity of TEAMS Students 1999-2000

Student Ethnicity	Percent of Students Percentage	TEAMS Students N = 418
Caucasian (non-Hispanic)	32.1	125
African American	26.4	103
Hispanic	32.7	127
Asian	2.8	11
American Indian	5.6	22
Pacific Islanders	+/- 1	+/- 1
Other	+/- 1	+/- 1

TEAMS Project IMPACT Modules and Programs Used

Teachers reported their use of the TEAMS programming during the 1999-2000 school year. Science and Mathematics programming were the most heavily used, but all strands were used throughout the project (see Table 3.

Table 3 Program Modules and Programs Used 1999-2000

TEAMS Project IMPACT **Program and Module**	**Mean** (Average Programs Used)	**Count** (Teachers responding to Question)	**Total** (Number of Programs Used)
History/Social Science			
Student as Historian (5 programs)	0	13	0
Student as Media Evaluator (5 programs)	.38	13	5
California Here I Come! (5 programs)	0	13	0
Natural Events: Then and Now (4 programs)	0	13	0
Science			
Heat (9 programs)	.69	13	9
Chemistry (9 programs)	.69	13	9
Earth Processes (9 programs)	4.15	13	45
Weather (9 programs)	NA	NA	NA
Putting on a Science Festival (3 programs)	0	13	0
Fast Plants (9 programs)	.69	13	9
Life Cycles (6 programs)	.08	13	1
Mathematics/Algebra			
Algebra and Functions for Primary Grades (6 programs)	0	11	0
Algebra in My World (6 programs)	0	13	0
Turn on to Algebra (8 programs)	0	12	0
Middle School Algebra (6 programs)	.46	13	6
Mathematics/Geometry			
Primary Geometry (6 programs)	.08	13	1
Geometry in My World (8 programs)	.77	13	10
Turn on to Geometry (8 programs)	1.31	13	17
Middle School Geometry (6 programs)	.46	13	6
Primary Reading Series Grades K-1			
Staff Development (4 programs)	.31	13	4
Student Programs (8 programs)	.31	13	4
Primary Reading Series Grades 2-3			
Staff Development (4 programs)	0	13	0
Student Programs (8 programs)	0	13	0
Language Arts			
Letters from Rifka (5 programs)	0	13	0
Shiloh (4 programs)	0	13	0
Writing K-1	.15	13	2
Writing 2-3	.0	13	0

Viewing the Programs

TEAMS teachers reported how they viewed the programs. Twenty-three percent viewed the programs live. Seventy-six percent viewed videotapes. Forty -six percent said they used both viewing methods.

Project Impact on Students

During the third year of the TEAMS Project IMPACT grant, teachers (n=17) returned report cards 455 students.

The same set of questions has been asked about student improvement since 1992 and the data has been aggregated. A metadata evaluation has been conducted on the responses about the students. The 1999-2000 evaluation brought the number of students in the longitudinal portion of the evaluation study to n = 18,377.

Few evaluation studies of student impact have been maintained and continued as long as this study. It provides a very strong evaluation of the TEAMS Project and the continuing strength of the impact on students.

For the school year of 1999-2000, teachers were asked to report demographic information about the TEAMS students which included gender and assignment to a program such as Chapter 1/Title 1, limited English proficient (LEP), gifted or special education.

Teachers reported that of the 455 students, there were 213 male students and 232 female students. Seventy-four are listed as Chapter 1/Title 1, 43 are limited English proficient (LEP) students, 14 students are enrolled in special education programs, and 73 students are enrolled in gifted programs.

For the eight year period of the TEAMS longitudinal student study, of the 18,377 students, 9,277 were male (50.5 percent) and 9,100 were female (49.5 percent). There were 6,285 students reported as Chapter 1/Title 1, LEP students totaled 2,555 , special education students totaled 1,627, and 1,965 students were reported as part of the gifted program at their school (see Table 4).

Table 4 Comparative Demographics for 1999-2000 School Year and 1992-2000 Metadata Analyses

	Total Student	Male	Female	Chapter Title 1 Student	LEP Student	Special Ed Student	Gifted Students
98-99 School Year	455	213	232	74	43	14	73
92-99 Metadata	18,377	9,277	9,100	6,285	2,555	1,627	1,965

Project Impact on Students

The survey instrument continued to ask the same questions about the degree to which any of the following occurred for a student because of the TEAMS Project. Teachers were asked if the TEAMS Project contributed to improved content knowledge and skills for the student, improved critical thinking and problem solving for the student, improved language skills for the student, increased interest in the subject area by the student, improved quality of work by the student, increased interest in school by the student, improved attendance at school by the student, improved behavior at school by the student, an increase in the student taking the responsibility for his/her own learning, the development of greater confidence by the student as a learner, and higher self-regard by the student. Teachers reported on each student individually.

Teachers scored any change in the student which the teacher attributed to TEAMS Project IMPACT. A scale of one to four was used where the numeral one indicated no change, the numeral two indicated very little change, the numeral three indicated some degree of change, and the numeral four indicated a great deal of change by the student.

Equating a median score in the range of 2.50 to 3.49 to a scaled response of three, the conclusion is that the teachers attribute student improvement to the TEAMS Project. Each of the variables was found to be highly significant with confidence levels of $P < .0001$. This was found for the 1999-2000 school year and in the 1992-2000 metadata analyses. Adding to the level of confidence for the student improvement was the database of over 18,000 students and the extensive reporting time of eight years for the longitudinal study.

Table 5 compares the statistics of the mean, standard deviation, standard error, median and mode for the 1999-2000 school year and for the 1992-2000 metadata analyses. Note that the statistics for the current year and the metadata years are quite close which indicates an even higher validity for the current year.

Table 5 Mean Scores for Qualitative Variables for 1999-2000 School Year and 1992-2000 Metadata Analyses

Variable	99-00 Mean	92-00 Mean	99-00 Std. Dev	92-00 Std. Dev	99-00 Median	92-00 Median	99-00 Mode	92-00 Mode
Content Knowledge & Skills	2,879	3.075	.943	.802	3	3	3	3
Improved Critical Thinking and Problem Solving	2.615	3.018	1.072	.813	3	3	3	3
Improved Language Skills	2.331	2.737	1.109	.906	2	3	1	3
Increased Interest in the Subject Area	2.671	3.126	1.092	.843	3	3	3	3
Improved Quality of Work	2.376	2.784	1.071	.872	3	3	3	3
Increased Interest in School	2.511	2.821	1.087	.915	3	3	3	3
Improved Attendance	1,734	2.302	1.022	1.079	1	2	1	1
Improved Behavior	1.889	2.399	1.060	1.031	1	2	1	3
Takes Responsibility for Own Learning	2.707	2.732	.897	.938	3	3	3	3
Greater Confidence as a Learner	2.893	2.868	.895	.890	3	3	3	3
Higher Self-Regard	2.645	2.796	1.013	.935	3	3	3	3

Disaggregated Student Data 1999-2000 School Year and 1992-2000 Metadata Analyses

As reported, student information was collected based on certain groupings which included gender, and programs for students who were classified as Chapter 1/Title 1, limited English proficient, gifted and special education participants. Statistical analyses were done on each group according to the eleven variables where change might take place. The analyses were to determine what changes took place in the variables according to the disaggregated student grouping.

The conclusion is that for this year and for the longitudinal student study, teachers attribute improvement in all areas for the Chapter 1/Title 1, LEP, gifted, and special education students.

Chapter 1/Title 1 Students: Chapter 1/Title 1 students in 1999-2000 and 1992-2000 showed improvement in all variables with a median score in the range of 2.50 to 3.19 for a scaled response of three.

Limited English Proficient (LEP) Students: LEP students in 1999-2000 and 1992-2000 showed improvement in all variables with a median score in the range of 2.50 to 3.19 for a scaled response of three.

Gifted Students: Gifted students in 1999-2000 and 1992-2000 showed improvement in all variables with a median score in the range of 2.32 to 3.28 for a scaled response of three.

Special Education Students: Special education students in 1999-2000 and 1992-2000 showed improvement in all variables with a median score in the range of 2.08 to 2.83 for a scaled response of three. For the variables of behavior and attendance, the scaled responses were two and 1.5 respectively for both groups.

Factors Limiting the Use of Technology in the Classroom

Teachers were asked what they believed limited the use of technology in their schools. Time was listed as the biggest limiting factor which included the time of day when the technology and/or TEAMS programs were available to use. Other limited factors included having enough computers for all children to use. Only one teacher reported that being a first year teacher was a limiting factor.

TEAMS Pre- and Post-test Assessment Pilot
Turn on to Geometry, Grades 5-6

During 1998-1999, tests were developed to assess key concepts being taught in the Turn On to Geometry Module. The same test was used a pre-test and a post-test. Tests were administered in four fifth grade classrooms in Los Angeles County. Tests were modified based on the input of four teachers. These teachers met with the managing producer, and distance learning instructor to discuss test implementation, format and scoring.

During 1999-2000, a national pilot was conducted using the modified pre and post-tests for the Turn On to Geometry module. The tests were distributed to TEAMS schools across the nation and selected fifth grade classrooms participated in the pre- and post-test national assessment pilot. The four original assessment pilot teachers scored all the returned tests at one location. A scoring rubric had been developed and was used for the scoring. Tests were scored by two teachers and the managing producer.

Pre and post-tests showed that students had significant gains in their learning about Geometry. As a control for the pilot, no other Geometry courses, information, or papers other than TEAMS was distributed during the period of time between the pre- and post-tests.

Conclusions

The TEAMS Project has had a significant impact on student improvement which has been statistically validated for a period of eight years during which information was collected on over 18,000 students across the United States.

1997-2002 Project IMPACT

Evaluation Design

The 1997-2002 Project IMPACT (Improving Achievement Through Converging Technologies) Star Schools Project evaluation plan is designed to provide data from the project as a whole, and in-depth data from designated evaluation sites across the country. The design focuses on answering questions about:

- The impact of the Project on its audiences of students and teachers
- The adoption and institutionalization of Project IMPACT in each partner area and its impact on systemic reform
- The impact on student learning brought about by a distributed learning system which includes satellite distance learning, asynchronous Internet access and additional resources for use in the classroom
- The impact on teacher learning brought about by a distributed learning system which includes satellite distance learning and asynchronous, World Wide Web based applications for students

Evaluation activities for the third year began in October, 1999 and concluded in September, 2000.

Basis of the Evaluation Design

The 1997-2002 Project IMPACT Evaluation Design is based on the CIPP (Context, Input, Process, Product) Evaluation Model developed by Daniel Stufflebeam, et. al. It also contains the major elements of CBAM (Concerns Based Adoption Model) which measures the adoption of an innovation, and was developed by Gene Hall and Susan Loucks.

Part I: Overview of Project IMPACT Evaluation Design

A. Project Goals and Objectives

Components of the evaluation for each year will address the major goals of Project IMPACT and how the project met the goals. Assessment questions are listed under each goal. In Section B, the same questions are incorporated into the CIPP and CBAM evaluation models.

Goal 1: Design, develop and implement a distributed learning system for the enhancement of student instruction and teacher training that supports national educational goals and priorities.

Question: Were the project goals implemented in accordance with the proposed timelines?

Question: Did the project meet its objectives?

Question: How are the programs used in schools - live, interactive or videotape? Is there a modality that is more effective under certain circumstances?

Question: How effectively was the distributed learning system implemented at sites and how regularly was it used by students and teachers?

a) What was the impact of Tier 1 - Televised Instruction?

b) What was the impact of Tier 2 - Televised Instruction and Multimedia?

c) What was the impact of Tier 3 - Televised Instruction, Multimedia and Web Support?

d) What was the impact of Tier 4 Televised Instruction, Multimedia, Web Support, Cybrid CD (CD-ROM and Web Links), and Web On-line Instruction?

Question: What academic progress do students show because of Project IMPACT?

Is there an increase in learning (unexpected percentile growth between grades) that was unexpected; can any growth be attributed to the impact of the distributed learning system? Is there a difference in learning which can be attributed to the Tier Level of the Distributed Learning System?

Question: What changes have been observed in student attitude and behaviors (attendance, disciplinary referral, and grades) which can be attributed to Project IMPACT?

Question: What academic progress do teachers show because of Project IMPACT? Is there an increase in their learning and an increased adoption of the new system for students because of their satisfaction with it for their individual learning; can growth and satisfaction be attributed to the impact of the distributed learning system?

Goal 2: Design, develop and produce live, interactive distance learning programs using a distributed learning model in support of Goals 2000 and high state standards.

Question: How successfully has Project IMPACT connected teachers and students via the distributed learning system.

Question: What is the criteria used at the site to determine success of a teacher-to-teacher/student-to-student distributed learning network?

Question: Are the distributed learning system activities directly related to the instructional content of the programs? How does the design facilitate discussion, information dissemination, information gathering, and mentoring?

Question: How does asynchronous (not in real time) feedback affect student learning? Is the success of the asynchronous feedback, age dependent?

Question: Has the distributed learning system been accepted by teachers and is it valued as an extension of the instructional programs?

Goal 3: Provide inservice professional development for teachers.

Question: What changes have there been in teacher attitude and behaviors (enthusiasm in teaching, use of cooperative groups, interest in reform in subject areas, and collaboration with other teachers) because of Project IMPACT inservice?

Question: What are the teachers' stages of concern and their level of use of the programs?

a) Is there a positive or negative difference in the teacher's stages of concern and use of the distance learning programs which can be attributed to the Tier Level which they use (Tiers 1-4).

b) Do previous users of the TEAMS programs progress through the levels of use more quickly when they are using Tier 4 multiple technologies.

c) Do teachers find it easy to immediately begin using Tier 4 multiple technologies or is there a progression in the use of technologies that should be followed?

Question: What configurations of innovation are in place at school sites?

Goal 4: Provide training and information opportunities for community stakeholders through collaboration with other federal, state and local projects.

Question: How successfully did Project IMPACT provide training and information opportunities for the community stakeholders?

Question: What was the impact on students of their parents participating in Project IMPACT?

Question: What types of collaborations with other federal, state and local projects were successful?

a) At sites where other technology projects were in place, was the implementation and adoption of Project IMPACT easier or more successful?

Question: Has the student/teacher involvement in Project IMPACT increased due to collaboration? What are the other impacts of the collaboration with federal, state and local projects?

Goal 5: Build and expand on the national partnerships of TEAMS Distance learning to assure that all students in the partnership will have access to exemplary distance learning programs that support challenging standards.

Question: Has Project IMPACT been effective in expanding its activities to new partnerships?

Question: Do all students in the partnership have equitable access?

Question: Does Project IMPACT provide equity of access to underserved and at-risk student populations in its rural and urban partnerships?

Question: What differences can be evaluated between new sites with new teachers and students and former TEAMS sites where teachers and students have participated in TEAMS?

Question: How successfully did Project IMPACT provide ownership at the former and new sites for the new programs?

Goal 6: Implement, manage, and evaluate the project so as to realize the maximum potential and benefits for each partner.

Question: What has been the impact of Project IMPACT in districts, schools and at a regional and national level?

Question: What benefits do the partners see in participating in a national project?

Question: Does the project design provide flexibility, incentives and a regional service orientation to adequately support an expanded, multistate student and teacher population?

B. Overall Project - CIPP and CBAM Assessment Questions

1. Context: How is the project organized?

   How is each partner region organized for Project IMPACT?

   How has Project IMPACT developed in that region?

2. Input: What resources has Project IMPACT provided in each region?

   What resources were added through Communications Group?

   What resources were added through the collaborations

   What resources were added through partnerships?

   What resources have states, regional agencies, districts, schools and others provided?

3. Process:

   Installation:

   How have districts, schools, teachers been selected to participate?

   What are patterns of beginning implementation of Project IMPACT?

   What specific methods were successfully used to implement the distributed learning system?

   Implementation:

   How have Project IMPACT programs been delivered?

   What technical assistance has been given to sites?

   What support materials and process are available?

What is the level of teacher involvement in the project.

How are former TEAMS users and first, second, third, fourth and fifth year teachers involved with Project IMPACT?

4. Product (Outcomes)

How many participants, districts, states have received services?

What services were received?

What are their demographic characteristics?

What is the difference in using live or tape versions?

What types of interaction create greatest benefits?

What have been the benefits to teachers, students, parents and administrators?

What are the effects of being part of a national telecommunications project?

What are the effects of being part of a distributed learning system?

What outcomes resulted from the collaborations?

What outcomes resulted from other partnerships?

Part II: Evaluation Procedures

A. Questionnaire Instruments

Appropriate questionnaire instruments will be prepared and administered to each major group of users of Project IMPACT; teachers, principals, coordinators, parents, students and partners. In-depth questionnaire instruments will be prepared and administered at evaluation sites. These instruments and questions will be used for teachers, principals, coordinators, parents, students and partners.

Timeline: October-November of each grant year - questionnaire preparation

April of each grant year - questionnaires will be mailed to all sites.

B. Student "Report" Card

A student progress form will be used to track the improvement of students. The same form was used in the 1993-97 evaluation. The data from this form will provide a basis of comparison and correlation between early and new users who have access to a distributed learning system. It provides extensive evaluation of student growth and learning. The form asks the instructor to rate (on a scale of one to four, where four is high), the growth of the student which is directly attributable to Project IMPACT.

Timeline: October-November of each grant year - questionnaire preparation
April of each grant year - report cards will be mailed to all sites

C. Site Evaluation Visits and Electronic Evaluation Conferencing:

Sites will be selected as in-depth evaluation participants. Site visits will take approximately three months to complete during each year of the grant. Sites will be evaluated for the level of adoption of Project IMPACT their success in using the distributed learning network and the level of connectivity that was attained in accessing other educational resources available through on-line methods.

Sites will be evaluated in person at the school and through the distributed learning system according to the Tier 3 level of use of the distributed learning system to determine the capacity that has been developed at the site and the skill in working with the system by students and teachers.

Timeline: October -May each year of the grant.

Criteria Tied to Student Performance
How Performance Outcomes Shall be Demonstrated Over Time

At the end of each TEAMS module, teachers will fill in a student report card which will specifically report on each individual student's performance in the class.

The form will also collect basic information on gender and participation in Title 1, LEP, Gifted, and Special Education programs.

The form will ask the TEAMS teacher to describe the degree of the outcome for each student that could be attributed solely to using TEAMS. The scale of one to four will be used where four is a great degree and one is none. The following are the basic questions:

Improved Content Knowledge and Skills
Improved Critical Thinking and Problem Solving
Improved Language Skills
Increased Interest in the Subject Area
Improved Quality of Work
Increased Interest in School
Improved Attendance
Improved Behavior
Takes Responsibility for Own Learning
Greater Confidence as Learner
Higher Self-Regard

There will be additional questions that will deal with the Tier (1-4) level of the distributed learning system and student performance. The basis of the project is that Project IMPACT creates, develops and implements a distributed learning system that supports a combination of the best features of time-dependent video-based instruction, and time-independent multimedia resources and computer access to the Internet. The model is based on blending the instructional technologies of classroom-based multimedia, distance learning, and Web-based instruction. It allows schools and classrooms at any level of technology readiness, access to exemplary instruction. It buildings on the proven, cost-effective infrastructure of satellite delivered television programming, public broadcasting, cable and ITFS.

The distributed learning design offers a rich array of multimedia and distance learning opportunities for teachers, students, and parents As they move through the tiers, they are exposed to ever increasing resources to aid their learning acquisition. Every student is able to make a valuable contribution to the group.

At a different level, the project enjoins schools to move from Tier 1 to Tier 4 because there is a projection and perception that multiple technologies when used well, will increase learning. The following are the Tiers and associated technologies.

Tier 1 level of technology where the classroom has only a television set through which to receive the TEAMS signal via satellite, cable, ITFS, or open-air broadcast.

Tier 2 level of technology where the classroom has a television set, video cassette recorder, and non-Internet connected computers. This tier adds multimedia applications modeled by distance learning instructors on the televised programs referenced in the field support materials and incorporated by teachers into classroom instruction.

Tier 3 level of technology where the classroom has a television set, video cassette recorder, and Internet connected computers and the Tier 2 multimedia applications modeled by distance learning instructors on the televised programs referenced in the field support materials and incorporated by teachers into classroom instruction. This Tier adds Web-based components that support, enhance, and extend the televised instruction; including general information resources and TEAMS Electronic Classrooms.

Tier 4 level of technology where the classrooms have televisions, video cassette recorder, Internet connected computers and productive instructional technology support. The levels moves to a truly synchronous and asynchronous distributed learning system by building on the existing three tiers and adding Web-based instruction for students, teachers and parents. The fourth tier provides active, meaningful instruction through a variety of instructional technologies from interactive satellite programs to online projects, activities, resources and courses on the Internet.

The statistical analysis of choice to determine significance and impact and is an multivariate analysis of variance (MANOVA). A MANOVA employs two or more dependent measures to compare populations. It uses regression-like procedures to remove extraneous (nuisance) variation in the dependent variables due to one or more uncontrolled metric independent variables (covariates). The covariates are generally assumed to be linearly related to the dependent variables. After adjusting for the influence of the covariates, a standard MANOVA is carried out. This adjustment process usually allows for more sensitive tests of treatment effects.

MANOVA is concerned with differences between groups (or experimental treatments). MANOVA is termed a multivariate procedure, since it is used to assess group differences across multiple metric dependent variables simultaneously (i.e., in MANOVA, each treatment group is observed on two or more dependent variables.)

As a statistical inference procedure, MANOVA is used to assess the statistical significance of differences between groups. The null hypothesis tested is the equality of vectors of means on multiple dependent variables across groups.

MANOVA is particularly useful when used in conjunction with experimental research designs in which one or more independent variables are directly controlled and manipulated to determine the effect on two or more dependent variables. It proves the tools to judge the reliability of any observed effects (i.e., whether an observed difference is due to a treatment effect or to random sampling variability.)

The research design will allow the Project to determine:

- Level of educational impact on students based upon each tier (1-4) of technology
- Level of satisfaction with the technology based upon the tier (1-4 of technology
- Level of professional development required by teachers in order to feel a comfort level with the technology tier (1-4)
- Level of educational impact based on Tier (1-4) technology and student learning style
- Level of improved content knowledge and skills based on technology tier (1-4)
- Level of improved critical thinking and problem solving based on technology tier (1-4)
- Level of improved language skills based on technology tier (1-4)
- Increased Interest in the subject area based on technology tier (1-4)
- Improved quality of work based on technology tier (1-4)
- Increased interest in school based on technology tier (1-4)
- Improved attendance based on technology tier (1-4)
- Improved behavior based on technology tier (1-4)
- Taking responsibility for own learning based on technology tier (1-4)
- Greater confidence as a learner based on technology tier (1-4)
- Higher self-regard based on technology tier (1-4)

The Project has a rich and complex content and technology array to offer. The evaluation design will enable the Project to determine the impact on all of the above variables.   As an example of the importance of the learning style, Chris Dede in his “Implications of Hypermedia and Cognition and Communication,” (1991) “...if a person is asked to recall his childhood home, this information is not stored as one large node of knowledge in his memory system. Instead, bits and pieces of knowledge about this home are distributed in various locations throughout his cognitive structures. These memory stores do not shape spatial proximity; however, when challenged with such a request, the mental retrieval system can search out these required fragments. Through this retrieval process, which is not well understood, a complete mental representation of the house (including the floor plan, the color of the walls, the type of floor covering, number of windows) can be reconstructed.

In the same way, students are asked to retrieve information about what they have learned in their coursework. Depending upon their preferred learning style and how the information was presented at the time of learning, they may or may not be able to retrieve the information acceptably. If technology enables quicker learning because it meets more learning styles than may be possible in the traditional classroom without integrated technology, what level of technology is needed to ensure that all students will learn equally well from the same system. For students with highly developed independent learning skills, the diversity of a Tier 4 system may provide strong educational benefits. However, it will not be apparent whether the system or the student’s learning style and independent qualities influenced and impacted significant learning.   The MANCOVA statistical analysis will enable the project to better pinpoint the significant variables.

To a great extent, the “haves and have nots” arguments about providing equitable access to technology for all students is recreated in this project. A very basic level of technology is provided in Tier 1 where students have access only to television.   The ‘haves” are represented in Tier 4 which provides the highest level of technology access through synchronous and asynchronous systems of technology.   The research design will help the project to determine whether there is a significant difference in learning between the haves and have nots enrolled in TEAMS courses. It will help the project determine whether there is an optimum group of technology which foster significant learning at a lower cost which would be more affordable for all schools.

D. Data Collection and Analysis

Questionnaire instruments will be statistically analyzed for significance to determine the Impact of Project IMPACT. Focus site interviews will be transcribed and used to collect corroborating and anecdotal evidence of the level of the project's success and adoption.

Timeline: May of each year of the grant.

E. Strategies to Provide Site Feedback

A number of evaluation feedback provisions have been built into the project. Because the evaluation is built on the basis of a formative research design, feedback is an inherent part of the design.

- A formative evaluation will be conducted to determine problems. The formative evaluation will be provided to all users.
- Feedback to educators, administrators, site coordinators and regional coordinators will continue to be given during the site visit for in-depth research sites.
- Feedback will be provided to the regional coordinators at the regional meetings in the form of a formal report on the findings.
- Feedback in the form of articles and formal reports will be posted on the TEAMS web site so that anyone who needs the information can download it.
- Through regular meetings scheduled with the project director, discussions will be held about problems found at any site, and possible solutions.
- After problems have been identified, the site will be monitored at an

appropriate time to allow the problem to have been corrected. An analysis will be done to determine how well the solutions worked.

All sites will have access to the evaluator through e-mail, telephone, or postal mail to report problems.

Part III: Products of the Evaluation

A. Report on Organization, Installation, Implementation and Impact of Project IMPACT

B. Project IMPACT School Implementation/Intervention Plan

- Teacher Involvement and Use of Project IMPACT by Year in Program
- Successful Project IMPACT School Site Models
- Project IMPACT In depth Evaluation Sites based on the following details for the 1999-2000 grant year.

TEAMS IMPACT Evaluation 1998-2002

TEAMS IMPACT Model Sites

Priority Checklist to Select
TEAMS IMPACT Model Pilot Sites 1998-2002

- Use one module in its entirety each semester – preferably two modules
- Three teachers at the site will use TEAMS.
- The site will be a Tier III school with a TV and at least one computer with Internet access in the classroom. The teacher and students will use the classroom computer to access
- TEAMS online services.
- The TEAMS module will be the primary resource to teach the curriculum component.
- Provide administrative support to the IMPACT teachers (copying, technical, etc.)

Details

Selection:	Self selection One model site per partner, three classrooms per site (minimum) Urban, Suburban or Rural setting
Duration:	The school agrees to review the benefits of being a national IMPACT site and if beneficial, to serve as a site through June 2002. Sites will be actively participating by September 1999.
Contact with Evaluator:	Evaluation questionnaires will be filled out entirely and returned by principals and teachers. The evaluator will conduct focus interviews by audio conference or at the site with the teacher and principle.
Programs:	Use one full module of any program series per semester along with all the materials, assessment, manipulatives, TEAMSNet (web-based) materials. The TEAMS module will be the primary resource for teaching the curriculum component.
Reception:	Receive programs live or replay video tape during the same week of airing. If any programs are missed due to reception failure or school event, the school will obtain tapes of the missed programs and use them for the class along with Internet access for interaction
Viewing:	Students view their TEAMS program in their own classroom (not a general resource room used by other students.)
Duplication:	Provide a duplicating budget that allows the teacher to produce the student worksheets as black-line masters (Spirit/Ditto duplication will not be used).
Internet:	Students will use Internet to access TEAMS Web through a Computer in their classroom (computer lab access is not sufficient). The Teacher will actively use TEAMS Web as part of the TEAMS class participation.

Telephone:	Have access to a telephone in the classroom during times when the program is received live and actively attempt to place calls to the origination site.
Technology Levels:	The school will maintain a minimum level of technology and use it as part of the project so that it can be evaluated. Malfunctioning equipment including satellite dishes and computers will be repaired immediately so that students will be able to complete all programs in a timely fashion. The minimum Technology Level is III which includes TV reception and a computer with Internet access to TEAMS Web.
Norm & Criterion Referenced Testing:	If the state or district uses criterion referenced testing, access to scores for TEAMS and non-TEAMS students will be provided. TEAMS will provide guidance in performance based testing.
Professional Development:	Teachers will view all TEAMS professional development programs for the course.
Principal:	The principal or lead TEAMS teacher will meet with TEAMS students, their parents (or guardians), and TEAMS teachers to go over the school's expectations from using TEAMS, the improvements that have been made to accompany the program, the nature of the IMPACT evaluation, and to answer questions. Monthly or meetings will be held with TEAMS teachers to identify successes and problems. These may be conducted via e-mail or list-serv to establish on-going communication.
New Courses:	If TEAMS adds new courses during the grant, the site will actively consider the use of the new programming without dropping other TEAMS programming.
Principal Evaluator:	Dr. Carla Lane, Executive Director The Education Coalition, 31 Segovia, San Clemente, CA 92672 949-369-3867 Fax 949-369-3865 CarlaLane@AOL.com

1999-2000

Analysis of Teachers' Reports of Student Attitudes and Behaviors

New electronic data collection instrument methods were tested this year as part of an ongoing attempt to determine new ways to collect information that would encourage participation by TEAMS teachers. Infopoll and Flash Forms were used. Infopoll had the advantage of providing statistical analysis during the period of time from when the evaluations were released through the time data was no longer collected. While this seemed like a very attractive feature, it was less relevant because of the limited analysis that it could provide. In order to do regressions and other advanced statistical analysis, the data had to be retrieved, extensively worked, and then imported into a statistical analysis program.

Infopoll will not be used until more useful and flexible versions are released.

Flash Forms was used to create the instrument for used data collection about student attitudes and behaviors. The software has some limited analysis functions, but its primary strength is that it is easy to create instruments and move them to the Internet. Data is deposited in a database directly as the respondent answers the questions. As a result, there is no question as to whether the data was input correctly by a statistical assistant. The database is imported into the statistical software and can be analyzed immediately.

For those who could not respond online, the instruments were provided as PDF files which could be downloaded and quickly printed.

Respondents did not report any problems in using the electronic data collection instruments. However, it was observed that the online format makes it appear that the instruments are longer, when in fact they were shorter this year than they had been in previous years.

Respondents used a combination of electronic and printed surveys. Printed instruments were mailed to the evaluator directly. Data was input in the database.

Respondents

During the period of the evaluation, seventeen teacher surveys were returned and recorded, reflecting teachers' opinions about the attitudes and behaviors of 455 students. Of these seventeen responses, only six responded to the teacher portion of the survey. The student survey questions focused on each student's outcomes as perceived and attributed by the teachers, using a weighted-scale response of 4=great degree, 3=some degree, 2=very little, and 1=none. In addition, analysis was performed to evaluate whether the responses varied for different student populations.

Performance Variables

The survey asked teachers about the degree to which any of the following statements about each student could be attributed to the project: the codes for each which were used on the output tables are also shown below.

1. Improved content knowledge and skills? ("f Con")
2. Improved critical thinking and problem solving? ("g Crit")
3. Improved language skills? ("h Lang")
4. Increased interest in the subject area? ("I Int")
5. Improved quality of work? ("j Qual")
6. Increased interest in school? ("k Sch")
7. Improved attendance? ("l Atten")
8. Improved behavior? ("m Beh")
9. Takes responsibility for own learning? ("n Resp")
10. Greater confidence as learner? ("o Conf")
11. Higher self-regard? ("p Regard")

Mean values reported for all students for each performance variable are contained in Table: 6. Equating a median score in the range of 2.50 to 3.49 to a scaled response of three, the conclusion is that these teachers attribute some degree of improvement for all the students to the project in all but two areas—attendance, and behavior.

Table: 6
Mean Scores for Performance Variables

	Mean	Std. Dev.	Count	# Missing	Median	Mode
f Con	2.870	.943	416	39	3.000	3.000
g Crit	2.615	1.072	413	42	3.000	3.000
h Lang	2.331	1.109	408	47	2.000	1.000
i Int	2.671	1.092	407	48	3.000	3.000
j Qual	2.376	1.071	407	48	3.000	3.000
k Sch	2.511	1.087	405	50	3.000	3.000
l Atten	1.734	1.022	399	56	1.000	1.000
m Beh	1.889	1.060	397	58	1.000	1.000
n Resp	2.707	.897	406	49	3.000	3.000
o Conf	2.893	.895	401	54	3.000	3.000
p Regard	2.645	1.013	403	52	3.000	3.000

Demographics

Teachers were asked to report demographic information about the students:

1. Male or female? (M=1, F=0)
2. Title 1? (Y=1, N=0)
3. LEP (limited English proficient)? (Y=1, N=0)
4. Gifted? (Y=1, N=0)
5. Special education? (Y=1, N=0)

In the database of 450 students presented here, 213 of the students are male, 232 are female, the gender of five students is unreported, 74 students are Title 1 eligible, 43 are in LEP programs, 14 are in Special Education programs, and 73 are reported as members of Gifted programs. (See Table 7.)

Table: 7
TEAMS Students Demographics

	a F/M	b Title I	c LEP	d Gifted	e Spec Ed
Count	450	379	345	369	344
# Missing	5	76	110	86	111
Sum	213	74	43	73	14

Student Attitudes and Behaviors

The following analyses address the possible relationships between each of the performance variables with all of the other performance variables. The regression analyses were computed without an intercept because, "In cases where it is absurd for x to be 0, the intercept should be viewed as a technical necessity for specifying the line and should not be interpreted directly." (Siegel, Andrew F., Practical Business Statistics., Irwin Press, Boston, 1994., p. 425.) To contemplate an evaluation of improvement measures with each measure reported by the same source (in this case, the teacher) but having no impact from any improvement measure would seem to be absurd.

1. Improved content knowledge and skills

Measurement of content knowledge/skills and the degree of growth for the students in the classes receiving the project curriculum delivery was reported by the teachers to be attributable to the project at a mean score of 2.870 (standard deviation = .943). Further, the variability in the scores on this variable were accounted for by the other measures in the model at an adjusted R squared value of .974, F = 1463.403, with a confidence level of $p < .0001$. (See Table 8.)

Table: 8
Regression: Improved Content Knowledge/Skills vs. 10 Independents

Regression Summary
f Con vs. 10 Independents

Count	388
Num. Missing	67
R	.987
R Squared	.975
Adjusted R Squared	.974
RMS Residual	.482

ANOVA Table
f Con vs. 10 Independents

	DF	Sum of Squares	Mean Square	F-Value	P-Value
Regression	10	3403.097	340.310	1463.403	<.0001
Residual	378	87.903	.233		
Total	388	3491.000			

Regression Coefficients
f Con vs. 10 Independents

	Coefficient	Std. Error	Std. Coeff.	t-Value	P-Value
g Crit	.447	.057	.503	7.800	<.0001
h Lang	-.201	.062	-.231	-3.250	.0013
i Int	.370	.069	.422	5.330	<.0001
j Qual	.102	.051	.113	2.000	.0462
k Sch	.021	.049	.024	.432	.6657
l Atten	.012	.051	.013	.241	.8094
m Beh	-.029	.050	-.032	-.577	.5644
n Resp	-.200	.050	-.185	-4.022	<.0001
o Conf	.244	.063	.228	3.838	.0001
p Regard	.271	.054	.285	4.999	<.0001

In this survey, the teachers' reports of students' improved content knowledge and skills were very highly significant at the $p < .0001$ level of confidence with results for measures of improved critical thinking and problem solving, responsibility for own learning, and higher self-regard, and significant for greater confidence and improved language skills.

Coefficients of correlation for improved language, behavior, and greater responsibility for own learning are negatively signed, indicating an inverse relationship with greater content knowledge and skills. In the opinion of the teachers in this study, these occurred first for these students, and the rate of increase was decreasing in their opinion as content knowledge and skills were increasing.

Further analysis of the regression relationship was performed excluding independent variables of lower p values. Variability in scores on this variable by this method were accounted for by the six other measures in the model at an adjusted R squared value of .972, F = 4678.789, with a confidence level of p< .0001. That is, 97.2 percent of the variability in this model resulted from 46.8 percent of the score for improved critical thinking, 36.2 percent of the score for greater subject matter interest, and 29.0 percent of the score for greater confidence. (See Table 9.)

Table: 9
Regression: Improved Content Knowledge/Skills vs. 3 Independents

Regression Summary
f Con vs. 3 Independents

Count	399
Num. Missing	56
R	.986
R Squared	.973
Adjusted R Squared	.972
RMS Residual	.501

ANOVA Table
f Con vs. 3 Independents

	DF	Sum of Squares	Mean Square	F-Value	P-Value
Regression	3	3518.728	1172.909	4678.789	<.0001
Residual	396	99.272	.251		
Total	399	3618.000			

Regression Coefficients
f Con vs. 3 Independents

	Coefficient	Std. Error	Std. Coeff.	t-Value	P-Value
i Int	.316	.060	.362	5.293	<.0001
g Crit	.413	.058	.468	7.123	<.0001
o Conf	.308	.031	.290	9.823	<.0001

The implication is that, in the opinion of these teachers and as a result of the project, for these students improved content knowledge and skills are a result of increased critical thinking, increased subject matter interest, and increased confidence as a learner, very highly significant statistically.

It should be noted that standardized coefficients for the variables of improved language skills and responsibility for own learning are negative. While the data are silent on this phenomenon, a reasonable supposition would be that students doing well in content knowledge and skills are students with improvements in language skills and responsibility behind them. Put differently, students showing improvement in the areas of improved language skills and responsibility might not yet be showing the large gains in content knowledge and skills that would come later.

An analysis was performed to determine whether any of the variables were too closely related to one another to be considered as independent from each other. This test, called Analysis of Covariance, or ANCOVA, was performed for the independent variables related to greater content knowledge and skills, since this is the point of schooling. Only one independent variable, higher self-regard, was found to have a mild multicollinearity with the greater content knowledge and skills. The ANCOVA analysis reached a total of 111.60 for higher self-regard, and multicollinearities of 100 to 1000 are considered mild. As another result of that analysis, four variables accounted for 90.97 percent of the variability in greater content knowledge and skills: critical thinking and problem solving (61.87 percent), improved language skills (13.11 percent), increased interest in the subject matter (8.99 percent), and improved quality of work (7.00 percent).

Once again, it should be remembered that the coefficient of correlation for language was negatively signed, indicating that this variable needed to have increased first, and the rate of increase was actually slowing, as content knowledge and skills were beginning to increase. (See Table 10.)

Table 10
Analysis of Covariance: Improved Content Knowledge/Skills vs. 10 Variables
Eigenvalues of Centered Correlations

Variable	Eigenvalue	Incremental Percent	Cumulative Percent	Condition Number
Critical	6.187015	61.87	61.87	1.00
Language	1.311251	13.11	74.98	4.72
Subject	0.898564	8.99	83.97	6.89
Quality	0.699841	7.00	90.97	8.84
School	0.307216	3.07	94.04	20.14
Attendance	0.195898	1.96	96.00	31.58
Behavior	0.142437	1.42	97.42	43.44
Responsibility	0.111958	1.12	98.54	55.26
Confidence	0.090380	0.90	99.45	68.46
Self-Regard	0.055440	0.55	100.00	111.60

Some Condition Numbers are greater than 100. Multicollinearity is a mild problem.

Correlations between reported scores for greater content knowledge/skills and other variables were greatest for critical thinking, subject matter interest, and improved quality, with others generally of some weight except for increased self-regard, improved behavior and improved attendance. (See Table 11.)

Table: 11
Correlation of Greater Content Knowledge/Skills with 10 Variables

	f Con	g Crit	h Lang	i Int	j Qual	k Sch	l Atten	m Beh	n Resp	o Conf	p Regard
f Con	1.000	.854	.559	.852	.747	.591	.350	.359	.442	.671	.352
g Crit	.854	1.000	.604	.913	.790	.643	.400	.399	.518	.673	.307
h Lang	.559	.604	1.000	.654	.681	.834	.561	.535	.422	.518	.714
i Int	.852	.913	.654	1.000	.819	.683	.399	.399	.513	.703	.327
j Qual	.747	.790	.681	.819	1.000	.751	.520	.549	.640	.659	.478
k Sch	.591	.643	.834	.683	.751	1.000	.486	.463	.555	.608	.584
l Atten	.350	.400	.561	.399	.520	.486	1.000	.874	.386	.350	.505
m Beh	.359	.399	.535	.399	.549	.463	.874	1.000	.418	.378	.542
n Resp	.442	.518	.422	.513	.640	.555	.386	.418	1.000	.780	.582
o Conf	.671	.673	.518	.703	.659	.608	.350	.378	.780	1.000	.612
p Regard	.352	.307	.714	.327	.478	.584	.505	.542	.582	.612	1.000

388 observations were used in this computation.
67 cases were omitted due to missing values.

2. Improved critical thinking and problem solving

Measurement of the degree of growth of critical thinking and problem solving was reported by the teachers to be attributable to the project at a mean score of 2.615 (standard deviation = 1.072). Variability in the scores on this variable were accounted for by the other measures in the model at an adjusted R squared value of .979, F = 1825.524, with a confidence level of p< .0001. (See Table12.)

Table: 12
Regression: Improved Critical Thinking Skills vs. 10 Independents

Regression Summary
g Crit vs. 10 Independents

Count	388
Num. Missing	67
R	.990
R Squared	.980
Adjusted R Squared	.979
RMS Residual	.401

ANOVA Table
g Crit vs. 10 Independents

	DF	Sum of Squares	Mean Square	F-Value	P-Value
Regression	10	2940.121	294.012	1825.524	<.0001
Residual	378	60.879	.161		
Total	388	3001.000			

Regression Coefficients
g Crit vs. 10 Independents

	Coefficient	Std. Error	Std. Coeff.	t-Value	P-Value
f Con	.310	.040	.276	7.800	<.0001
h Lang	.119	.052	.121	2.288	.0227
i Int	.513	.054	.520	9.538	<.0001
j Qual	.066	.043	.065	1.553	.1212
k Sch	-.030	.040	-.030	-.745	.4569
l Atten	.028	.042	.027	.666	.5061
m Beh	.012	.042	.012	.292	.7703
n Resp	.108	.042	.089	2.592	.0099
o Conf	.038	.054	.032	.703	.4822
p Regard	-.183	.046	-.172	-4.020	<.0001

Further analysis of the regression was performed excluding variables with lower p values. The variability in the scores on this dependent variable by this method were accounted for by just two other variables at an adjusted R squared value of .979, F = 9605.962, with a confidence level of p< .0001, very highly significant statistically. In other words, 97.9 percent of the variability was accounted for in this model by 68.9 percent of the score for increased subject matter interest and 24.5 percent of the score for increased content knowledge and skill. (See Table 13.)

Table: 13
Regression: Improved Critical Thinking Skills vs. 2 Independents

Regression Summary
g Crit vs. 2 Independents

Count	405
Num. Missing	50
R	.990
R Squared	.979
Adjusted R Squared	.979
RMS Residual	.405

ANOVA Table
g Crit vs. 2 Independents

	DF	Sum of Squares	Mean Square	F-Value	P-Value
Regression	2	3152.864	1576.432	9605.962	<.0001
Residual	403	66.136	.164		
Total	405	3219.000			

Regression Coefficients
g Crit vs. 2 Independents

	Coefficient	Std. Error	Std. Coeff.	t-Value	P-Value
f Con	.278	.034	.245	8.236	<.0001
i Int	.681	.035	.689	19.281	<.0001

In this survey, correlation analysis showed strong relationships of critical thinking skills with greater content knowledge and skills, improved subject matter interest, improved quality of work, greater interest in school and greater confidence. (See Table 14.)

Table: 14
Correlation of Improved Critical Thinking Skills with 10 Variables

	g Crit	f Con	h Lang	i Int	j Qual	k Sch	l Atten	m Beh	n Resp	o Conf	p Regard
g Crit	1.000	.854	.604	.913	.790	.643	.400	.399	.518	.673	.307
f Con	.854	1.000	.559	.852	.747	.591	.350	.359	.442	.671	.352
h Lang	.604	.559	1.000	.654	.681	.834	.561	.535	.422	.518	.714
i Int	.913	.852	.654	1.000	.819	.683	.399	.399	.513	.703	.327
j Qual	.790	.747	.681	.819	1.000	.751	.520	.549	.640	.659	.478
k Sch	.643	.591	.834	.683	.751	1.000	.486	.463	.555	.608	.584
l Atten	.400	.350	.561	.399	.520	.486	1.000	.874	.386	.350	.505
m Beh	.399	.359	.535	.399	.549	.463	.874	1.000	.418	.378	.542
n Resp	.518	.442	.422	.513	.640	.555	.386	.418	1.000	.780	.582
o Conf	.673	.671	.518	.703	.659	.608	.350	.378	.780	1.000	.612
p Regard	.307	.352	.714	.327	.478	.584	.505	.542	.582	.612	1.000

388 observations were used in this computation.
67 cases were omitted due to missing values.

3. Improved language skills

Measurement of the degree of growth for language skills of the students in the classes receiving the project was reported by the teachers to be attributable to the project at a mean score of 2.331 (standard deviation = 1.109). Further, the variability in this variable was accounted for by the other measures in the model at an adjusted R squared value of .976, F = 1581.445, with a confidence level of p< .0001. (See Table 15.)

Table: 15
Regression: Improved Language Skills vs. 10 Independents

Regression Summary
h Lang vs. 10 Independents

Count	388
Num. Missing	67
R	.988
R Squared	.977
Adjusted R Squared	.976
RMS Residual	.395

ANOVA Table
h Lang vs. 10 Independents

	DF	Sum of Squares	Mean Square	F-Value	P-Value
Regression	10	2467.033	246.703	1581.445	<.0001
Residual	378	58.967	.156		
Total	388	2526.000			

Regression Coefficients
h Lang vs. 10 Independents

	Coefficient	Std. Error	Std. Coeff.	t-Value	P-Value
f Con	-.135	.042	-.118	-3.250	.0013
g Crit	.115	.050	.113	2.288	.0227
i Int	.432	.055	.430	7.914	<.0001
j Qual	-.009	.042	-.009	-.211	.8327
k Sch	.461	.032	.458	14.437	<.0001
l Atten	.108	.041	.100	2.596	.0098
m Beh	-.066	.041	-.064	-1.609	.1084
n Resp	-.237	.040	-.192	-5.968	<.0001
o Conf	-.327	.050	-.268	-6.514	<.0001
p Regard	.628	.032	.578	19.333	<.0001

In this survey, reports by teachers for students' improved language skills were very highly significant at the $p < .0001$ level of confidence with results for measures of higher self-regard, improved interest in school, and increased interest in the subject matter. The positive coefficient of correlation indicates that these were perceived to be contributors to language skills improvement.

Other factors with significant relationships to improved language skills were increased responsibility for own learning and higher self-regard. Their coefficients of correlation were negatively signed, indicating that decreasing improvements in these values preceded improving language skill.

Further analysis of the regression was performed excluding variables with lower p values. The variability in the scores on this dependent variable by this method were accounted for by the five other variables at an adjusted R squared value of .976,
$F = 3218.123$, with a confidence level of $p < .0001$, very highly significant statistically. In other words, 97.6 percent of the variability was accounted for in this model by increased self-regard, interest in school, interest in subject matter, increased responsibility for own learning and confidence as a learner. The standardized coefficients of correlation for increased responsibility for own learning and confidence as a learner are negatively signed, indicating that these increase more quickly initially than the actual language skill increase. (See Table16.)

Table: 16
Regression: Improved Language Skills vs. 5 Independents

Regression Summary
h Lang vs. 5 Independents

Count	400
Num. Missing	55
R	.988
R Squared	.976
Adjusted R Squared	.976
RMS Residual	.402

ANOVA Table
h Lang vs. 5 Independents

	DF	Sum of Squares	Mean Square	F-Value	P-Value
Regression	5	2604.074	520.815	3218.123	<.0001
Residual	395	63.926	.162		
Total	400	2668.000			

Regression Coefficients
h Lang vs. 5 Independents

	Coefficient	Std. Error	Std. Coeff.	t-Value	P-Value
i Int	.445	.032	.440	13.944	<.0001
k Sch	.472	.030	.467	15.533	<.0001
n Resp	-.206	.037	-.167	-5.571	<.0001
o Conf	-.387	.046	-.314	-8.420	<.0001
p Regard	.625	.029	.573	21.410	<.0001

Correlations for improved language skills with other model variables are significantly high for all variables except responsibility for own learning, as Table 17 shows, indicating improved language skills are perceived to benefit almost all learning tasks.

Table: 17
Correlation of Improved Language Skills with 10 Variables

	h Lang	f Con	g Crit	i Int	j Qual	k Sch	l Atten	m Beh	n Resp	o Conf	p Regard
h Lang	1.000	.559	.604	.654	.681	.834	.561	.535	.422	.518	.714
f Con	.559	1.000	.854	.852	.747	.591	.350	.359	.442	.671	.352
g Crit	.604	.854	1.000	.913	.790	.643	.400	.399	.518	.673	.307
i Int	.654	.852	.913	1.000	.819	.683	.399	.399	.513	.703	.327
j Qual	.681	.747	.790	.819	1.000	.751	.520	.549	.640	.659	.478
k Sch	.834	.591	.643	.683	.751	1.000	.486	.463	.555	.608	.584
l Atten	.561	.350	.400	.399	.520	.486	1.000	.874	.386	.350	.505
m Beh	.535	.359	.399	.399	.549	.463	.874	1.000	.418	.378	.542
n Resp	.422	.442	.518	.513	.640	.555	.386	.418	1.000	.780	.582
o Conf	.518	.671	.673	.703	.659	.608	.350	.378	.780	1.000	.612
p Regard	.714	.352	.307	.327	.478	.584	.505	.542	.582	.612	1.000

388 observations were used in this computation.
67 cases were omitted due to missing values.

4. Increased interest in the subject area

Measurement of the degree of growth of interest in the subject area for the students in the classes receiving the project curriculum delivery was reported by the teachers to be attributable to the project at a mean score of 2.671 (standard deviation = 1.092).

Further, the variability in the scores on this variable were accounted for by the other measures in the model at an adjusted R squared value of .985, F = 2609.915, with a confidence level of p< .0001. In this survey, reports by teachers for students' increased critical thinking, improved language skills, confidence as a learner, quality of work, improved content knowledge, and higher self-regard were very highly significant at the p< .0001 level of confidence. Results for other measures of improvement in all the other variables were at lesser levels of confidence. The negative coefficients of correlation for higher self-regard, interest in school, and responsibility, imply that these occurred previously. (See Table 18.)

Table: 18
Regression: Improved Interest in Subject Area vs. 10 Independents

Regression Summary
i Int vs. 10 Independents

Count	388
Num. Missing	67
R	.993
R Squared	.986
Adjusted R Squared	.985
RMS Residual	.345

ANOVA Table
i Int vs. 10 Independents

	DF	Sum of Squares	Mean Square	F-Value	P-Value
Regression	10	3099.115	309.911	2609.915	<.0001
Residual	378	44.885	.119		
Total	388	3144.000			

Regression Coefficients
i Int vs. 10 Independents

	Coefficient	Std. Error	Std. Coeff.	t-Value	P-Value
f Con	.189	.035	.166	5.330	<.0001
g Crit	.378	.040	.373	9.538	<.0001
h Lang	.329	.042	.330	7.914	<.0001
j Qual	.199	.035	.193	5.647	<.0001
k Sch	-.054	.035	-.054	-1.572	.1167
l Atten	-.021	.036	-.019	-.573	.5673
m Beh	.018	.036	.017	.491	.6238
n Resp	-.045	.036	-.036	-1.239	.2160
o Conf	.347	.043	.285	8.133	<.0001
p Regard	-.319	.036	-.295	-8.774	<.0001

Further analysis of the regression was performed excluding variables with lower p values. The variability in the scores on this dependent variable by this method were accounted for by the six other variables at an adjusted R squared value of .986, F = 4644.783, with a confidence level of p< .0001, very highly significant statistically. In other words, 98.6 percent of the variability was accounted for in this model by increased critical thinking skills and problem solving ability, greater self confidence, improved content knowledge and skills, and improved quality of work. The standardized coefficient of correlation for higher self-regard is negatively signed, indicating that this increases more quickly initially than the improved subject matter knowledge increases. (See Table19.)

Table: 19
Regression: Improved Subject Matter Interest vs. 6 Independents

Regression Summary
i Int vs. 6 Independents

Count	399
Num. Missing	56
R	.993
R Squared	.986
Adjusted R Squared	.986
RMS Residual	.341

ANOVA Table
i Int vs. 6 Independents

	DF	Sum of Squares	Mean Square	F-Value	P-Value
Regression	6	3239.320	539.887	4644.783	<.0001
Residual	393	45.680	.116		
Total	399	3285.000			

Regression Coefficients
i Int vs. 6 Independents

	Coefficient	Std. Error	Std. Coeff.	t-Value	P-Value
f Con	.198	.034	.173	5.905	<.0001
g Crit	.380	.038	.375	9.900	<.0001
h Lang	.300	.030	.304	9.846	<.0001
j Qual	.165	.030	.161	5.509	<.0001
o Conf	.301	.034	.248	8.850	<.0001
p Regard	-.324	.032	-.300	-10.257	<.0001

Correlations of increased subject matter interest with other variables follow, significant for increases for all variables except attendance, behavior, and higher self-regard. (See Table 20.)

Table: 20
Correlation of Increased Interest in Subject Area with 10 Variables

	i Int	f Con	g Crit	h Lang	j Qual	k Sch	l Atten	m Beh	n Resp	o Conf	p Regard
i Int	1.000	.852	.913	.654	.819	.683	.399	.399	.513	.703	.327
f Con	.852	1.000	.854	.559	.747	.591	.350	.359	.442	.671	.352
g Crit	.913	.854	1.000	.604	.790	.643	.400	.399	.518	.673	.307
h Lang	.654	.559	.604	1.000	.681	.834	.561	.535	.422	.518	.714
j Qual	.819	.747	.790	.681	1.000	.751	.520	.549	.640	.659	.478
k Sch	.683	.591	.643	.834	.751	1.000	.486	.463	.555	.608	.584
l Atten	.399	.350	.400	.561	.520	.486	1.000	.874	.386	.350	.505
m Beh	.399	.359	.399	.535	.549	.463	.874	1.000	.418	.378	.542
n Resp	.513	.442	.518	.422	.640	.555	.386	.418	1.000	.780	.582
o Conf	.703	.671	.673	.518	.659	.608	.350	.378	.780	1.000	.612
p Regard	.327	.352	.307	.714	.478	.584	.505	.542	.582	.612	1.000

388 observations were used in this computation.
67 cases were omitted due to missing values.

5. Improved quality of work

Measurement of the degree of growth of quality of work for the students in the classes receiving the project curriculum delivery was reported by the teachers to be attributable to the project at a mean score of 2.376 (standard deviation = 1.071). Further, the variability in the scores on this variable were accounted for by the other measures in the model at an adjusted R squared value of .964, F = 1048.243, with a confidence level of $p < .0001$. (See Table 21.)

Table: 21
Regression: Improved Quality of Work vs. 10 Independents

Regression Summary
j Qual vs. 10 Independents

Count	388
Num. Missing	67
R	.982
R Squared	.965
Adjusted R Squared	.964
RMS Residual	.484

ANOVA Table
j Qual vs. 10 Independents

	DF	Sum of Squares	Mean Square	F-Value	P-Value
Regression	10	2453.525	245.353	1048.243	<.0001
Residual	378	88.475	.234		
Total	388	2542.000			

Regression Coefficients
j Qual vs. 10 Independents

	Coefficient	Std. Error	Std. Coeff.	t-Value	P-Value
f Con	.103	.051	.093	2.000	.0462
g Crit	.096	.062	.098	1.553	.1212
h Lang	-.013	.063	-.014	-.211	.8327
i Int	.392	.069	.403	5.647	<.0001
k Sch	.243	.047	.249	5.149	<.0001
l Atten	-.057	.051	-.054	-1.107	.2688
m Beh	.192	.050	.192	3.856	.0001
n Resp	.295	.049	.246	6.066	<.0001
o Conf	-.282	.063	-.238	-4.453	<.0001
p Regard	-.008	.056	-.007	-.138	.8900

Teachers' perceptions of students' improved quality of work as a result of the TEAMS project, were very highly significant at the $p < .0001$ level of confidence with perceptions of improvement in interest in the subject matter, interest in school, improved responsibility for own learning, and confidence as a learner.

Significantly, and in congruence with learning theory, the negative coefficient of correlation confidence as a learner for higher self-regard indicates that improvement in that variable is perceived to increase before the quality of work is perceived to increase.

Further analysis of the regression was performed excluding variables with lower p values. The variability in the scores on this dependent variable by this method were accounted for by the four other variables at an adjusted R squared value of .962, F = 2538.984, with a confidence level of $p < .0001$, very highly significant statistically. In other words, 96.2 percent of the variability was accounted for in this model by increased interest in the subject matter, greater responsibility for own learning, greater interest in school, and greater confidence as a learner. The standardized coefficient of correlation for higher confidence as a learner is negatively signed, indicating that this increases more quickly initially than the improved quality of work increases. (See Table 22.)

Table: 22
Regression: Improved Quality of Work Interest vs. 4 Independents

Regression Summary
j Qual vs. 4 Independents

Count	400
Num. Missing	55
R	.981
R Squared	.962
Adjusted R Squared	.962
RMS Residual	.504

ANOVA Table
j Qual vs. 4 Independents

	DF	Sum of Squares	Mean Square	F-Value	P-Value
Regression	4	2576.536	644.134	2538.984	<.0001
Residual	396	100.464	.254		
Total	400	2677.000			

Regression Coefficients
j Qual vs. 4 Independents

	Coefficient	Std. Error	Std. Coeff.	t-Value	P-Value
i Int	.565	.037	.578	15.175	<.0001
k Sch	.272	.034	.279	8.046	<.0001
n Resp	.356	.046	.298	7.796	<.0001
o Conf	-.264	.052	-.221	-5.036	<.0001

Correlations of improved quality of work are significant with greater content knowledge and skills, improved critical thinking and problem solving, increased interest in school, interest in the subject matter, confidence as a learner, improved language skills, taking responsibility for own learning, and higher self-regard. (See Table 23.)

Table: 23
Correlation of Improved Quality of Work with 10 Variables

	j Qual	f Con	g Crit	h Lang	i Int	k Sch	l Atten	m Beh	n Resp	o Conf	p Regard
j Qual	1.000	.747	.790	.681	.819	.751	.520	.549	.640	.659	.478
f Con	.747	1.000	.854	.559	.852	.591	.350	.359	.442	.671	.352
g Crit	.790	.854	1.000	.604	.913	.643	.400	.399	.518	.673	.307
h Lang	.681	.559	.604	1.000	.654	.834	.561	.535	.422	.518	.714
i Int	.819	.852	.913	.654	1.000	.683	.399	.399	.513	.703	.327
k Sch	.751	.591	.643	.834	.683	1.000	.486	.463	.555	.608	.584
l Atten	.520	.350	.400	.561	.399	.486	1.000	.874	.386	.350	.505
m Beh	.549	.359	.399	.535	.399	.463	.874	1.000	.418	.378	.542
n Resp	.640	.442	.518	.422	.513	.555	.386	.418	1.000	.780	.582
o Conf	.659	.671	.673	.518	.703	.608	.350	.378	.780	1.000	.612
p Regard	.478	.352	.307	.714	.327	.584	.505	.542	.582	.612	1.000

388 observations were used in this computation.
67 cases were omitted due to missing values.

6. Increased interest in school

Measurement of the degree of growth for interest in school for the students in the classes receiving the project curriculum delivery was reported by the teachers to be attributable to the project at a mean score of 2.511 (standard deviation = 1.087). Further, the degree of variability in the scores on this variable were accounted for by the other measures in the model at an adjusted R squared value of .965, F = 1056.566, with a confidence level of p< .0001. (See Table 24.)

Table: 24
Regression: Improved Interest in School vs. 10 Independents

Regression Summary
k Sch vs. 10 Independents

Count	388
Num. Missing	67
R	.983
R Squared	.965
Adjusted R Squared	.965
RMS Residual	.511

ANOVA Table
k Sch vs. 10 Independents

	DF	Sum of Squares	Mean Square	F-Value	P-Value
Regression	10	2755.421	275.542	1056.566	<.0001
Residual	378	98.579	.261		
Total	388	2854.000			

Regression Coefficients
k Sch vs. 10 Independents

	Coefficient	Std. Error	Std. Coeff.	t-Value	P-Value
f Con	.024	.054	.021	.432	.6657
g Crit	-.049	.065	-.048	-.745	.4569
h Lang	.771	.053	.777	14.437	<.0001
i Int	-.119	.076	-.120	-1.572	.1167
j Qual	.270	.052	.263	5.149	<.0001
l Atten	.034	.054	.032	.623	.5337
m Beh	-.076	.053	-.074	-1.427	.1545
n Resp	.190	.053	.155	3.595	.0004
o Conf	.215	.068	.177	3.175	.0016
p Regard	-.227	.058	-.210	-3.906	.0001

In this survey, reports by teachers for students' increased interest in school were related at the $p < .0001$ very highly significant level of confidence with results for measures of improvement in language and quality of work. Improved self-regard, increased responsibility for own learning, and improved confidence as a learner, all showed relationships at lower confidence levels. The negative correlation with self-regard perhaps indicates that students have improvement in self-regard before they have increased interest in school.

Further analysis of the regression was performed excluding variables with lower p values. The variability in the scores on this dependent variable by this method were accounted for by the two other variables at an adjusted R squared value of .960, F = 4878.000, with a confidence level of $p < .0001$, very highly significant statistically. In other words, 96 percent of the variability was accounted for in this model by 62.4 percent of the score for improved language skills and 43.4 percent of the score for improved quality of work. The standardized coefficients of correlation are positive, indicating a direct relationship. (See Table 25.)

Table: 25
Regression: Improved Interest in School Interest vs. 2 Independents

Regression Summary
k Sch vs. 2 Independents

Count	405
Num. Missing	50
R	.980
R Squared	.960
Adjusted R Squared	.960
RMS Residual	.546

ANOVA Table
k Sch vs. 2 Independents

	DF	Sum of Squares	Mean Square	F-Value	P-Value
Regression	2	2910.762	1455.381	4878.000	<.0001
Residual	403	120.238	.298		
Total	405	3031.000			

Regression Coefficients
k Sch vs. 2 Independents

	Coefficient	Std. Error	Std. Coeff.	t-Value	P-Value
h Lang	.613	.031	.624	19.849	<.0001
j Qual	.440	.030	.434	14.423	<.0001

Correlations for improved interest in school were significant for improved quality of work, higher self-regard, interest in the subject area, and taking responsibility for own learning. (See Table 26.)

Table: 26

Correlation of Improved Interest in School with 10 Variables

	k Sch	f Con	g Crit	h Lang	i Int	j Qual	l Atten	m Beh	n Resp	o Conf	p Regard
k Sch	1.000	.591	.643	.834	.683	.751	.486	.463	.555	.608	.584
f Con	.591	1.000	.854	.559	.852	.747	.350	.359	.442	.671	.352
g Crit	.643	.854	1.000	.604	.913	.790	.400	.399	.518	.673	.307
h Lang	.834	.559	.604	1.000	.654	.681	.561	.535	.422	.518	.714
i Int	.683	.852	.913	.654	1.000	.819	.399	.399	.513	.703	.327
j Qual	.751	.747	.790	.681	.819	1.000	.520	.549	.640	.659	.478
l Atten	.486	.350	.400	.561	.399	.520	1.000	.874	.386	.350	.505
m Beh	.463	.359	.399	.535	.399	.549	.874	1.000	.418	.378	.542
n Resp	.555	.442	.518	.422	.513	.640	.386	.418	1.000	.780	.582
o Conf	.608	.671	.673	.518	.703	.659	.350	.378	.780	1.000	.612
p Regard	.584	.352	.307	.714	.327	.478	.505	.542	.582	.612	1.000

388 observations were used in this computation.
67 cases were omitted due to missing values.

7. Improved attendance

Improvement of attendance for the students in the classes receiving the project curriculum delivery was reported by the teachers to be attributable to the project at a mean score of 1.734 (standard deviation = 1.022). Further, the degree of variability in the scores on this variable were accounted for by the other measures in the model at an adjusted R squared value of .941, F = 624.679, with a confidence level of p< .0001. (See Table 27.)

Table: 27
Regression: Improved Attendance vs. 10 Independents

Regression Summary
l Atten vs. 10 Independents

Count	388
Num. Missing	67
R	.971
R Squared	.943
Adjusted R Squared	.941
RMS Residual	.486

In this survey, reports by teachers for students' increased interest in school due to the TEAMS Project were very highly significant at the p< .0001 level of confidence with results only for measures of improved behavior. Improved language skills were also significant.

Further analysis of the regression was performed excluding variables with lower p values. The variability in the scores on this dependent variable by this method were accounted for by just two other variables at an adjusted R squared value of .942, F = 3184.238, with a confidence level of p< .0001, very highly significant statistically. In other words, 94.2 percent of the variability was accounted for in this model by 80.3 percent of the score for improved behavior and 12.7 percent of the score for improved language skills. The standardized coefficients of correlation are positive, indicating a direct relationship. (See Table 28.)

Table: 28
Regression: Improved Attendance vs. 2 Independents

Regression Summary
I Atten vs. 2 Independents

Count	395
Num. Missing	60
R	.971
R Squared	.942
Adjusted R Squared	.942
RMS Residual	.485

ANOVA Table
l Atten vs. 2 Independents

	DF	Sum of Squares	Mean Square	F-Value	P-Value
Regression	2	1495.700	747.850	3184.236	<.0001
Residual	393	92.300	.235		
Total	395	1588.000			

Regression Coefficients
l Atten vs. 2 Independents

	Coefficient	Std. Error	Std. Coeff.	t-Value	P-Value
m Beh	.773	.026	.803	29.754	<.0001
h Lang	.118	.022	.127	5.356	<.0001

Correlations for improved attendance are significant only for improved behavior. See Table 29.

Table: 29
Correlation of Increased Attendance at School with 10 Variables

	l Atten	f Con	g Crit	h Lang	i Int	j Qual	k Sch	m Beh	n Resp	o Conf	p Regard
l Atten	1.000	.350	.400	.561	.399	.520	.486	.874	.386	.350	.505
f Con	.350	1.000	.854	.559	.852	.747	.591	.359	.442	.671	.352
g Crit	.400	.854	1.000	.604	.913	.790	.643	.399	.518	.673	.307
h Lang	.561	.559	.604	1.000	.654	.681	.834	.535	.422	.518	.714
i Int	.399	.852	.913	.654	1.000	.819	.683	.399	.513	.703	.327
j Qual	.520	.747	.790	.681	.819	1.000	.751	.549	.640	.659	.478
k Sch	.486	.591	.643	.834	.683	.751	1.000	.463	.555	.608	.584
m Beh	.874	.359	.399	.535	.399	.549	.463	1.000	.418	.378	.542
n Resp	.386	.442	.518	.422	.513	.640	.555	.418	1.000	.780	.582
o Conf	.350	.671	.673	.518	.703	.659	.608	.378	.780	1.000	.612
p Regard	.505	.352	.307	.714	.327	.478	.584	.542	.582	.612	1.000

388 observations were used in this computation.
67 cases were omitted due to missing values.

8. Improved behavior

Measurement of the degree of growth for behavior of the students in the classes receiving the TEAMS project curriculum delivery was reported by the teachers to be attributable to the project at a mean score of 1.889 (standard deviation = 1.060).

Further, the degree of variability in the scores on this variable were accounted for by the other measures in the model at an adjusted R squared value of .949, F = 719.066, with a confidence level of p< .0001. (See Table 30.)

Table: 30
Regression: Improved Behavior vs. 10 Variables

Regression Summary
m Beh vs. 10 Independents

Count	388
Num. Missing	67
R	.975
R Squared	.950
Adjusted R Squared	.949
RMS Residual	.491

ANOVA Table
m Beh vs. 10 Independents

	DF	Sum of Squares	Mean Square	F-Value	P-Value
Regression	10	1734.803	173.480	719.056	<.0001
Residual	378	91.197	.241		
Total	388	1826.000			

Regression Coefficients
m Beh vs. 10 Independents

	Coefficient	Std. Error	Std. Coeff.	t-Value	P-Value
f Con	-.030	.052	-.027	-.577	.5644
g Crit	.018	.063	.019	.292	.7703
h Lang	-.103	.064	-.106	-1.609	.1084
i Int	.036	.073	.037	.491	.6238
j Qual	.198	.051	.197	3.856	.0001
k Sch	-.070	.049	-.072	-1.427	.1545
l Atten	.807	.031	.774	25.722	<.0001
n Resp	-.010	.052	-.008	-.188	.8511
o Conf	-.065	.066	-.055	-.983	.3264
p Regard	.228	.056	.217	4.095	<.0001

In this survey, reports by teachers for students' increased improvements in behavior were very highly significant at the $p < .0001$ level of confidence with results for improvement in attendance and higher self-regard. Improved quality of work was also highly significantly related.

Further analysis of the regression was performed excluding variables with lower p values. The variability in the scores on this dependent variable by this method were accounted for by two variables at an adjusted R squared value of .946, F = 3435.067, with a confidence level of $p < .0001$, very highly significant statistically. In other words, 94.6 percent of the variability was accounted for in this model by improved attendance, and improved self-regard. (See Table 31.)

Table: 31
Regression: Improved Behavior vs. 4 Independents

Regression Summary
m Beh vs. 2 Independents

Count	391
Num. Missing	64
R	.973
R Squared	.946
Adjusted R Squared	.946
RMS Residual	.503

ANOVA Table
m Beh vs. 2 Independents

	DF	Sum of Squares	Mean Square	F-Value	P-Value
Regression	2	1741.399	870.699	3435.067	<.0001
Residual	389	98.601	.253		
Total	391	1840.000			

Regression Coefficients
m Beh vs. 2 Independents

	Coefficient	Std. Error	Std. Coeff.	t-Value	P-Value
I Atten	.838	.028	.808	29.432	<.0001
p Regard	.164	.020	.156	8.042	<.0001

Correlations for behavior are significant for improved attendance, and somewhat significant for self-regard, improved language skills, and quality of work. (See Table 32.)

Table: 32
Correlation of Improved Behavior with 10 Variables

	m Beh	f Con	g Crit	h Lang	i Int	j Qual	k Sch	l Atten	n Resp	o Conf	p Regard
m Beh	1.000	.359	.399	.535	.399	.549	.463	.874	.418	.378	.542
f Con	.359	1.000	.854	.559	.852	.747	.591	.350	.442	.671	.352
g Crit	.399	.854	1.000	.604	.913	.790	.643	.400	.518	.673	.307
h Lang	.535	.559	.604	1.000	.654	.681	.834	.561	.422	.518	.714
i Int	.399	.852	.913	.654	1.000	.819	.683	.399	.513	.703	.327
j Qual	.549	.747	.790	.681	.819	1.000	.751	.520	.640	.659	.478
k Sch	.463	.591	.643	.834	.683	.751	1.000	.486	.555	.608	.584
l Atten	.874	.350	.400	.561	.399	.520	.486	1.000	.386	.350	.505
n Resp	.418	.442	.518	.422	.513	.640	.555	.386	1.000	.780	.582
o Conf	.378	.671	.673	.518	.703	.659	.608	.350	.780	1.000	.612
p Regard	.542	.352	.307	.714	.327	.478	.584	.505	.582	.612	1.000

388 observations were used in this computation.
67 cases were omitted due to missing values.

9. Takes responsibility for own learning

Measurement of the degree of growth for responsibility for own learning for the students in the classes receiving the project curriculum delivery was reported by the teachers to be attributable to the TEAMS project at a mean score of 2.707 (standard deviation = .897). Further, the degree of variability in the scores on this variable were accounted for by the other measures in the model at an adjusted R squared value of .970, F = 1253.682, with a confidence level of $p < .0001$. (See Table 33.)

Table: 33
Regression: Greater Responsibility for Own Learning vs. 10 Independents

Regression Summary
n Resp vs. 10 Independents

Count	388
Num. Missing	67
R	.985
R Squared	.971
Adjusted R Squared	.970
RMS Residual	.489

ANOVA Table
n Resp vs. 10 Independents

	DF	Sum of Squares	Mean Square	F-Value	P-Value
Regression	10	2996.648	299.665	1253.682	<.0001
Residual	378	90.352	.239		
Total	388	3087.000			

Regression Coefficients
n Resp vs. 10 Independents

	Coefficient	Std. Error	Std. Coeff.	t-Value	P-Value
f Con	-.205	.051	-.222	-4.022	<.0001
g Crit	.161	.062	.195	2.592	.0099
h Lang	-.363	.061	-.449	-5.968	<.0001
i Int	-.090	.073	-.111	-1.239	.2160
j Qual	.301	.050	.360	6.066	<.0001
k Sch	.174	.048	.214	3.595	.0004
l Atten	.064	.052	.074	1.241	.2153
m Beh	-.010	.051	-.012	-.188	.8511
o Conf	.644	.057	.652	11.388	<.0001
p Regard	.306	.054	.349	5.623	<.0001

In this survey, reports by teachers for students' increased responsibility for own learning were very highly significant at the p< .0001 level of confidence with results for increased confidence as a learner, improved quality of work, greater self-regard, improved language skills, and increased interest in school. At a lower but still significant level of confidence, improvement in critical thinking also related to the student taking greater responsibility for his/her own learning.

Further analysis of the regression was performed excluding variables with lower p values. The variability in the scores on this dependent variable by this method were accounted for by six variables at an adjusted R squared value of .969, F = 2533.712, with a confidence level of p< .0001, very highly significant statistically. In other words, 96.9 percent of the variability was accounted for in this model by improved confidence as a learner, improved quality of work, higher self-regard, improved content knowledge and skills, and improved language skills. The standardized coefficients of correlation for improved language skills and increased content knowledge and skills are negative, indicating that these preceded improved responsibility for own learning. (See Table 34.)

Table: 34
Regression: Improved Responsibility vs. 5 Independents

Regression Summary
n Resp vs. 5 Independents

Count	400
Num. Missing	55
R	.985
R Squared	.970
Adjusted R Squared	.969
RMS Residual	.497

ANOVA Table
n Resp vs. 5 Independents

	DF	Sum of Squares	Mean Square	F-Value	P-Value
Regression	5	3126.517	625.303	2533.712	<.0001
Residual	395	97.483	.247		
Total	400	3224.000			

Regression Coefficients
n Resp vs. 5 Independents

	Coefficient	Std. Error	Std. Coeff.	t-Value	P-Value
f Con	-.180	.041	-.192	-4.430	<.0001
h Lang	-.223	.041	-.275	-5.413	<.0001
j Qual	.390	.041	.464	9.461	<.0001
o Conf	.694	.046	.696	15.057	<.0001
p Regard	.289	.041	.327	7.071	<.0001

Correlations for increased responsibility for own learning were significant for confidence as a learner and quality of work, with attendance and behavior being least correlated variables. (See Table 35.)

Table: 35
Correlation of Increased Responsibility for Own Learning with 10 Variables

	n Resp	f Con	g Crit	h Lang	i Int	j Qual	k Sch	l Atten	m Beh	o Conf	p Regard
n Resp	1.000	.442	.518	.422	.513	.640	.555	.386	.418	.780	.582
f Con	.442	1.000	.854	.559	.852	.747	.591	.350	.359	.671	.352
g Crit	.518	.854	1.000	.604	.913	.790	.643	.400	.399	.673	.307
h Lang	.422	.559	.604	1.000	.654	.681	.834	.561	.535	.518	.714
i Int	.513	.852	.913	.654	1.000	.819	.683	.399	.399	.703	.327
j Qual	.640	.747	.790	.681	.819	1.000	.751	.520	.549	.659	.478
k Sch	.555	.591	.643	.834	.683	.751	1.000	.486	.463	.608	.584
l Atten	.386	.350	.400	.561	.399	.520	.486	1.000	.874	.350	.505
m Beh	.418	.359	.399	.535	.399	.549	.463	.874	1.000	.378	.542
o Conf	.780	.671	.673	.518	.703	.659	.608	.350	.378	1.000	.612
p Regard	.582	.352	.307	.714	.327	.478	.584	.505	.542	.612	1.000

388 observations were used in this computation.
67 cases were omitted due to missing values.

10. Greater confidence as learner

Measurement of the degree of growth for the student taking responsibility for his/her own learning in the classes receiving the project curriculum delivery was reported by the teachers to be attributable to the project at a mean score of 2.893 (standard deviation = .895). Further, the degree of variability in the scores on this variable were accounted for by the other measures in the model at an adjusted R squared value of .984, F = 2356.580, with a confidence level of p< .0001. (See Table 36.)

Table: 36
Regression: Greater Confidence as Learner vs. 10 Independents

Regression Summary
o Conf vs. 10 Independents

Count	388
Num. Missing	67
R	.992
R Squared	.984
Adjusted R Squared	.984
RMS Residual	.384

ANOVA Table
o Conf vs. 10 Independents

	DF	Sum of Squares	Mean Square	F-Value	P-Value
Regression	10	3466.398	346.640	2356.580	<.0001
Residual	378	55.602	.147		
Total	388	3522.000			

Regression Coefficients
o Conf vs. 10 Independents

	Coefficient	Std. Error	Std. Coeff.	t-Value	P-Value
f Con	.154	.040	.164	3.838	.0001
g Crit	.035	.049	.041	.703	.4822
h Lang	-.308	.047	-.377	-6.514	<.0001
i Int	.430	.053	.523	8.133	<.0001
j Qual	-.177	.040	-.209	-4.453	<.0001
k Sch	.121	.038	.147	3.175	.0016
l Atten	-.025	.041	-.029	-.627	.5311
m Beh	-.039	.040	-.047	-.983	.3264
n Resp	.396	.035	.392	11.388	<.0001
p Regard	.419	.039	.471	10.759	<.0001

In this survey, reports by teachers for students' increased confidence as a learner were very highly significant at the p< .0001 level of confidence with results for measures of increased interest in school, improvement in greater self regard, increased responsibility for own learning, improved content knowledge and skills, improved language skills, improved quality of work, and improved language skills. Improved language skills and quality of work, having negative coefficients of correlation, would have occurred before increased confidence.

Further analysis of the regression was performed excluding variables with lower p values. The variability in the scores on this dependent variable by this method were accounted for by six variables at an adjusted R squared value of .983, F = 4560.943, with a confidence level of p< .0001, very highly significant statistically. In other words, 98.3 percent of the variability was accounted for in this model by increased interest in subject matter, increased self-regard, increased responsibility for own learning, improved quality of work, and improved language skills. The standardized coefficients of correlation for the latter two are negative, indicating that these preceded improved confidence as a learner. (See Table 37.)

Table: 37
Regression: Greater Confidence vs. 5 Independents

Regression Summary
o Conf vs. 5 Independents

Count	401
Num. Missing	54
R	.991
R Squared	.983
Adjusted R Squared	.983
RMS Residual	.398

ANOVA Table
o Conf vs. 5 Independents

	DF	Sum of Squares	Mean Square	F-Value	P-Value
Regression	5	3613.256	722.651	4560.943	<.0001
Residual	396	62.744	.158		
Total	401	3676.000			

Regression Coefficients
o Conf vs. 5 Independents

	Coefficient	Std. Error	Std. Coeff.	t-Value	P-Value
h Lang	-.277	.037	-.342	-7.435	<.0001
i Int	.609	.033	.742	18.333	<.0001
j Qual	-.166	.038	-.198	-4.402	<.0001
n Resp	.423	.034	.422	12.627	<.0001
p Regard	.439	.035	.496	12.467	<.0001

Correlations for higher confidence as a learner were meaningful for all variables except attendance and behavior, and significant for higher self-regard, increased responsibility for own learning, and higher subject matter interest. (See Table 38.)

Table: 38
Correlations: Higher Confidence as a Learner vs. 10 Variables

	o Conf	f Con	g Crit	h Lang	i Int	j Qual	k Sch	l Atten	m Beh	n Resp	p Regard
o Conf	1.000	.671	.673	.518	.703	.659	.608	.350	.378	.780	.612
f Con	.671	1.000	.854	.559	.852	.747	.591	.350	.359	.442	.352
g Crit	.673	.854	1.000	.604	.913	.790	.643	.400	.399	.518	.307
h Lang	.518	.559	.604	1.000	.654	.681	.834	.561	.535	.422	.714
i Int	.703	.852	.913	.654	1.000	.819	.683	.399	.399	.513	.327
j Qual	.659	.747	.790	.681	.819	1.000	.751	.520	.549	.640	.478
k Sch	.608	.591	.643	.834	.683	.751	1.000	.486	.463	.555	.584
l Atten	.350	.350	.400	.561	.399	.520	.486	1.000	.874	.386	.505
m Beh	.378	.359	.399	.535	.399	.549	.463	.874	1.000	.418	.542
n Resp	.780	.442	.518	.422	.513	.640	.555	.386	.418	1.000	.582
p Regard	.612	.352	.307	.714	.327	.478	.584	.505	.542	.582	1.000

388 observations were used in this computation.
67 cases were omitted due to missing values.

11. Higher self-regard

Measurement of higher self-regard and the degree of growth for the students in the classes receiving the project curriculum was reported by the teachers to be attributable to the project at a mean score of 2.645 (standard deviation = 1.013). Further, the degree of variability in the scores on this variable were accounted for by the other measures in the model at an adjusted R squared value of .975, F = 1519.471, with a confidence level of p< .0001. (See Table 39.)

Table: 39
Regression: Higher Self-Regard vs. 10 Independents

Regression Summary
p Regard vs. 10 Independents

Count	388
Num. Missing	67
R	.988
R Squared	.976
Adjusted R Squared	.975
RMS Residual	.444

ANOVA Table
p Regard vs. 10 Independents

	DF	Sum of Squares	Mean Square	F-Value	P-Value
Regression	10	2991.578	299.158	1519.471	<.0001
Residual	378	74.422	.197		
Total	388	3066.000			

Regression Coefficients
p Regard vs. 10 Independents

	Coefficient	Std. Error	Std. Coeff.	t-Value	P-Value
f Con	.229	.046	.217	4.999	<.0001
g Crit	-.224	.056	-.239	-4.020	<.0001
h Lang	.792	.041	.860	19.333	<.0001
i Int	-.530	.060	-.573	-8.774	<.0001
j Qual	-.007	.047	-.007	-.138	.8900
k Sch	-.171	.044	-.184	-3.906	.0001
l Atten	-.053	.047	-.054	-1.137	.2562
m Beh	.186	.045	.196	4.095	<.0001
n Resp	.252	.045	.221	5.623	<.0001
o Conf	.560	.052	.498	10.759	<.0001

In this survey, reports by teachers for students' increased self regard were very highly significant at the $p < .0001$ level of confidence with results for measures of improvement in language skills, greater confidence as a learner, increased responsibility for own learning, improved content knowledge and skills, improved behavior, greater interest in school and increased critical thinking and problem solving. The negative coefficients of correlation for improved critical thinking and increased interest in the subject area indicate they occur prior to increases in self-regard

Further analysis of the regression was performed excluding variables with lower p values. The variability in the scores on this dependent variable by this method were accounted for by six variables at an adjusted R squared value of .975, F = 1928.280, with a confidence level of $p < .0001$, very highly significant statistically. In other words, 97.5 percent of the variability was accounted for in this model by improved language skills, greater confidence as a learner, increased responsibility for own learning, improved content knowledge and skills, improved behavior, increased interest in school, increased critical thinking skills, increased interest in the subject matter. The standardized coefficients of correlation for the last three are negative, indicating that interest in school, critical thinking improvement, and subject matter interest improvement preceded higher self-regard improvement. (See Table 40.)

Table: 40
Regression: Higher Self-Regard vs. 8 Independents

Regression Summary
p Regard vs. 8 Independents

Count	390
Num. Missing	65
R	.988
R Squared	.976
Adjusted R Squared	.975
RMS Residual	.442

ANOVA Table
p Regard vs. 8 Independents

	DF	Sum of Squares	Mean Square	F-Value	P-Value
Regression	8	3016.307	377.038	1928.280	<.0001
Residual	382	74.693	.196		
Total	390	3091.000			

Regression Coefficients
p Regard vs. 8 Independents

	Coefficient	Std. Error	Std. Coeff.	t-Value	P-Value
f Con	.229	.045	.217	5.044	<.0001
g Crit	-.227	.055	-.243	-4.117	<.0001
h Lang	.786	.040	.855	19.432	<.0001
i Int	-.531	.057	-.574	-9.277	<.0001
k Sch	-.174	.042	-.188	-4.136	<.0001
m Beh	.144	.026	.151	5.530	<.0001
n Resp	.248	.042	.218	5.850	<.0001
o Conf	.565	.050	.502	11.306	<.0001

Importantly, correlations for higher self-regard are highly correlated with confidence as a learner and increased language skills. (See Table 41.)

Table: 41
Correlation of Higher Self-Regard with 10 Variables

	p Regard	f Con	g Crit	h Lang	i Int	j Qual	k Sch	l Atten	m Beh	n Resp	o Conf
p Regard	1.000	.352	.307	.714	.327	.478	.584	.505	.542	.582	.612
f Con	.352	1.000	.854	.559	.852	.747	.591	.350	.359	.442	.671
g Crit	.307	.854	1.000	.604	.913	.790	.643	.400	.399	.518	.673
h Lang	.714	.559	.604	1.000	.654	.681	.834	.561	.535	.422	.518
i Int	.327	.852	.913	.654	1.000	.819	.683	.399	.399	.513	.703
j Qual	.478	.747	.790	.681	.819	1.000	.751	.520	.549	.640	.659
k Sch	.584	.591	.643	.834	.683	.751	1.000	.486	.463	.555	.608
l Atten	.505	.350	.400	.561	.399	.520	.486	1.000	.874	.386	.350
m Beh	.542	.359	.399	.535	.399	.549	.463	.874	1.000	.418	.378
n Resp	.582	.442	.518	.422	.513	.640	.555	.386	.418	1.000	.780
o Conf	.612	.671	.673	.518	.703	.659	.608	.350	.378	.780	1.000

388 observations were used in this computation.
67 cases were omitted due to missing values.

1999-2000 Disaggregate Student Data

Data were disaggregated so that individual groups could be analyzed separately to better understand the results of participation in the TEAMS project by group. It should be noted that within the classroom, the groups are seldom dealt with as a group. It is only through the data disaggregation that the impact on group can be determined and analyzed for significance.

Demographics

Of the 450 students observed during 1999-2000, 213 (47.3 percent) were male and 232 (51.6 percent) female (the gender of five students was not reported). Title 1 students numbered 74 (16.4 percent), LEP 43 (9.6 percent), Gifted 73 (16.2 percent), and Special Education 14 (3.1 percent). (See Table 42.)

Table: 42
Student Group Demographics

	Gender	Title I	LEP	Gifted	Spec Ed
Count	450	379	345	369	344
# Missing	5	76	110	86	111
Sum	213	74	43	73	14

Title 1

Of the 74 Title 1 students, 35 (47.3 percent) were male and 39 (52.7 percent) were female. (See Table 43.)

Table: 43
Student Gender Title 1

	a F/M	b Title I
Count	74	74
# Missing	0	0
Sum	35	74

Mean values reported for all students for each performance variable are contained in Table 44. Equating a median score in the range of 2.50 to 3.49 to a scaled response of three, the conclusion is that these teachers attribute some degree of improvement in all areas for Title 1 students to the TEAMS project, except improved attendance.

Table: 44
Mean Scores for Performance Variables: Title 1 Students

	Mean	Std. Dev.	Count	# Missing	Median	Mode
f Con	3.176	.998	74	0	3.000	4.000
g Crit	2.986	1.014	74	0	3.000	3.000
h Lang	3.162	.907	74	0	3.000	4.000
i Int	3.189	1.043	74	0	4.000	4.000
j Qual	2.878	.906	74	0	3.000	3.000
k Sch	3.110	.891	73	1	3.000	3.000
l Atten	2.319	1.219	69	5	2.000	1.000
m Beh	2.515	1.165	68	6	3.000	3.000
n Resp	3.027	.666	73	1	3.000	3.000
o Conf	3.397	.702	73	1	4.000	4.000
p Regard	3.315	.621	73	1	3.000	3.000

Correlations for variables for Title 1 students were significant for all except behavior, attendance, and responsibility for own learning. They were highly significant for improved subject matter interest, critical thinking skills, quality of work, and interest in school. (See Table 45.)

Table: 45

Correlations for Title 1 Students

	f Con	g Crit	h Lang	i Int	j Qual	k Sch	l Atten	m Beh	n Resp	o Conf	p Regard
f Con	1.000	.874	.791	.877	.859	.616	.358	.396	.147	.716	.578
g Crit	.874	1.000	.831	.866	.834	.653	.478	.467	.278	.690	.537
h Lang	.791	.831	1.000	.867	.828	.732	.415	.409	.216	.711	.534
i Int	.877	.866	.867	1.000	.886	.702	.321	.356	.119	.749	.483
j Qual	.859	.834	.828	.886	1.000	.663	.494	.591	.358	.704	.592
k Sch	.616	.653	.732	.702	.663	1.000	.417	.456	.356	.739	.584
l Atten	.358	.478	.415	.321	.494	.417	1.000	.870	.639	.296	.610
m Beh	.396	.467	.409	.356	.591	.456	.870	1.000	.681	.384	.574
n Resp	.147	.278	.216	.119	.358	.356	.639	.681	1.000	.306	.590
o Conf	.716	.690	.711	.749	.704	.739	.296	.384	.306	1.000	.690
p Regard	.578	.537	.534	.483	.592	.584	.610	.574	.590	.690	1.000

66 observations were used in this computation.
8 cases were omitted due to missing values.

Limited English Proficient Students (LEP)

Of the 43 limited English Proficient (LEP) students, 24 (55.8 percent) were male and 19 (44.2 percent) were female. (See Table 46.)

Table: 46
Gender

	a F/M	c LEP
Count	43	43
# Missing	0	0
Sum	24	43

Mean values reported for all students for each performance variable are contained in Table 47. Equating a median score in the range of 2.50 to 3.49 to a scaled response of three, the conclusion is that these teachers attribute a high degree of improvement in all areas for LEP students in the areas of subject matter interest, greater content knowledge and skills, improved language skills, increased interest in school, and improved critical thinking and problem solving. Improvement was also noted for improved quality of work, higher self-regard, and greater responsibility for own learning. No significant change was reported for attendance and behavior.

Table: 47

Mean Scores for Performance Variables

	Mean	Std. Dev.	Count	# Missing	Median	Mode
f Con	3.837	.374	43	0	4.000	4.000
g Crit	3.512	.592	43	0	4.000	4.000
h Lang	3.605	.583	43	0	4.000	4.000
i Int	3.930	.258	43	0	4.000	4.000
j Qual	3.000	.690	43	0	3.000	3.000
k Sch	3.581	.663	43	0	4.000	4.000
l Atten	1.214	.606	42	1	1.000	1.000
m Beh	1.452	.861	42	1	1.000	1.000
n Resp	2.512	.736	43	0	3.000	3.000
o Conf	3.302	.832	43	0	3.000	4.000
p Regard	3.070	.593	43	0	3.000	3.000

Correlations for variables for LEP students were slight to insignificant for all except increased subject matter interest and strong negative correlations with improved attendance and behavior. (See Table 48.)

Table: 48
Correlations for 1998-99 LEP Students

	f Con	g Crit	h Lang	i Int	j Qual	k Sch	l Atten	m Beh	n Resp	o Conf	p Regard
f Con	1.000	.266	.344	.619	-.016	.188	-.506	-.479	-.188	-.166	.020
g Crit	.266	1.000	.659	.233	.090	.298	-.272	-.365	-.049	-.068	-.109
h Lang	.344	.659	1.000	.282	.282	.348	-.330	-.251	.029	.129	.105
i Int	.619	.233	.282	1.000	-.010	.237	-.855	-.539	-.237	.091	.012
j Qual	-.016	.090	.282	-.010	1.000	-.024	.133	.279	.347	.272	.193
k Sch	.188	.298	.348	.237	-.024	1.000	-.154	-.068	-.061	-.008	.094
l Atten	-.506	-.272	-.330	-.855	.133	-.154	1.000	.731	.401	-.007	.132
m Beh	-.479	-.365	-.251	-.539	.279	-.068	.731	1.000	.557	.230	.241
n Resp	-.188	-.049	.029	-.237	.347	-.061	.401	.557	1.000	.540	.689
o Conf	-.166	-.068	.129	.091	.272	-.008	-.007	.230	.540	1.000	.720
p Regard	.020	-.109	.105	.012	.193	.094	.132	.241	.689	.720	1.000

41 observations were used in this computation.
2 cases were omitted due to missing values.

Gifted

Of the 73 Gifted students, 32 (43.9 percent) were male and 41 (56.1 percent) were female. (See Table 49.)

Table: 49
Gender

	a F/M	d Gifted
Count	73	73
# Missing	0	0
Sum	32	73

Mean values reported for all students for each performance variable are contained in Table 50. Equating a median score in the range of 2.50 to 3.49 to a scaled response of three, the conclusion is that these teachers attribute some degree of improvement for gifted students in the areas of content knowledge and skills, critical thinking and problem solving, increased interest in the subject matter, greater confidence as a learner, and increased responsibility for own learning.

Table: 50
Mean Scores for Performance Variables: Gifted Students

	Mean	Std. Dev.	Count	# Missing	Median	Mode
f Con	3.264	.503	72	1	3.000	3.000
g Crit	3.200	.628	70	3	3.000	3.000
h Lang	1.388	.695	67	6	1.000	1.000
i Int	3.136	.699	66	7	3.000	3.000
j Qual	2.273	1.284	66	7	2.000	1.000
k Sch	2.121	.969	66	7	3.000	3.000
l Atten	1.333	.591	66	7	1.000	1.000
m Beh	1.318	.559	66	7	1.000	1.000
n Resp	2.773	1.093	66	7	3.000	•
o Conf	3.113	.655	62	11	3.000	3.000
p Regard	1.524	.877	63	10	1.000	1.000

Correlations for variables for gifted students were very highly significant for critical thinking skills improvement and highly significant for all others except attendance, behavior, and higher self-regard—all of which would be assumed to be high already. (See Table 51.)

Table: 51
Correlations for 1998-99 Gifted Students

	f Con	g Crit	h Lang	i Int	j Qual	k Sch	l Atten	m Beh	n Resp	o Conf	p Regard
f Con	1.000	.805	-.293	.706	.776	.536	-.349	-.297	.624	.763	-.254
g Crit	.805	1.000	-.278	.803	.676	.328	-.285	-.294	.559	.707	-.376
h Lang	-.293	-.278	1.000	-.489	.102	.407	.937	.961	-.113	-.461	.874
i Int	.706	.803	-.489	1.000	.584	.164	-.510	-.493	.575	.783	-.596
j Qual	.776	.676	.102	.584	1.000	.801	.111	.098	.704	.582	.058
k Sch	.536	.328	.407	.164	.801	1.000	.430	.457	.457	.193	.363
l Atten	-.349	-.285	.937	-.510	.111	.430	1.000	.978	-.151	-.563	.802
m Beh	-.297	-.294	.961	-.493	.098	.457	.978	1.000	-.167	-.545	.829
n Resp	.624	.559	-.113	.575	.704	.457	-.151	-.167	1.000	.661	-.087
o Conf	.763	.707	-.461	.783	.582	.193	-.563	-.545	.661	1.000	-.348
p Regard	-.254	-.376	.874	-.596	.058	.363	.802	.829	-.087	-.348	1.000

61 observations were used in this computation.
12 cases were omitted due to missing values.

Special Education

Of the 14 special education students, gender was reported for nine (64.3 percent) male and three (21.4 percent) female. (See Table 52.)

Table: 52
Gender

	a F/M	e Spec Ed
Count	13	14
# Missing	1	0
Sum	9	14

This proportion is highly out of proportion to the population (about 16 percent more males than the population).

Mean values reported for all students for each performance variable are contained in Table 53. Equating a median score in the range of 2.50 to 3.49 to a scaled response of three, the conclusion is that these teachers attribute some degree of improvement in all areas for the students to the project, except attendance and behavior.

Table: 53
Mean Scores for Performance Variables: Special Education Students

	Mean	Std. Dev.	Count	# Missing	Median	Mode
f Con	3.286	1.069	14	0	4.000	4.000
g Crit	2.857	1.027	14	0	3.000	3.000
h Lang	3.000	1.109	14	0	3.000	4.000
i Int	3.429	1.089	14	0	4.000	4.000
j Qual	2.714	1.069	14	0	3.000	3.000
k Sch	3.286	1.069	14	0	4.000	4.000
l Atten	1.714	1.204	14	0	1.000	1.000
m Beh	1.714	.914	14	0	1.000	1.000
n Resp	2.571	1.089	14	0	3.000	3.000
o Conf	2.929	1.141	14	0	3.000	3.000
p Regard	2.786	1.122	14	0	3.000	3.000

Correlations for variables for special education students were very highly significant for all variables except attendance and behavior, self-regard and responsibility. (See Table 54.)

Table: 54
Correlations

	f Con	g Crit	h Lang	i Int	j Qual	k Sch	l Atten	m Beh	n Resp	o Conf	p Regard
f Con	1.000	.741	.649	.944	.615	.865	-.171	.011	.443	.649	.504
g Crit	.741	1.000	.675	.746	.661	.741	.089	.035	.697	.778	.439
h Lang	.649	.675	1.000	.700	.649	.778	.345	.531	.700	.790	.927
i Int	.944	.746	.700	1.000	.642	.878	.042	.132	.491	.707	.585
j Qual	.615	.661	.649	.642	1.000	.683	.171	.461	.745	.928	.458
k Sch	.865	.741	.778	.878	.683	1.000	.188	.247	.708	.775	.696
l Atten	-.171	.089	.345	.042	.171	.188	1.000	.759	.486	.208	.464
m Beh	.011	.035	.531	.132	.461	.247	.759	1.000	.563	.421	.611
n Resp	.443	.697	.700	.491	.745	.708	.486	.563	1.000	.840	.549
o Conf	.649	.778	.790	.707	.928	.775	.208	.421	.840	1.000	.588
p Regard	.504	.439	.927	.585	.458	.696	.464	.611	.549	.588	1.000

14 observations were used in this computation.

1992-2000 Analysis of Teachers' Reports of Student Attitudes and Behaviors

During the eight year period of the evaluation, surveys were returned and recorded reflecting teachers' opinions about the attitudes and behaviors of 18,385 students. Gender was reported for 18,377, of whom 9,277 were male (50.5 percent) and 9,100 female (49.5 percent). (See Table 55.)

Table: 55
1992-2000 Student Gender

	a F/M
Count	18377
# Missing	8
Sum	9277

The survey questions have always focused on each student's outcomes as perceived and attributed by the teachers, using a weighted-scale response of 4=great degree, 3=some degree, 2=very little, and 1=none. In addition, disaggregated analyses were performed to evaluate whether the responses varied for different student populations.

1992-2000 Student Performance Variables

The survey asked teachers about the degree to which any of the following statements about each student could be attributed to the project: the codes for each which were used on the output tables are also shown below.

1. Improved content knowledge and skills? (“f Con”)
2. Improved critical thinking and problem solving? (“g Crit”)
3. Improved language skills? (“h Lang”)
4. Increased interest in the subject area? (“I Int”)
5. Improved quality of work? (“j Qual”)
6. Increased interest in school? (“k Sch”)
7. Improved attendance? (“l Atten”)
8. Improved behavior? (“m Beh”)
9. Takes responsibility for own learning? (“n Resp”)
10. Greater confidence as learner? (“o Conf”)
11. Higher self-regard? (“p Regard”)

Mean values reported for all students for each performance variable are contained in Table 56. Equating a median score in the range of 2.50 to 3.49 to a scaled response of 3, the conclusion is that these teachers attribute some degree of improvement in all but two areas--attendance and behavior-- for the students to the project.

Table: 56
1992-2000 Student Mean Scores for Performance Variables

	Mean	Std. Dev.	Count	# Missing	Median	Mode
f Con	3.075	.802	18210	175	3.000	3.000
g Crit	3.018	.813	18199	186	3.000	3.000
h Lang	2.737	.906	18228	157	3.000	3.000
i Int	3.126	.843	18232	153	3.000	3.000
j Qual	2.784	.872	18211	174	3.000	3.000
k Sch	2.821	.915	18176	209	3.000	3.000
l Atten	2.302	1.079	18144	241	2.000	1.000
m Beh	2.399	1.031	18148	237	2.000	3.000
n Resp	2.732	.938	18170	215	3.000	3.000
o Conf	2.868	.890	18126	259	3.000	3.000
p Regard	2.796	.935	18103	282	3.000	3.000

1992-2000 Student Group Demographics

Teachers were asked to report demographic information (See Table 57) about the students, using the following codes:

1. Female or male? (F=0, M=1)
2. Chapter 1? (Title 1?) (Y=1, N=0)
3. LEP (limited English proficient)? (Y=1, N=0)
4. Gifted? (Y=1, N=0)
5. Special education? (Y=1, N=0)

Table: 57
1992-2000 Student Group Demographics

	a F/M	b Title 1	c LEP	d Gifted	e SpEd
Count	18377	17381	16865	17000	17018
# Missing	8	1004	1520	1385	1367
Sum	9277	6285	2555	1965	1627

In the database of 18,377 students presented here, 9,277 of the students are male, 9,100 are female, Title 1 students number 6,285, 2,555 are limited English proficient (LEP), 1,627 are special education, and 1,965 are gifted.

1992-2000 Student Attitudes and Behaviors

The following analyses address the possible relationships between each of the performance variables with all of the other performance variables over the eight years of this longitudinal study of TEAMS students. The longitudinal analysis continues to show improvement in all variables that have been studied since 1992. The longitudinal study strongly supports the findings of the 1999-2000 period of the research with TEAMS students. Because the figures annual figures are supported by the longitudinal figures, it is a further indication that the teacher reporting of student improvement is consistent over a large number of teachers. While there is a small core group of teachers who consistently use TEAMS, their numbers are not great enough to skew the data.

Must has been made about the inflation of improvement scores when the figures are "self reported" by teachers. This does a disservice to the number of teachers throughout the United States who objectively grade student work in their classes. The scoring for this portion of the TEAMS research has been substantiated by a completely independent pre and post study of student learning for the Geometry in My World series. This research is discussed in depth in this report.

The multiple regression analyses for the longitudinal metadata were computed without an intercept because it would be "absurd" to contemplate a situation where a dependent variable would have an impact from some unknown, outside force, when all values for independent variable improvement measures had been reported by the same source. Andrew F. Siegel discusses this situation in *Practical Business Statistics* (Irwin Press, Boston, 1994; p. 425), arguing that the intercept represents the value of Y where all X values are zero – in other words, where all intervention measures would have a reported value of zero.

1. 1992-2000 Student Improved content knowledge and skills

Measurement of content knowledge/skills and the degree of growth for the students in these classes that received the project curriculum was reported by the teachers to be significantly attributable to the project at a mean score of 3.075 (standard deviation = .802). Further, the variability in the scores on this variable were accounted for by the other measures in the model at an adjusted R squared value of .979, F = 84070.488, with a confidence level of p< .0001, very highly significant. (See Table 58.)

Table: 58
1992-2000 Student Regression:
Improved Content Knowledge/Skills vs. 10 Independents

Regression Summary
f Con vs. 10 Independents

Count	17975
Num. Missing	410
R	.989
R Squared	.979
Adjusted R Squared	.979
RMS Residual	.460

ANOVA Table
f Con vs. 10 Independents

	DF	Sum of Squares	Mean Square	F-Value	P-Value
Regression	10	177585.187	17758.519	84070.488	<.0001
Residual	17965	3794.813	.211		
Total	17975	181380.000			

Regression Coefficients
f Con vs. 10 Independents

	Coefficient	Std. Error	Std. Coeff.	t-Value	P-Value
g Crit	.574	.006	.582	89.273	<.0001
h Lang	.062	.006	.070	10.193	<.0001
i Int	.235	.006	.247	38.132	<.0001
j Qual	.051	.007	.056	7.755	<.0001
k Sch	.039	.006	.045	6.521	<.0001
l Atten	-.036	.005	-.048	-6.770	<.0001
m Beh	-.037	.006	-.047	-6.293	<.0001
n Resp	.006	.006	.007	.953	.3404
o Conf	.013	.008	.015	1.725	.0845
p Regard	.100	.007	.117	14.563	<.0001

Teachers' reports of students' improved content knowledge and skills were very highly significant at the p< .0001 level of confidence with results for all measures except increased responsibility for own learning and increased confidence as a learner. The largest standardized coefficient of correlation identified was for improved critical thinking.

It should be noted that standardized coefficients for the variables of improved attendance and improved behavior were negative. While the data are silent on this phenomenon, a reasonable supposition could be that students doing well in content knowledge and skills are already students with better attendance. Put differently, students showing improvement in the areas of improved attendance and behavior might not yet show large gains in content knowledge and skills.

Correlations between reported scores for greater content knowledge/skills and other variables were very high for improved critical thinking skills, and generally high except for attendance and behavior. (See Table 59.)

Table: 59

1992-2000 Student Correlation of Greater Content Knowledge/Skills with 10 Variables

	f Con	g Crit	h Lang	i Int	j Qual	k Sch	l Atten	m Beh	n Resp	o Conf	p Regard
f Con	1.000	.795	.610	.693	.600	.556	.331	.364	.521	.592	.562
g Crit	.795	1.000	.641	.691	.626	.566	.371	.405	.557	.626	.551
h Lang	.610	.641	1.000	.603	.679	.634	.555	.553	.588	.603	.651
i Int	.693	.691	.603	1.000	.640	.618	.357	.390	.517	.599	.556
j Qual	.600	.626	.679	.640	1.000	.687	.556	.592	.634	.632	.624
k Sch	.556	.566	.634	.618	.687	1.000	.569	.586	.626	.644	.631
l Atten	.331	.371	.555	.357	.556	.569	1.000	.770	.543	.491	.552
m Beh	.364	.405	.553	.390	.592	.586	.770	1.000	.638	.581	.602
n Resp	.521	.557	.588	.517	.634	.626	.543	.638	1.000	.764	.715
o Conf	.592	.626	.603	.599	.632	.644	.491	.581	.764	1.000	.808
p Regard	.562	.551	.651	.556	.624	.631	.552	.602	.715	.808	1.000

17975 observations were used in this computation.
410 cases were omitted due to missing values.

2. 1992-2000 Student Improved critical thinking and problem solving

Measurement of critical thinking/problem solving and the degree of growth for the students in the classes receiving the project curriculum delivery was reported by the teachers to be significantly attributable to the project at a mean score of 3.018 (standard deviation = .813). Variability in the scores on this variable were accounted for by the other measures in the model at an adjusted R squared value of .980, F = 87194.834, with a confidence level of p< .0001. (See Table 60.)

Table: 60
Regression: 1992-2000 Student Improved Critical Thinking Skills vs. 10 Independents

Regression Summary
g Crit vs. 10 Independents

Count	17975
Num. Missing	410
R	.990
R Squared	.980
Adjusted R Squared	.980
RMS Residual	.444

ANOVA Table
g Crit vs. 10 Independents

	DF	Sum of Squares	Mean Square	F-Value	P-Value
Regression	10	171820.925	17182.092	87194.834	<.0001
Residual	17965	3540.075	.197		
Total	17975	175361.000			

Regression Coefficients
g Crit vs. 10 Independents

	Coefficient	Std. Error	Std. Coeff.	t-Value	P-Value
f Con	.535	.006	.528	89.273	<.0001
h Lang	.136	.006	.152	23.342	<.0001
i Int	.168	.006	.174	27.786	<.0001
j Qual	.075	.006	.080	11.815	<.0001
k Sch	-.010	.006	-.011	-1.756	.0790
l Atten	.001	.005	.001	.187	.8513
m Beh	-.015	.006	-.019	-2.728	.0064
n Resp	.050	.006	.058	8.201	<.0001
o Conf	.166	.007	.181	22.489	<.0001
p Regard	-.106	.007	-.121	-15.957	<.0001

In this survey, reports by teachers for students' improved critical thinking and problem solving were very highly significant at the $p< .0001$ level of confidence with results for all measures of improvement except interest in school, attendance, and behavior. Coefficients of correlation are strongest for content knowledge and skills. Correlation analysis showed strong relationships of critical thinking skills with content knowledge and skills, improved language skills, confidence as a learner, subject interest and quality. (See Table 61.)

Table: 61
1992-2000 Student
Correlation of Improved Critical Thinking Skills with 10 Variables

	g Crit	f Con	h Lang	i Int	j Qual	k Sch	l Atten	m Beh	n Resp	o Conf	p Regard
g Crit	1.000	.795	.641	.691	.626	.566	.371	.405	.557	.626	.551
f Con	.795	1.000	.610	.693	.600	.556	.331	.364	.521	.592	.562
h Lang	.641	.610	1.000	.603	.679	.634	.555	.553	.588	.603	.651
i Int	.691	.693	.603	1.000	.640	.618	.357	.390	.517	.599	.556
j Qual	.626	.600	.679	.640	1.000	.687	.556	.592	.634	.632	.624
k Sch	.566	.556	.634	.618	.687	1.000	.569	.586	.626	.644	.631
l Atten	.371	.331	.555	.357	.556	.569	1.000	.770	.543	.491	.552
m Beh	.405	.364	.553	.390	.592	.586	.770	1.000	.638	.581	.602
n Resp	.557	.521	.588	.517	.634	.626	.543	.638	1.000	.764	.715
o Conf	.626	.592	.603	.599	.632	.644	.491	.581	.764	1.000	.808
p Regard	.551	.562	.651	.556	.624	.631	.552	.602	.715	.808	1.000

17975 observations were used in this computation.
410 cases were omitted due to missing values.

3. 1992-2000 Student Improved language skills

Measurement of language skills and the degree of growth for the students in the classes receiving the project curriculum delivery was reported by the teachers to be attributable to the project at a mean score of 2.737 (standard deviation = .906). Further, the variability in this variable was accounted for by the other measures in the model at an adjusted R squared value of .612, F = 2745.599, with a confidence level of p< .0001.

(See Table 62.)

Table: 62
Regression: 1992-2000 Student Improved Language Skills vs. 10 Independents

Regression Summary
h Lang vs. 10 Independents

Count	17975
Num. Missing	410
R	.981
R Squared	.962
Adjusted R Squared	.962
RMS Residual	.558

ANOVA Table
h Lang vs. 10 Independents

	DF	Sum of Squares	Mean Square	F-Value	P-Value
Regression	10	143625.687	14362.569	46089.519	<.0001
Residual	17965	5598.313	.312		
Total	17975	149224.000			

Regression Coefficients
h Lang vs. 10 Independents

	Coefficient	Std. Error	Std. Coeff.	t-Value	P-Value
f Con	.092	.009	.082	10.193	<.0001
g Crit	.216	.009	.194	23.342	<.0001
i Int	.079	.008	.074	10.216	<.0001
j Qual	.195	.008	.188	24.765	<.0001
k Sch	.092	.007	.093	12.611	<.0001
l Atten	.126	.006	.150	19.977	<.0001
m Beh	.027	.007	.030	3.749	.0002
n Resp	.013	.008	.014	1.705	.0882
o Conf	-.093	.009	-.091	-9.879	<.0001
p Regard	.226	.008	.233	27.457	<.0001

Reports by teachers for students' improved language skills were very highly significant at the $p < .0001$ level of confidence with results for all measures except for improved behavior, which was significant at the $p = .0002$ level of confidence. Neither was it significant for greater responsibility for own learning. The negative coefficient of correlation for greater confidence as a learner indicates that it was perceived to occur before language skills improved. All other factors increased after improved language skills were increased. Strongest coefficients of correlation were for critical thinking skills, higher self-regard, and better attendance.

Correlations for improved language skills with other model variables were significant for all variables except improved attendance and behavior, as Table 63 shows, indicating perceived improved language skills benefit most learning tasks.

Table: 63
1992-2000 Student Correlation of Improved Language Skills with 10 Variables

	h Lang	f Con	g Crit	i Int	j Qual	k Sch	l Atten	m Beh	n Resp	o Conf	p Regard
h Lang	1.000	.610	.641	.603	.679	.634	.555	.553	.588	.603	.651
f Con	.610	1.000	.795	.693	.600	.556	.331	.364	.521	.592	.562
g Crit	.641	.795	1.000	.691	.626	.566	.371	.405	.557	.626	.551
i Int	.603	.693	.691	1.000	.640	.618	.357	.390	.517	.599	.556
j Qual	.679	.600	.626	.640	1.000	.687	.556	.592	.634	.632	.624
k Sch	.634	.556	.566	.618	.687	1.000	.569	.586	.626	.644	.631
l Atten	.555	.331	.371	.357	.556	.569	1.000	.770	.543	.491	.552
m Beh	.553	.364	.405	.390	.592	.586	.770	1.000	.638	.581	.602
n Resp	.588	.521	.557	.517	.634	.626	.543	.638	1.000	.764	.715
o Conf	.603	.592	.626	.599	.632	.644	.491	.581	.764	1.000	.808
p Regard	.651	.562	.551	.556	.624	.631	.552	.602	.715	.808	1.000

17975 observations were used in this computation.
410 cases were omitted due to missing values.

4. 1992-2000 Student Increased Interest in the Subject Area

Measurement of interest in the subject area and the degree of growth for the students in the classes receiving the project curriculum delivery was reported by the teachers to be attributable to the project at a mean score of 3.148 (standard deviation = .823).

Further, the variability in the scores on this variable were accounted for by the other measures in the model at an adjusted R squared value of .973, F = 63668.729, with a confidence level of $p < .0001$. In this survey, reports by teachers for students' improved interest in the subject area were very highly significant at the $p < .0001$ level of confidence with all variables except higher self-regard. The negative standardized coefficients of correlation for perceived improved attendance, behavior, and responsibility for own learning imply that these occurred previous to the improved interest in the subject area. (See Table 64.)

Table: 64
Regression: 1992-2000 Student Improved Interest in Subject Area vs. 10 Independents

Regression Summary
i Int vs. 10 Independents

Count	17975
Num. Missing	410
R	.986
R Squared	.973
Adjusted R Squared	.973
RMS Residual	.536

ANOVA Table
i Int vs. 10 Independents

	DF	Sum of Squares	Mean Square	F-Value	P-Value
Regression	10	182840.895	18284.089	63668.729	<.0001
Residual	17965	5159.105	.287		
Total	17975	188000.000			

Regression Coefficients
i Int vs. 10 Independents

	Coefficient	Std. Error	Std. Coeff.	t-Value	P-Value
f Con	.319	.008	.304	38.132	<.0001
g Crit	.245	.009	.237	27.786	<.0001
h Lang	.073	.007	.078	10.216	<.0001
j Qual	.191	.008	.197	25.227	<.0001
k Sch	.194	.007	.210	28.239	<.0001
l Atten	-.043	.006	-.055	-7.012	<.0001
m Beh	-.041	.007	-.050	-6.031	<.0001
n Resp	-.040	.007	-.045	-5.498	<.0001
o Conf	.122	.009	.128	13.535	<.0001
p Regard	.022	.008	.024	2.711	.0067

Correlations of increased subject matter interest with other variables were significant for all variables except attendance and behavior. (See Table 65.)

Table: 65
1992-2000 Student Correlation of Increased Interest in Subject Area with 10 Variables

	i Int	f Con	g Crit	h Lang	j Qual	k Sch	l Atten	m Beh	n Resp	o Conf	p Regard
i Int	1.000	.693	.691	.603	.640	.618	.357	.390	.517	.599	.556
f Con	.693	1.000	.795	.610	.600	.556	.331	.364	.521	.592	.562
g Crit	.691	.795	1.000	.641	.626	.566	.371	.405	.557	.626	.551
h Lang	.603	.610	.641	1.000	.679	.634	.555	.553	.588	.603	.651
j Qual	.640	.600	.626	.679	1.000	.687	.556	.592	.634	.632	.624
k Sch	.618	.556	.566	.634	.687	1.000	.569	.586	.626	.644	.631
l Atten	.357	.331	.371	.555	.556	.569	1.000	.770	.543	.491	.552
m Beh	.390	.364	.405	.553	.592	.586	.770	1.000	.638	.581	.602
n Resp	.517	.521	.557	.588	.634	.626	.543	.638	1.000	.764	.715
o Conf	.599	.592	.626	.603	.632	.644	.491	.581	.764	1.000	.808
p Regard	.556	.562	.551	.651	.624	.631	.552	.602	.715	.808	1.000

17975 observations were used in this computation.
410 cases were omitted due to missing values.

5. 1992-2000 Student Improved Quality of Work

Measurement of quality of work and the degree of growth for the students in the classes receiving the project curriculum delivery was reported by the teachers to be attributable to the project at a mean score of 2.784 (standard deviation = .872). Further, the variability in the scores on this variable were accounted for by all other measures in the model at an adjusted R squared value of .968, F = 54661.773, with a confidence level of p< .0001, except greater confidence as a learner and higher self-regard. (See Table 66.)

Table: 66
Regression: 1992-2000 Student Improved Quality of Work vs. 10 Independents

Regression Summary
j Qual vs. 10 Independents

Count	17975
Num. Missing	410
R	.984
R Squared	.968
Adjusted R Squared	.968
RMS Residual	.520

ANOVA Table
j Qual vs. 10 Independents

	DF	Sum of Squares	Mean Square	F-Value	P-Value
Regression	10	147802.365	14780.236	54661.773	<.0001
Residual	17965	4857.635	.270		
Total	17975	152660.000			

Regression Coefficients
j Qual vs. 10 Independents

	Coefficient	Std. Error	Std. Coeff.	t-Value	P-Value
f Con	.065	.008	.060	7.755	<.0001
g Crit	.103	.009	.096	11.815	<.0001
h Lang	.169	.007	.176	24.765	<.0001
i Int	.179	.007	.173	25.227	<.0001
k Sch	.185	.007	.194	27.697	<.0001
l Atten	.059	.006	.072	9.864	<.0001
m Beh	.101	.007	.119	15.312	<.0001
n Resp	.102	.007	.109	14.339	<.0001
o Conf	.010	.009	.010	1.140	.2542
p Regard	.014	.008	.015	1.810	.0704

Throughout the years 1992-2000, teachers' perceptions of students' improved quality of work were very highly significant at the p< .0001 level of confidence with perceptions of improvement in all variables except greater confidence as a learner and higher self. Standardized coefficients were strongest for increased interest in school, interest in the subject matter, and improved language skills.

Correlations of improved quality of work are meaningful with all variables. (See Table 67.)

Table: 67

1992-2000 Correlation of Improved Quality of Work with 10 Variables

	j Qual	f Con	g Crit	h Lang	i Int	k Sch	l Atten	m Beh	n Resp	o Conf	p Regard
j Qual	1.000	.600	.626	.679	.640	.687	.556	.592	.634	.632	.624
f Con	.600	1.000	.795	.610	.693	.556	.331	.364	.521	.592	.562
g Crit	.626	.795	1.000	.641	.691	.566	.371	.405	.557	.626	.551
h Lang	.679	.610	.641	1.000	.603	.634	.555	.553	.588	.603	.651
i Int	.640	.693	.691	.603	1.000	.618	.357	.390	.517	.599	.556
k Sch	.687	.556	.566	.634	.618	1.000	.569	.586	.626	.644	.631
l Atten	.556	.331	.371	.555	.357	.569	1.000	.770	.543	.491	.552
m Beh	.592	.364	.405	.553	.390	.586	.770	1.000	.638	.581	.602
n Resp	.634	.521	.557	.588	.517	.626	.543	.638	1.000	.764	.715
o Conf	.632	.592	.626	.603	.599	.644	.491	.581	.764	1.000	.808
p Regard	.624	.562	.551	.651	.556	.631	.552	.602	.715	.808	1.000

17975 observations were used in this computation.
410 cases were omitted due to missing values.

6. 1992-2000 Increased Interest in School

Measurement of interest in school and the degree of growth for the students in the classes receiving the project curriculum delivery was reported by the teachers to be attributable to the project at a mean score of 2.821 (standard deviation = .915). Further, the degree of variability in the scores on this variable were accounted for by the other measures in the model at an adjusted R squared value of .963, F = 46855.373, with a confidence level of p< .0001. (See Table 68.)

Table: 68
Regression: 1992-2000 Student Improved Interest in School vs. 10 Independents

Regression Summary
k Sch vs. 10 Independents

Count	17975
Num. Missing	410
R	.981
R Squared	.963
Adjusted R Squared	.963
RMS Residual	.570

ANOVA Table
k Sch vs. 10 Independents

	DF	Sum of Squares	Mean Square	F-Value	P-Value
Regression	10	152182.126	15218.213	46855.373	<.0001
Residual	17965	5834.874	.325		
Total	17975	158017.000			

Regression Coefficients
k Sch vs. 10 Independents

	Coefficient	Std. Error	Std. Coeff.	t-Value	P-Value
f Con	.060	.009	.053	6.521	<.0001
g Crit	-.017	.010	-.015	-1.756	.0790
h Lang	.096	.008	.095	12.611	<.0001
i Int	.219	.008	.202	28.239	<.0001
j Qual	.222	.008	.212	27.697	<.0001
l Atten	.125	.006	.147	19.357	<.0001
m Beh	.061	.007	.068	8.392	<.0001
n Resp	.084	.008	.086	10.725	<.0001
o Conf	.119	.010	.115	12.403	<.0001
p Regard	.041	.009	.042	4.822	<.0001

During 1992-2000, reports by teachers for students' increased interest in school were related at the p< .0001 level of confidence with all results for measures of improvement except critical thinking. The negative correlation with critical thinking skills improvement perhaps indicates that students have improved critical thinking skills before they have higher interest in school.

Correlations for improved interest in school were meaningful for all variables except improved content knowledge, improved critical thinking, improved attendance and behavior. (See Table 69.)

Table: 69

1992-2000 Student Correlation of Improved Interest in School with 10 Variables

	k Sch	f Con	g Crit	h Lang	i Int	j Qual	l Atten	m Beh	n Resp	o Conf	p Regard
k Sch	1.000	.556	.566	.634	.618	.687	.569	.586	.626	.644	.631
f Con	.556	1.000	.795	.610	.693	.600	.331	.364	.521	.592	.562
g Crit	.566	.795	1.000	.641	.691	.626	.371	.405	.557	.626	.551
h Lang	.634	.610	.641	1.000	.603	.679	.555	.553	.588	.603	.651
i Int	.618	.693	.691	.603	1.000	.640	.357	.390	.517	.599	.556
j Qual	.687	.600	.626	.679	.640	1.000	.556	.592	.634	.632	.624
l Atten	.569	.331	.371	.555	.357	.556	1.000	.770	.543	.491	.552
m Beh	.586	.364	.405	.553	.390	.592	.770	1.000	.638	.581	.602
n Resp	.626	.521	.557	.588	.517	.634	.543	.638	1.000	.764	.715
o Conf	.644	.592	.626	.603	.599	.632	.491	.581	.764	1.000	.808
p Regard	.631	.562	.551	.651	.556	.624	.552	.602	.715	.808	1.000

17975 observations were used in this computation.
410 cases were omitted due to missing values.

7. 1992-2000 Student Improved Attendance

Improvement of attendance for the students in the classes receiving the project curriculum delivery was reported by the teachers to be attributable to the project at a mean score of 2.302 (standard deviation = 1.079). Further, the degree of variability in the scores on this variable were accounted for by the other measures in the model at an adjusted R squared value of .934, F = 25588.867, confidence level of p< .0001. (See Table 70.)

Table: 70
Regression: 1992-2000 Student Improved Attendance vs. 10 Independents

Regression Summary
I Atten vs. 10 Independents

Count	17975
Num. Missing	410
R	.967
R Squared	.934
Adjusted R Squared	.934
RMS Residual	.652

ANOVA Table
I Atten vs. 10 Independents

	DF	Sum of Squares	Mean Square	F-Value	P-Value
Regression	10	108863.122	10886.312	25588.867	<.0001
Residual	17965	7642.878	.425		
Total	17975	116506.000			

Regression Coefficients
l Atten vs. 10 Independents

	Coefficient	Std. Error	Std. Coeff.	t-Value	P-Value
f Con	-.072	.011	-.053	-6.770	<.0001
g Crit	.002	.011	.002	.187	.8513
h Lang	.172	.009	.145	19.977	<.0001
i Int	-.064	.009	-.050	-7.012	<.0001
j Qual	.092	.009	.075	9.864	<.0001
k Sch	.164	.008	.139	19.357	<.0001
m Beh	.631	.007	.604	92.310	<.0001
n Resp	.003	.009	.003	.330	.7417
o Conf	-.117	.011	-.097	-10.697	<.0001
p Regard	.121	.010	.105	12.420	<.0001

During 1992-2000, reports by teachers for students' increased interest in school were very highly significant at the $p < .0001$ level of confidence with all results for measures except increased confidence as a learner and critical thinking skills.

Correlations for improved attendance are highly significant for improved behavior, and are meaningful for increased interest in school, improved quality of work, improved language skills, taking responsibility for own learning, and higher self-regard. (See Table 71.)

Table: 71

1992-2000 Student Correlation of Increased Attendance at School with 10 Variables

	l Atten	f Con	g Crit	h Lang	i Int	j Qual	k Sch	m Beh	n Resp	o Conf	p Regard
l Atten	1.000	.331	.371	.555	.357	.556	.569	.770	.543	.491	.552
f Con	.331	1.000	.795	.610	.693	.600	.556	.364	.521	.592	.562
g Crit	.371	.795	1.000	.641	.691	.626	.566	.405	.557	.626	.551
h Lang	.555	.610	.641	1.000	.603	.679	.634	.553	.588	.603	.651
i Int	.357	.693	.691	.603	1.000	.640	.618	.390	.517	.599	.556
j Qual	.556	.600	.626	.679	.640	1.000	.687	.592	.634	.632	.624
k Sch	.569	.556	.566	.634	.618	.687	1.000	.586	.626	.644	.631
m Beh	.770	.364	.405	.553	.390	.592	.586	1.000	.638	.581	.602
n Resp	.543	.521	.557	.588	.517	.634	.626	.638	1.000	.764	.715
o Conf	.491	.592	.626	.603	.599	.632	.644	.581	.764	1.000	.808
p Regard	.552	.562	.551	.651	.556	.624	.631	.602	.715	.808	1.000

17975 observations were used in this computation.
410 cases were omitted due to missing values.

8. 1992-2000 Student Improved Behavior

Measurement of behavior and the degree of growth for the students in the classes receiving the project curriculum delivery was reported by the teachers to be attributable to the project at a mean score of 2.399 (standard deviation = 1.031).

Further, the degree of variability in the scores on this variable were accounted for by the other measures in the model at an adjusted R squared value of .950, F = 33888.446, with a confidence level of p< .0001. (See Table 72.)

Table: 72
Regression: 1992-2000 Student Improved Behavior vs. 10 Variables

Regression Summary
m Beh vs. 10 Independents

Count	17975
Num. Missing	410
R	.975
R Squared	.950
Adjusted R Squared	.950
RMS Residual	.586

ANOVA Table
m Beh vs. 10 Independents

	DF	Sum of Squares	Mean Square	F-Value	P-Value
Regression	10	116348.133	11634.813	33888.446	<.0001
Residual	17965	6167.867	.343		
Total	17975	122516.000			

Regression Coefficients
m Beh vs. 10 Independents

	Coefficient	Std. Error	Std. Coeff.	t-Value	P-Value
f Con	-.060	.010	-.047	-6.293	<.0001
g Crit	-.027	.010	-.021	-2.728	.0064
h Lang	.029	.008	.026	3.749	.0002
i Int	-.049	.008	-.040	-6.031	<.0001
j Qual	.128	.008	.109	15.312	<.0001
k Sch	.064	.008	.057	8.392	<.0001
l Atten	.510	.006	.533	92.310	<.0001
n Resp	.212	.008	.193	26.844	<.0001
o Conf	.102	.010	.088	10.317	<.0001
p Regard	.054	.009	.049	6.147	<.0001

During 1992-2000, reports by teachers for students' increased improvements in behavior were very highly significant at the $p < .0001$ level of confidence with results for improvement in all variables, except $p = .0002$ for language and $p = .0064$ for critical thinking.

The correlation was strongest for attendance and responsibility for own learning, confidence as a learner, and higher self-regard. (See Table 73.)

Table: 73

1992-2000 Student Correlation of Improved Behavior with 10 Variables

	m Beh	f Con	g Crit	h Lang	i Int	j Qual	k Sch	l Atten	n Resp	o Conf	p Regard
m Beh	1.000	.364	.405	.553	.390	.592	.586	.770	.638	.581	.602
f Con	.364	1.000	.795	.610	.693	.600	.556	.331	.521	.592	.562
g Crit	.405	.795	1.000	.641	.691	.626	.566	.371	.557	.626	.551
h Lang	.553	.610	.641	1.000	.603	.679	.634	.555	.588	.603	.651
i Int	.390	.693	.691	.603	1.000	.640	.618	.357	.517	.599	.556
j Qual	.592	.600	.626	.679	.640	1.000	.687	.556	.634	.632	.624
k Sch	.586	.556	.566	.634	.618	.687	1.000	.569	.626	.644	.631
l Atten	.770	.331	.371	.555	.357	.556	.569	1.000	.543	.491	.552
n Resp	.638	.521	.557	.588	.517	.634	.626	.543	1.000	.764	.715
o Conf	.581	.592	.626	.603	.599	.632	.644	.491	.764	1.000	.808
p Regard	.602	.562	.551	.651	.556	.624	.631	.552	.715	.808	1.000

17975 observations were used in this computation.
410 cases were omitted due to missing values.

9. 1992-2000 Student Takes Responsibility for Own Learning

Measurement of responsibility for own learning and the degree of growth for the students in the classes receiving the project curriculum delivery was reported by the teachers to be attributable to the project at a mean score of 2.732 (standard deviation = .938). Further, the degree of variability in the scores on this variable were accounted for by the other measures in the model at an adjusted R squared value of .965, F = 49018.401, with a confidence level of $p < .0001$. (See Table 74.)

Table: 74
Regression: 1992-2000 Student Greater Responsibility for Own Learning vs. 10 Independents

Regression Summary
n Resp vs. 10 Independents

Count	17975
Num. Missing	410
R	.982
R Squared	.965
Adjusted R Squared	.965
RMS Residual	.543

ANOVA Table
n Resp vs. 10 Independents

	DF	Sum of Squares	Mean Square	F-Value	P-Value
Regression	10	144384.384	14438.438	49018.401	<.0001
Residual	17965	5291.616	.295		
Total	17975	149676.000			

Regression Coefficients
n Resp vs. 10 Independents

	Coefficient	Std. Error	Std. Coeff.	t-Value	P-Value
f Con	.008	.009	.007	.953	.3404
g Crit	.075	.009	.065	8.201	<.0001
h Lang	.012	.007	.012	1.705	.0882
i Int	-.042	.008	-.037	-5.498	<.0001
j Qual	.111	.008	.103	14.339	<.0001
k Sch	.076	.007	.074	10.725	<.0001
l Atten	.002	.006	.002	.330	.7417
m Beh	.182	.007	.200	26.844	<.0001
o Conf	.420	.009	.398	48.815	<.0001
p Regard	.144	.008	.144	17.842	<.0001

During the period from 1992-2000, reports by teachers for students' increased responsibility for own learning were very highly significant at the p< .0001 level of confidence with results for all except attendance and language. Correlations were significant for greater confidence as a learner and higher self-regard, and high for all others. (See Table 75.)

Table: 75

1992-2000 Student Correlation of Increased Responsibility for Own Learning with 10 Variables

	n Resp	f Con	g Crit	h Lang	i Int	j Qual	k Sch	l Atten	m Beh	o Conf	p Regard
n Resp	1.000	.521	.557	.588	.517	.634	.626	.543	.638	.764	.715
f Con	.521	1.000	.795	.610	.693	.600	.556	.331	.364	.592	.562
g Crit	.557	.795	1.000	.641	.691	.626	.566	.371	.405	.626	.551
h Lang	.588	.610	.641	1.000	.603	.679	.634	.555	.553	.603	.651
i Int	.517	.693	.691	.603	1.000	.640	.618	.357	.390	.599	.556
j Qual	.634	.600	.626	.679	.640	1.000	.687	.556	.592	.632	.624
k Sch	.626	.556	.566	.634	.618	.687	1.000	.569	.586	.644	.631
l Atten	.543	.331	.371	.555	.357	.556	.569	1.000	.770	.491	.552
m Beh	.638	.364	.405	.553	.390	.592	.586	.770	1.000	.581	.602
o Conf	.764	.592	.626	.603	.599	.632	.644	.491	.581	1.000	.808
p Regard	.715	.562	.551	.651	.556	.624	.631	.552	.602	.808	1.000

17975 observations were used in this computation.
410 cases were omitted due to missing values.

10. 1992-2000 Student Greater Confidence as Learner

Measurement of responsibility for own learning and the degree of growth for the students in the classes receiving the project curriculum delivery was reported by the teachers to be attributable to the project at a mean score of 2.868 (standard deviation = .890). Further, the degree of variability in the scores on this variable were accounted for by the other measures in the model at an adjusted R squared value of .978, F = 80870.399, with a confidence level of p< .0001. (See Table 76.)

Table: 76
Regression: 1992-2000 Student Greater Confidence as Learner vs. 10 Independents

Regression Summary
o Conf vs. 10 Independents

Count	17975
Num. Missing	410
R	.989
R Squared	.978
Adjusted R Squared	.978
RMS Residual	.443

ANOVA Table
o Conf vs. 10 Independents

	DF	Sum of Squares	Mean Square	F-Value	P-Value
Regression	10	158456.949	15845.695	80870.399	<.0001
Residual	17965	3520.051	.196		
Total	17975	161977.000			

Regression Coefficients
o Conf vs. 10 Independents

	Coefficient	Std. Error	Std. Coeff.	t-Value	P-Value
f Con	.012	.007	.011	1.725	.0845
g Crit	.165	.007	.151	22.489	<.0001
h Lang	-.058	.006	-.059	-9.879	<.0001
i Int	.083	.006	.079	13.535	<.0001
j Qual	.007	.006	.007	1.140	.2542
k Sch	.072	.006	.074	12.403	<.0001
l Atten	-.054	.005	-.065	-10.697	<.0001
m Beh	.058	.006	.067	10.317	<.0001
n Resp	.279	.006	.294	48.815	<.0001
p Regard	.440	.006	.462	75.828	<.0001

In the 1992-2000 student reports by teachers for students' increased confidence as a learner were very highly significant at the p< .0001 level of confidence with results for measures of improvement in all variables except greater content knowledge and skills, and greater quality of work. Improved content knowledge, language and attendance, having negative coefficients of correlation, would have occurred earlier. Strong coefficients of correlation in this relationship were shown for higher self-regard and taking responsibility for own learning.

Correlations for higher confidence as a learner were meaningful for all variables and significant for higher self-regard and increased responsibility for own learning. (See Table 77.)

Table: 77
Correlations: 1992-2000 Student Higher Confidence as a Learner vs. 10 Variables

	o Conf	f Con	g Crit	h Lang	i Int	j Qual	k Sch	l Atten	m Beh	n Resp	p Regard
o Conf	1.000	.592	.626	.603	.599	.632	.644	.491	.581	.764	.808
f Con	.592	1.000	.795	.610	.693	.600	.556	.331	.364	.521	.562
g Crit	.626	.795	1.000	.641	.691	.626	.566	.371	.405	.557	.551
h Lang	.603	.610	.641	1.000	.603	.679	.634	.555	.553	.588	.651
i Int	.599	.693	.691	.603	1.000	.640	.618	.357	.390	.517	.556
j Qual	.632	.600	.626	.679	.640	1.000	.687	.556	.592	.634	.624
k Sch	.644	.556	.566	.634	.618	.687	1.000	.569	.586	.626	.631
l Atten	.491	.331	.371	.555	.357	.556	.569	1.000	.770	.543	.552
m Beh	.581	.364	.405	.553	.390	.592	.586	.770	1.000	.638	.602
n Resp	.764	.521	.557	.588	.517	.634	.626	.543	.638	1.000	.715
p Regard	.808	.562	.551	.651	.556	.624	.631	.552	.602	.715	1.000

17975 observations were used in this computation.
410 cases were omitted due to missing values.

11. 1992-2000 Student Higher Self Regard

Measurement of higher self regard and the degree of growth for the students in the classes receiving the TEAMS project curriculum was reported by the teachers to be attributable to the project at a mean score of 2.805 (standard deviation = .930). Further, the degree of variability in the scores on this variable were accounted for by the other measures in the model at an adjusted R squared value of .724, F = 4572.135, with a confidence level of p< .0001. (See Table 78.)

Table: 78
Regression: 1992-2000 Student Higher Self-Regard vs. 10 Independents

Regression Summary
p Regard vs. 10 Independents

Count	17975
Num. Missing	410
R	.986
R Squared	.972
Adjusted R Squared	.972
RMS Residual	.496

ANOVA Table
p Regard vs. 10 Independents

	DF	Sum of Squares	Mean Square	F-Value	P-Value
Regression	10	151854.005	15185.400	61748.756	<.0001
Residual	17965	4417.995	.246		
Total	17975	156272.000			

Regression Coefficients
p Regard vs. 10 Independents

	Coefficient	Std. Error	Std. Coeff.	t-Value	P-Value
f Con	.117	.008	.100	14.563	<.0001
g Crit	-.132	.008	-.115	-15.957	<.0001
h Lang	.178	.006	.173	27.457	<.0001
i Int	.019	.007	.017	2.711	.0067
j Qual	.013	.007	.012	1.810	.0704
k Sch	.031	.006	.031	4.822	<.0001
l Atten	.070	.006	.081	12.420	<.0001
m Beh	.039	.006	.043	6.147	<.0001
n Resp	.121	.007	.121	17.842	<.0001
o Conf	.552	.007	.525	75.828	<.0001

In the 1992-2000 student reports by teachers for students' increased self-regard were very highly significant at the $p < .0001$ level of confidence for all results except for measures of improvement in subject matter interest and quality of work. With increased critical thinking skills, the negative coefficient of correlation indicates it occurs prior to higher self-regard.

Correlations for higher self-regard are highly correlated with confidence as a learner and responsibility for own learning, significant for expectation-based theories of learning, and significant for all other variables. (See Table 79.)

Table: 79
1992-2000 Student Correlation of Higher Self-Regard with 10 Variables

	p Regard	f Con	g Crit	h Lang	i Int	j Qual	k Sch	l Atten	m Beh	n Resp	o Conf
p Regard	1.000	.562	.551	.651	.556	.624	.631	.552	.602	.715	.808
f Con	.562	1.000	.795	.610	.693	.600	.556	.331	.364	.521	.592
g Crit	.551	.795	1.000	.641	.691	.626	.566	.371	.405	.557	.626
h Lang	.651	.610	.641	1.000	.603	.679	.634	.555	.553	.588	.603
i Int	.556	.693	.691	.603	1.000	.640	.618	.357	.390	.517	.599
j Qual	.624	.600	.626	.679	.640	1.000	.687	.556	.592	.634	.632
k Sch	.631	.556	.566	.634	.618	.687	1.000	.569	.586	.626	.644
l Atten	.552	.331	.371	.555	.357	.556	.569	1.000	.770	.543	.491
m Beh	.602	.364	.405	.553	.390	.592	.586	.770	1.000	.638	.581
n Resp	.715	.521	.557	.588	.517	.634	.626	.543	.638	1.000	.764
o Conf	.808	.592	.626	.603	.599	.632	.644	.491	.581	.764	1.000

17975 observations were used in this computation.
410 cases were omitted due to missing values.

1992-2000 Disaggregated Student Data

1992-2000 Student Disaggregated Gender Demographics

Of the 18,377 students observed during 1999-00, 9277 (50.5 percent) were male and 9100 (49.5 percent) female (the gender of five students was not reported). Title 1 students numbered 6285 (34.2 percent), LEP 2555 (13.9 percent), Gifted 1965 (10.7 percent), and Special Education 1627 (8.9 percent). (See Table 80.)

Table: 80
1992-2000 Student Disaggregated Demographics

	a F/M	b Title 1	c LEP	d Gifted	e SpEd
Count	18377	17381	16865	17000	17018
# Missing	8	1004	1520	1385	1367
Sum	9277	6285	2555	1965	1627

1992-2000 Student Disaggregated Title 1

Of the 6,285 Title 1 students, 3211 (51.1 percent) were male and 3074 (48.9 percent) were female. (See Table 81.)

Table: 81
1992-2000 Student Disaggregated Gender of Title 1 Students

	a F/M	b Title 1
Count	6285	6285
# Missing	0	0
Sum	3211	6285

Mean values reported for all students for each performance variable are contained in Table 82. Equating a median score in the range of 2.50 to 3.49 to a scaled response of three, the conclusion is that these teachers attribute some degree of improvement in all areas for Title 1 students to the project.

Table: 82
1992-2000 Student Disaggregated Mean Scores for Performance Variables: Title 1 Students

	Mean	Std. Dev.	Count	# Missing	Median	Mode
f Con	3.050	.829	6264	21	3.000	3.000
g Crit	2.999	.837	6257	28	3.000	3.000
h Lang	2.869	.880	6271	14	3.000	3.000
i Int	3.178	.832	6271	14	3.000	4.000
j Qual	2.879	.829	6253	32	3.000	3.000
k Sch	2.952	.893	6233	52	3.000	3.000
l Atten	2.515	1.084	6224	61	3.000	3.000
m Beh	2.522	1.031	6218	67	3.000	3.000
n Resp	2.761	.911	6238	47	3.000	3.000
o Conf	2.905	.886	6212	73	3.000	3.000
p Regard	2.849	.916	6205	80	3.000	3.000

Correlations for variables for Title 1 students were significant for all except behavior, attendance, and responsibility for own learning. They were highly significant for improved subject matter interest, critical thinking skills, quality of work, and interest in school. (See Table 83.)

Table: 83
1992-2000 Student Disaggregated Correlations for Title 1 Students

	f Con	g Crit	h Lang	i Int	j Qual	k Sch	l Atten	m Beh	n Resp	o Conf	p Regard
f Con	1.000	.810	.665	.707	.655	.600	.398	.397	.558	.602	.590
g Crit	.810	1.000	.690	.679	.678	.607	.425	.418	.586	.630	.565
h Lang	.665	.690	1.000	.635	.700	.645	.554	.496	.587	.583	.639
i Int	.707	.679	.635	1.000	.668	.649	.417	.398	.515	.583	.559
j Qual	.655	.678	.700	.668	1.000	.687	.578	.563	.626	.623	.623
k Sch	.600	.607	.645	.649	.687	1.000	.617	.570	.617	.652	.638
l Atten	.398	.425	.554	.417	.578	.617	1.000	.760	.574	.521	.598
m Beh	.397	.418	.496	.398	.563	.570	.760	1.000	.658	.602	.629
n Resp	.558	.586	.587	.515	.626	.617	.574	.658	1.000	.773	.760
o Conf	.602	.630	.583	.583	.623	.652	.521	.602	.773	1.000	.807
p Regard	.590	.565	.639	.559	.623	.638	.598	.629	.760	.807	1.000

6167 observations were used in this computation.
118 cases were omitted due to missing values.

1992-2000 Student Disaggregated Limited English Proficient (LEP)

Of the 2555 LEP students, 1305 (51.1 percent) were male and 1250 (48.9 percent) were female. (See Table 84.)

Table: 84
1992-2000 Student Disaggregated Gender LEP Students

	a F/M	c LEP
Count	2555	2555
# Missing	0	0
Sum	1305	2555

Mean values reported for all students for each performance variable are contained in Table 85. Equating a median score in the range of 2.50 to 3.49 to a scaled response of three, the conclusion is that these teachers attribute a high degree of improvement in all areas for LEP students in the areas of subject matter interest, greater content knowledge and skills, improved language skills, increased interest in school, and improved critical thinking and problem solving. Improvement was also noted for improved quality of work, higher self-regard, and greater responsibility for own learning, attendance and behavior.

Table: 85
1992-2000 Student Disaggregated Mean Scores for Performance Variables

	Mean	Std. Dev.	Count	# Missing	Median	Mode
f Con	3.158	.806	2543	12	3.000	3.000
g Crit	3.079	.802	2543	12	3.000	3.000
h Lang	2.998	.821	2544	11	3.000	3.000
i Int	3.228	.793	2544	11	3.000	4.000
j Qual	2.943	.829	2543	12	3.000	3.000
k Sch	3.086	.873	2541	14	3.000	3.000
l Atten	2.626	1.111	2538	17	3.000	3.000
m Beh	2.624	1.027	2538	17	3.000	3.000
n Resp	2.866	.902	2534	21	3.000	3.000
o Conf	3.018	.837	2522	33	3.000	3.000
p Regard	2.954	.897	2523	32	3.000	3.000

Correlations for variables for LEP students were slight to insignificant for all except increased subject matter interest and strong negative correlations with improved attendance and behavior. (See Table 86.)

Table: 86
1992-2000 Student Disaggregated Correlations for LEP Students

	f Con	g Crit	h Lang	i Int	j Qual	k Sch	l Atten	m Beh	n Resp	o Conf	p Regard
f Con	1.000	.783	.674	.707	.604	.564	.323	.356	.527	.585	.573
g Crit	.783	1.000	.692	.649	.622	.565	.375	.393	.570	.622	.541
h Lang	.674	.692	1.000	.640	.631	.595	.483	.451	.550	.561	.598
i Int	.707	.649	.640	1.000	.644	.624	.427	.414	.553	.616	.626
j Qual	.604	.622	.631	.644	1.000	.625	.580	.586	.671	.637	.659
k Sch	.564	.565	.595	.624	.625	1.000	.567	.548	.593	.660	.612
l Atten	.323	.375	.483	.427	.580	.567	1.000	.818	.622	.532	.645
m Beh	.356	.393	.451	.414	.586	.548	.818	1.000	.667	.579	.649
n Resp	.527	.570	.550	.553	.671	.593	.622	.667	1.000	.744	.734
o Conf	.585	.622	.561	.616	.637	.660	.532	.579	.744	1.000	.770
p Regard	.573	.541	.598	.626	.659	.612	.645	.649	.734	.770	1.000

2518 observations were used in this computation.
37 cases were omitted due to missing values.

1992-2000 Student Disaggregated Gifted Students

Of the 1965 Gifted students, 922 (46.9 percent) were male and 1043 (53.1 percent) were female. (See Table 87.)

Table: 87
1992-2000 Student Disaggregated Gifted Student Gender

	a F/M	d Gifted
Count	1965	1965
# Missing	0	0
Sum	922	1965

Mean values reported for all students for each performance variable are contained in Table 88. Equating a median score in the range of 2.50 to 3.49 to a scaled response of three, the conclusion is that these teachers attribute some degree of improvement for Gifted students in the areas of content knowledge and skills, critical thinking and problem solving, increased interest in the subject matter, greater confidence as a learner, and increased responsibility for own learning, quality of work, responsibility for own learning, improved language, and all others except attendance and behavior.

Table: 88
1992-2000 Student Disaggregated Mean Scores for Performance Variables: Gifted Students

	Mean	Std. Dev.	Count	# Missing	Median	Mode
f Con	3.321	.709	1951	14	3.000	4.000
g Crit	3.274	.729	1948	17	3.000	3.000
h Lang	2.854	.944	1941	24	3.000	3.000
i Int	3.328	.773	1945	20	3.000	4.000
j Qual	2.984	.940	1944	21	3.000	3.000
k Sch	2.959	.971	1941	24	3.000	3.000
l Atten	2.310	1.165	1940	25	2.000	1.000
m Beh	2.473	1.119	1951	14	2.000	1.000
n Resp	2.950	.995	1947	18	3.000	4.000
o Conf	3.075	.925	1933	32	3.000	3.000
p Regard	2.908	1.002	1936	29	3.000	3.000

Correlations for variables for Gifted students were very highly significant for critical thinking skills improvement and highly significant for all others except attendance, behavior, and higher self-regard—all of which would be assumed to be high already. (See Table 89.)

Table: 89
1992-2000 Student Disaggregated Correlations for Gifted Students

	f Con	g Crit	h Lang	i Int	j Qual	k Sch	l Atten	m Beh	n Resp	o Conf	p Regard
f Con	1.000	.763	.587	.698	.622	.567	.321	.285	.492	.567	.469
g Crit	.763	1.000	.613	.696	.601	.587	.378	.348	.465	.578	.456
h Lang	.587	.613	1.000	.519	.666	.627	.540	.529	.510	.536	.651
i Int	.698	.696	.519	1.000	.640	.630	.348	.362	.526	.595	.509
j Qual	.622	.601	.666	.640	1.000	.732	.545	.538	.575	.570	.643
k Sch	.567	.587	.627	.630	.732	1.000	.577	.589	.585	.629	.672
l Atten	.321	.378	.540	.348	.545	.577	1.000	.818	.519	.500	.659
m Beh	.285	.348	.529	.362	.538	.589	.818	1.000	.586	.539	.699
n Resp	.492	.465	.510	.526	.575	.585	.519	.586	1.000	.727	.646
o Conf	.567	.578	.536	.595	.570	.629	.500	.539	.727	1.000	.704
p Regard	.469	.456	.651	.509	.643	.672	.659	.699	.646	.704	1.000

1911 observations were used in this computation.
54 cases were omitted due to missing values.

1992-2000 Student Disaggregated Special Education Students

Of the 1,627 special education students, gender was reported for 982 (60.4 percent) male and 643 (39.6 percent) female. (See Table 90.)

Table: 90
1992-2000 Student Disaggregated Gender for Special Education Students

	a F/M	e SpEd
Count	1626	1627
# Missing	1	0
Sum	982	1627

This proportion is highly out of proportion to the population (about 16 percent more males than the population).

Mean values reported for all students for each performance variable are contained in Table 91. Equating a median score in the range of 2.50 to 3.49 to a scaled response of three, the conclusion is that these teachers attribute some degree of improvement in all areas for the students to the project, except language, responsibility, attendance and behavior.

Table: 91
1992-2000 Student Mean Scores for Performance Variables for Special Education Students

	Mean	Std. Dev.	Count	# Missing	Median	Mode
f Con	2.833	.871	1607	20	3.000	3.000
g Crit	2.708	.881	1606	21	3.000	3.000
h Lang	2.474	.923	1612	15	2.000	2.000
i Int	2.950	.896	1612	15	3.000	3.000
j Qual	2.605	.896	1612	15	3.000	2.000
k Sch	2.622	.944	1605	22	3.000	3.000
l Atten	2.081	1.034	1612	15	2.000	1.000
m Beh	2.294	.997	1617	10	2.000	2.000
n Resp	2.441	.965	1613	14	2.000	2.000
o Conf	2.641	.918	1601	26	3.000	3.000
p Regard	2.587	.952	1603	24	3.000	3.000

Correlations for variables for special education students were very highly significant for all variables except attendance and behavior. (See Table 92.)

Table: 92
1992-2000 Student Disaggregated Correlations for Special Education Students

	f Con	g Crit	h Lang	i Int	j Qual	k Sch	l Atten	m Beh	n Resp	o Conf	p Regard
f Con	1.000	.783	.591	.742	.644	.606	.336	.389	.599	.665	.633
g Crit	.783	1.000	.660	.717	.692	.591	.418	.445	.622	.676	.630
h Lang	.591	.660	1.000	.589	.678	.654	.584	.590	.673	.661	.713
i Int	.742	.717	.589	1.000	.666	.680	.373	.427	.586	.685	.636
j Qual	.644	.692	.678	.666	1.000	.709	.544	.588	.665	.711	.662
k Sch	.606	.591	.654	.680	.709	1.000	.579	.582	.665	.684	.691
l Atten	.336	.418	.584	.373	.544	.579	1.000	.708	.525	.482	.536
m Beh	.389	.445	.590	.427	.588	.582	.708	1.000	.590	.580	.608
n Resp	.599	.622	.673	.586	.665	.665	.525	.590	1.000	.762	.729
o Conf	.665	.676	.661	.685	.711	.684	.482	.580	.762	1.000	.831
p Regard	.633	.630	.713	.636	.662	.691	.536	.608	.729	.831	1.000

1588 observations were used in this computation.
39 cases were omitted due to missing values.

TEAMS IMPACT Site Focus Teachers 1999-2000

TEAMS IMPACT Focus Site

Demographics

Of the thirteen responses received, three were from California and ten were from North Carolina. (See Table 93.)

Table: 93
Demographics of IMPACT Site Teacher Responses

Date	School Name	School District	City	State	Zip Code
15-Jun-2000	Cesar Chavez Middle School	New Haven Unified SD	Union City	CA	94587
27-Jun-2000	Laguna Nueva School	Montebello U.S.D.	Commerce	CA	90040
27-Jun-2000	Laguna Nueva School	Montebello Unified	Commerce	CA	90040
27-Jun-2000	Nathaniel Alexander Elem.	Charlotte - Mecklenburg	Charlotte	NC	28282
28-Jun-2000	Nathaniel Alexander Elem.	Charlotte - Mecklenburg	Charlotte	NC	28262
28-Jun-2000	Nathaniel Alexander Elem.	Charlotte - Mecklenburg	Charlotte	NC	28262
28-Jun-2000	Nathaniel Alexander Elem.	Charlotte - Mecklenburg	Charlotte	NC	28262
29-Jun-2000	Nathaniel Alexander Elem.	Charlotte - Mecklenburg	Charlotte	NC	28262
30-Jun-2000	Nathaniel Alexander Elem.	Charlotte - Mecklenburg	Charlotte	NC	98262
01-Jul-2000	Nathaniel Alexander Elem.	Charlotte - Mecklenburg	Charlotte	NC	28262
04-Jul-2000	Nathaniel Alexander Elem.	Charlotte - Mecklenburg	Charlotte	NC	28262
06-Jul-2000	Nathaniel Alexander Elem.	Charlotte - Mecklenburg	Charlotte	NC	28262
06-Jul-2000	Nathaniel Alexander Elem.	Charlotte - Mecklenburg	Charlotte	NC	28262

Teacher Information

Of the thirteen responses, eleven are female and two are male. (See Table 94.)

Table: 94
Demographics of IMPACT Site Teachers - Gender

Percent	Count	Answers
84.6	11/13	Female
15.4	2/13	Male
100.0	13/13	Summary

Length of Time as a TEAMS Impact Focus Site Teacher

The teachers were asked how long they had been a TEAMS Focus site teacher. The maximum number of years reported was two and the minimum zero. The mean was 1.08 years. (See Table 95.)

Table: 95
Length of Time as a TEAMS Impact Focus Teacher

Count:	13
Min:	0.00
Max:	2.00
Mean:	1.08
Total:	14
Mode:	1.00
Median:	1.00
Avg Dev:	0.28
Norm:	4.24

Length of Time Using TEAMS

The question was asked as to how long the teachers had used the TEAMS program. Of the thirteen responses, the maximum was five years, the minimum zero years, and the mean was 1.38 years. The mode was one year. (See Table 96.)

Table: 96
Length of Time Using TEAMS

Count:	13
Min:	0.00
Max:	5.00
Mean:	1.38
Total:	18
Mode:	1.00
Median:	1.00
Avg Dev:	0.75
Norm:	6.48

Credentials

The teachers were asked what credentials they held. One of the thirteen answered none and the other answered as follows. (See Table 97.)

Table: 97
Credentials Held

Standard Elementary K-9 Library Media Credential Administrative Credential
Elem. Teaching Bilingual/Cross Cultural
Multiple Subject-BCLAD (IP) Masters in Educational Technology
None
Teaching Certificate K-6
Elementary education BS geography minor, with an AA in Dev. Psychology.
Masters in education with reading certificates.
BA, MA, Principal's Certificate
Certified Teacher K-6
Birth- kindergarten Certification
MS Elem. Ed./ Early Childhood Ed.
BS Elem. Ed./ MS. Elem. Ed.
1-No Response

Emergency Credentials

Teachers were asked if they had emergency credentials. One out of thirteen responded yes. (See Table 98.)

Table: 98
Emergency Credentials

Percent	Count	Answers
7.7	1/13	Yes
92.3	12/13	No
100.0	13/13	Summary

Credential Programs Enrolled

Five of the thirteen reported that they were working on credentials as listed. (See Table 99.)

Table: 99
Credential Programs Enrolled

Tier II Administrative
Multiple Subject
All subjects
K-12 Special Ed., K-9 Regular Ed.
TEAMS Geometry

Start Date of Credential Programs

The start date of the credential programs is reported in Table 100.

Table: 100
Start Date of Credential Programs

9/2000
9/96
9/65
3/78
7/99

Completion Date of Credential Programs

The teachers enrolled in credential programs reported completion dates as shown in Table 101.

Table: 101
Completion Date of Credential Programs

6/2002
2001
2003
6/2003

Years of Teaching

The thirteen teachers report from zero to thirty-five years of teaching experience, with a mean of 12.31 years, a mode of five years, and a median of six years. See Table 102.

Table: 102
Years of Teaching

Count:	13
Min:	0.00
Max:	35.00
Mean:	12.31
Total:	160
Mode:	5.00
Median:	6.00
Avg Dev:	9.87
Norm:	60.08

Professional Development
Professional Development Activities in Which Teachers Participated

The teachers were asked which activities they participated in. (See Table 103)

Table: 103
Professional Development Activities in Which Teachers Participated

Graph	Percent	Count	Answers
	38.5	5/13	TEAMS professional development facilitated live at the school or district office
	23.1	3/13	Other 1999-2000 district or county professional development
	7.7	1/13	College credit courses toward an advanced degree in 1999-2000
	61.5	8/13	TEAMS professional development via live broadcast or videotape

Hours Spent in All Types of Professional Development Activities During the 1999-2000 School Year

The thirteen teachers reported from zero to eighty hours in staff development for the year. The mean number of hours was 29.46, with a median and mode of twenty hours. (See Table 104.)

Table: 104
Hours Spent in All Types of Professional Development Activities During the 1999-2000 School Year

Count:	13
Min:	0.00
Max:	80.00
Mean:	29.46
Total:	383
Mode:	20.00
Median:	20.00
Avg Dev:	20.41
Norm:	140.92

Experience Using Technology to Support Curriculum in the Classroom

Seven of the teachers reported extensive use of technology integrated into the curriculum. Four teachers reported moderate use of technology in the classroom, and two reported uses limited to the TEAMS project only. (See Table 105.)

Table: 105
Experience Using Technology to Support Curriculum in the Classroom

Graph	Percent	Count	Answers
	15.4	2/13	Limited to the 1999-2000 TEAMS project
	30.8	4/13	Moderate: have used technology in the classroom for two years
	53.8	7/13	Extensive: have integrated technology into the curriculum

Attitude Toward the Support of Instruction Through Technology and the Role of Technology in the Classroom, Initial and Current

Teachers were asked what their initial and current attitudes were to the support of instruction by technology and the use of technology in the classroom. The remarks in Table 106 below indicate varied initial attitudes but uniformly positive current attitudes.

Table: 106
Attitude Toward the Support of Instruction Through Technology and the Role of Technology in the Classroom, Initial and Current

I was reluctant to have technology added to my responsibilities at first, but once I started using it with kids I saw the benefits.
I was enthusiastic and still am.
I have always had a positive attitude towards having technology support instruction and student learning. My attitude now remains, as always technology in the classroom will help instruction and learning as long as there is sufficient staff development and support.
Excited an important part of the future, excellent addition to the classrooms.
Same
I am grateful to be in a school that is so full of technology. I have worked on technology for my Professional Dev. plan. I use Technology everyday. I like using technology because it is such a great part of our lives.
Scared to death- interested but not sure how to begin. Still learning but enjoys and like watching students is involved with it.
(1)I think it's extremely important. (2)I feel it's a teacher's job to teach technology.
NAES is a technology magnet school.

Hesitant due to the lack of experience and knowledge. Love it, and would have a hard time without it.
TEAMS has helped me integrate more technology in curriculum.
I am less intimidated by it, it can be useful and children love it.
Beginning skeptical. Now, Happy I tried!

Changing the Way Classes Are Taught

Teachers were asked how much has using supportive technology changed the way classes are taught. Eight of the thirteen, (61.6 percent), responded greatly or quite a bit, and five or (38.5 percent) reported some change. No one reported a complete absence of change. The overall rating was 2.8 (on a scale of one to four) roughly equating to three, or “Quite a bit.” (See Table 107.)

Table: 107
Changing the Way Classes Are Taught

Graph	Percent	Count	Answers
	0.0	0/13	Not at all
	38.5	5/13	Somewhat
	38.5	5/13	Quite a bit
	23.1	3/13	Greatly

Involvement in TEAMS Affect on Other Teaching Attributes

Teachers were asked if involvement in TEAMS changed/shaped they’re teaching style, classroom management, or content knowledge.

Teaching Style

On a scale of 0 to 4, teachers responded at a mean score of 2.2 or “somewhat” for teaching style. (See Table 108.)

Table: 108
Involvement in TEAMS Affect on Other Teaching Attributes

Graph	Percent	Count	Answers
	23.1	3/13	Not at all
	38.5	5/13	Somewhat
	38.5	5/13	Quite a lot
	0.0	0/13	Greatly

Classroom Management

On a scale of zero to four, teachers responded at a mean score of 1.8 or “somewhat” for classroom management. (See Table 109.)

Table 109
Classroom Management

Graph	Percent	Count	Answers
	46.2	6/13	Not at all
	30.8	4/13	Somewhat
	23.1	3/13	Quite a lot
	0.0	0/13	Greatly

Content Knowledge

On a scale of zero to four, teachers responded at a mean score of 2.5 or “quite a bit” for content knowledge. (See Table 110.)

Table: 110
Content Knowledge

Graph	Percent	Count	Answers
	7.7	1/13	Not at all
	38.5	5/13	Somewhat
	46.2	6/13	Quite a lot
	7.7	1/13	Greatly

Changes in Teaching and Instructional Methods As a Result of Using Supportive Technology

Teachers were asked to describe any changes in teaching and instructional methods as a result of using supportive technology. Answers demonstrated appreciation for the support and enhanced interest in teaching methodologies. (See Table 111.)

Table: 111
Changes in Teaching and Instructional Methods
As a Result of Using Supportive Technology

I more often plan activities where students learn by doing, rather than from textbooks or me.
The "outside" voice of Gary Widdison was very helpful. I used his teaching to add authority to my own. I also loved the materials.
I believe that you are referring to TEAMS and "supportive technology" -- I will have to say that it has not changed my instructional methods but it has fallen in line with my teaching practices.
Generated interest.
I have asked to take on four new TEAMS units for next year.
Liked having students see someone else's teaching style. Gained many helpful tips for next year.
(1)You give us ALL the materials. (2) You give inservice. (3) You give us SUPPORT.
It was nice to be able to rely on the "TV teacher" to instruct while I facilitated the classroom.
Able to integrate multi objectives into lessons easier.
New Ideas: Future planning
I used technology more!
2-No Response

Effective Instructional Strategies That Improve Teaching and Learning

Teachers were asked if they felt that TEAMS helped them learn effective instructional strategies that improve teaching and learning. Ten out of thirteen (76.9 percent) said yes. (See Table 112.)

Table: 112
TEAMS Helped Teachers Learn Effective Instructional Strategies That Improve Teaching and Learning

Percent	Count	Answers
76.9	10/13	Yes
23.1	3/13	No

TEAMS Professional Development Programs Support Use of the Modules

Teachers were asked if TEAMS professional development programs support their use of the modules? Ten out of twelve (83.3 percent) answered yes. (See Table 113.)

Table: 113
TEAMS Professional Development Programs Support Use of the Modules

Percent	Count	Answers
83.3	10/12	Yes
16.7	2/12	No

Percentage of Curriculum Based on Textbook and Textbook Driven Lessons

Teachers were asked what percentage of the curriculum was based on the textbook and textbook-driven lessons. There was no one answer for this question as percentages ranged from zero to 35 percent, with a mean of 3.33, a mode of 0, a median of .40 percent, and an average deviation of 5.13 percent. (See Table 114.)

Table: 114
Percentage of Curriculum Based on Textbook and Textbook Driven Lessons

Count:	13
Min:	0.00
Max:	35.00
Mean:	3.33
Total:	43
Mode:	0.00
Median:	0.40
Avg Dev:	5.13
Norm:	35.38

Percentage of Time Spent in Class on Worksheets or Practice to Reinforce Skills

Teachers were asked what percentage of time they spent in class on worksheets or practice to reinforce skills. No one answer emerged as the mean was 1.82 percent, the maximum was 15 percent and the minimum zero, the mode 0.40 and the median 0.40, with an average deviation of 2.52 percent. (See Table 115.)

Table: 115
Percentage of Time Spent in Class on Worksheets or Practice to Reinforce Skills

Count:	13
Min:	0.00
Max:	15.00
Mean:	1.82
Total:	24
Mode:	0.40
Median:	0.40
Avg Dev:	2.52
Norm:	15.86

Percentage of Time Spent in Class on Concept Development

Teachers were asked what percentage of time they spent in class on concept development. Answers ranged from zero to 100 percent, with an average deviation of 21.11 percent. The median was 0.75 and the mode was 0.50 percent, with a mean of 14.25 percent. (See Table 116.)

Table: 116
Percentage of Time Spent in Class on Concept Development

Count:	13
Min:	0.00
Max:	100.00
Mean:	14.25
Total:	185
Mode:	0.50
Median:	0.75
Avg Dev:	21.11
Norm:	115.77

Professional Role
Percentage of Time Acting in Various Roles

Teachers were asked what percentage of time they spent in the roles of lecturer, coach, mediator, or facilitator. The majority of teachers indicated that they spent most of their time facilitating knowledge (see Table 117.)

But taking each response as a ratio to itself, it is apparent that the role of facilitator is preponderant at about 50 percent, with coach in second place at about 25 percent. lecturer appears third with 20 percent, tied with Mediator.

This is another indication that the TEAMS program provides teachers with curriculum that moves them to facilitation of learning. In the past, the TEAMS evaluation concentrated on how teachers changed their instructional style. The study determine that it took about twelve months for teachers to move from traditional teaching to facilitation in the content area provided by TEAMS. Within eighteen months, teachers indicated that because of the TEAMS program, they had moved from traditional instructional methods to facilitation in all content areas in which they taught.

The last teacher responded with answers totaling 260 percent which indicates a misunderstanding of the question.

Table: 117
Percentage of Time Acting in Various Roles

Lecturer	Coach	Mediator	Facilitator
.05	.20	.15	.50
.00	.20	.10	.70
.20	.25	.25	.30
.30	.10	.10	.50
.30	.30	.10	.30
.25	.25	.25	.25
.20	.10	.20	.50
.25	.25	.25	.25
.10	.20	.20	.50
.05	.25	.10	.60
.25	.25	.25	.25
.25	.15	.30	.30
.10	.80	.80	.90

Support That Has Been Consistently Helpful in Using Technology and Implementing Curriculum Integration

Teachers were asked what support was helpful to them in using technology and implementing curriculum. There was no clear majority responses, but materials, tapes, and support – both material and personnel – were mentioned frequently. Two teachers did not respond. (See Table 118.)

Table: 118
Support That Has Been Consistently Helpful in Using Technology and Implementing Curriculum Integration

Technical support and on site coaching.
The internet sites were invaluable. I will continue to use them.
My own background and ties to higher education institutes and community groups.
There has been no consistency at present. There could be if programs were.
Having reinforcements on the net.
Teacher support-inservice
You gave us all the materials, tapes, and support.
Internet CD-ROMs.
TEAMS program and co-workers will strengthen with technology.
On hand manipulations. Prepared lesson plans.
2-No Response

Frequency of Use of the Following Technology Application Skills in the Classroom to Support The Curriculum

Teachers were asked how frequently they structured or modeled a problem in the classroom, used problem based learning or concept based learning.

Frequency of Use of Structuring or Modeling a Problem in the Classroom to Support the Curriculum

The teachers responded that they used structuring or modeling "quite a bit" (or 2.5 on a scale of one to four). About 15 percent reported that they did this on a daily basis, and a like percent reported never doing it. This instructional strategy was done on a weekly basis by 38.5 percent of the responding teachers. Thirty percent said they used this instructional technique on a monthly basis. (See Table 119.)

Table: 119
Frequency of Use of Structuring or Modeling a Problem in the Classroom to Support The Curriculum

Graph	Percent	Count	Answers
	15.4	2/13	Daily
	38.5	5/13	Weekly
	30.8	4/13	Monthly
	15.4	2/13	Never

Frequency of Use of Problem Based Learning in the Classroom to Support The Curriculum

Seven teachers, or 53.8 percent, indicated that they used problem based learning weekly. Only 15.4 percent or two teachers reported for each category of daily, monthly, and never.

This Constructivist teaching method should be used frequently in the classroom to situate learning, depending on the subject matter. (See Table 120.)

Table: 120
Frequency of Use of Problem Based Learning in the Classroom to Support The Curriculum

Graph	Percent	Count	Answers
	15.4	2/13	Daily
	53.8	7/13	Weekly
	15.4	2/13	Monthly
	15.4	2/13	Never

Frequency of Use of Concept Based Learning in the Classroom to Support the Curriculum

The largest group, six teachers (46.2 percent) indicated on the survey instrument that they used concept based learning weekly to support the curriculum. Another 15.4 percent indicated that they used this instructional strategy it on a daily basis.

Only 30.8 percent or four teachers reported using this instructional technique on a monthly basis. Only one teacher (7.7) percent reported that he or she never used this instructional technique.

Another Constructivist teaching method, it should be used frequently in the classroom to situate learning, depending on the subject matter. (See Table 121.)

Table: 121
Frequency of Use of Concept Based Learning in the Classroom to Support The Curriculum

Graph	Percent	Count	Answers
	15.4	2/13	Daily
	46.2	6/13	Weekly
	30.8	4/13	Monthly
	7.7	1/13	Never

Frequency of Use of the Following Technology Application Skills in the Classroom to Support the Curriculum

Teachers were asked how frequently they used the following technology application skills in their classroom to support the curriculum. Inquiry learning is particularly appropriate for technology use and is enhanced by the extensive resources available through it.

Frequency of Use of Internet Searches in Content Areas Such As Math

Six teachers (46.2 percent) indicated that they used Internet searches in content areas weekly, while 30.8 percent (four teachers) reported monthly use, 7.7 percent or one teacher reported daily use, and two never used this instructional strategy.

Another Constructivist teaching method, this should be used frequently in the classroom to facilitate hands-on learning, depending on the subject matter. (See Table 122.)

Table: 122
Frequency of Use of Internet Searches in Content Areas Such As Math

Graph	Percent	Count	Answers
	7.7	1/13	Daily
	46.2	6/13	Weekly
	30.8	4/13	Monthly
	15.4	2/13	Never

Frequency of Use of Technology to Organize and Store Information

Eight teachers, or 61.5 percent, claimed to use technology to organize and store information weekly, while 30.8 percent or four teachers reported daily use, and 7.7 percent or one teacher reported monthly use. (See Table 123.)

Table: 123
Frequency of Use of Technology to Organize and Store Information

Graph	Percent	Count	Answers
	30.8	4/13	Daily
	61.5	8/13	Weekly
	0.0	0/13	Monthly
	7.7	1/13	Never

Frequency of Use of Technology to Evaluate Web Resources

Six teachers, or 46.2 percent, claimed to use technology to evaluate Web resources weekly, while 38.5 percent or five teachers reported monthly use, and 15.4 percent or two teachers reported daily use. (See Table 124.)

Table: 124
Frequency of Use of Technology to Evaluate Web Resources

Graph	Percent	Count	Answers
	15.4	2/13	Daily
	38.5	5/13	Weekly
	46.2	6/13	Monthly
	0.0	0/13	Never

Frequency of Use of Technology to Use Journals [Interactive or Other]

Six teachers, or 46.2 percent, claimed to use technology for journals [interactive or other] weekly, and 15.4 percent or two teachers reported daily use, 15.4 percent or two teachers reported monthly use, and 23.1 percent or three teachers reported no use. (See Table 125.)

Table: 125
Frequency of Use of Technology to Use Journals [Interactive or Other]

Graph	Percent	Count	Answers
	15.4	2/13	Daily
	46.2	6/13	Weekly
	15.4	2/13	Monthly
	23.1	3/13	Never

Frequency of Use of Technology to Spiral Outward from Topics from the Basic to the Complex through Access to Content Resources

Eight teachers, or 66.7 percent, claimed to use technology to spiral outward from topics from the basic to the complex monthly, and 8.3 percent or one teacher reported daily use, 8.3 percent or two teachers reported weekly use, and 16.7 percent or two teachers reported no use. (See Table 126.)

Table: 126
Frequency of Use of Technology to Spiral Outward from Topics from the Basic to the Complex through Access to Content Resources

Graph	Percent	Count	Answers
	8.3	1/12	Daily
	8.3	1/12	Weekly
	66.7	8/12	Monthly
	16.7	2/12	Never

Frequency of Use of Technology to Support Opinion with Evidence

Five teachers, or 38.5 percent, said they used technology to support opinion with evidence and personal experience weekly. Two teachers (15.4 percent) reported monthly use. Three teachers (23.1 percent) reported daily use, and three never used this instructional strategy. (See Table 127.)

Table: 127
Frequency of Use of Technology to Support Opinion with Evidence

Graph	Percent	Count	Answers
	23.1	3/13	Daily
	38.5	5/13	Weekly
	15.4	2/13	Monthly
	23.1	3/13	Never

Frequency of Use of Technology for Inquiry Learning Methods, Problem Solving, and Research Tasks to Develop Higher-Order Thinking Skills and Multiple Abilities

Four teachers, or 30.8 percent, indicated they used technology for inquiry learning methods, problem solving, and research tasks to develop higher-order thinking skills and multiple abilities weekly. Four teachers (30.8 percent) reported monthly use, and four teachers, (30.8 percent) reported daily use.

Only one reported that he or she never used this instructional strategy. (See Table 128.)

Table: 128
Frequency of Use of Technology for Inquiry Learning Methods, Problem Solving, and Research Tasks to Develop Higher-Order Thinking Skills and Multiple Abilities

Graph	Percent	Count	Answers
	30.8	4/13	Daily
	30.8	4/13	Weekly
	30.8	4/13	Monthly
	7.7	1/13	Never

Frequency of Use of the Following Technology Application Skills in the Classroom to Support the Curriculum

Teachers were asked how frequently they used the following technology application skills in their classroom to support the curriculum. Their responses to this series of survey questions appear below.

Frequency of Use of Technology to Synthesize and Analyze Gathered Information

Teachers were asked how frequently they used technology to synthesize and analyze gathered information in their classroom to support the curriculum. Inquiry learning is particularly appropriate for technology use and is enhanced by the extensive resources available through it.

Eight teachers, or 61.6 percent, indicated they used technology to synthesize and analyze gathered information monthly, 15.4 percent (two teachers) reported daily use, 15.4 percent or two teachers reported weekly use. One indicated that this was never used.

Another Constructivist teaching method, this also should be used frequently in the classroom to facilitate hands-on learning, depending on the subject matter. (See Table 129.)

Table: 129
Frequency of Use of Technology to Synthesize and Analyze Gathered Information

Graph	Percent	Count	Answers
	15.4	2/13	Daily
	15.4	2/13	Weekly
	61.5	8/13	Monthly
	7.7	1/13	Never

Frequency of Use of Technology to Manipulate, Analyze and Interpret Data

Seven teachers, or 53.8 percent, indicated that they used technology to manipulate, analyze and interpret data monthly, while 15.4 percent or two teachers reported daily use, and 15.4 percent or two teachers reported weekly use.

Only 15.4 percent or two teachers reported that they did not use this instructional strategy. (See Table 130.)

Table: 130
Frequency of Use of Technology to Manipulate, Analyze and Interpret Data

Graph	Percent	Count	Answers
	15.4	2/13	Daily
	15.4	2/13	Weekly
	53.8	7/13	Monthly
	15.4	2/13	Never

Frequency of Use of Technology to Develop Critical Thinking

Four teachers, or 33.3 percent, said they used technology to develop critical thinking on a weekly, while 25 percent or three teachers reported daily use, 25 percent or three teachers reported monthly use.

Two teachers reported thast they did not use technology as an instructional strategy to aid in the development of critical thinking. (See Table 131.)

Table: 131
Frequency of Use of Technology to Develop Critical Thinking

Graph	Percent	Count	Answers
	25.0	3/12	Daily
	33.3	4/12	Weekly
	25.0	3/12	Monthly
	16.7	2/12	Never

Frequency of Use of Technology to Develop Historical Thinking

Five teachers, or 41.7 percent, reported that they used technology to aid in the development of historical thinking on a monthly basis. Only 8.3 percent or one teacher reported daily use and two teachers (16.7 percent) reported weekly use. A high percentage of the respondents at 33.3 percent or four teachers reported no use of this instructional strategy. (See Table 132.)

Table: 132
Frequency of Use of Technology to Develop Historical Thinking

Graph	Percent	Count	Answers
	8.3	1/12	Daily
	16.7	2/12	Weekly
	41.7	5/12	Monthly
	33.3	4/12	Never

Frequency of Use of Technology Application Skills in the Classroom to Support Curriculum

Teachers were asked how frequently they used a number of technology application skills in their classroom to support the curriculum.

Frequency of Use of Technology to Communicate Clearly to Multiple Audiences

In the area of using technology to communicate clearly to multiple audiences, the respondents were equally split between the four responses.

Three teachers (25 percent) reported daily use, three teachers (25 percent) reported weekly use, three teachers (25 percent) reported monthly use, and three teachers (25 percent) reported no use to communicate clearly to multiple audiences. (See Table 133.)

Because parents are included in these audiences, it would be quite useful for teachers to use technology for communication particularly with parents. If parents are connected it will open an easily accessible channel of communication to and from teachers. It might also foster parents work with the children as they discuss homework assignments.

Table: 133
Frequency of Use of Technology to Communicate Clearly to Multiple Audiences

Graph	Percent	Count	Answers
	25.0	3/12	Daily
	25.0	3/12	Weekly
	25.0	3/12	Monthly
	25.0	3/12	Never

Frequency of Use of Technology to Systematically Teach Writing

Four teachers (33.3 percent) reported daily use, two teachers (16.7 percent) reported weekly use, three teachers (33.3 percent) reported monthly use, and three teachers (33.3 percent) reported no use to systematically teach mathematics. (See Table 134.)

Table: 134
Frequency of Use of Technology to Systematically Teach Mathematics

Graph	Percent	Count	Answers
	33.3	4/12	Daily
	16.7	2/12	Weekly
	25.0	3/12	Monthly
	25.0	3/12	Never

Frequency of Use of Technology to Systematically Teach Writing

Four teachers (36.4 percent) reported monthly use, two teachers (18.2 percent) reported daily use, two teachers (18.2 percent) reported weekly use, and three teachers (27.3 percent) reported no use to systematically teach writing. With the storage and retrieval capabilities of technology to support writing instruction, this technology should be used more frequently for this purpose. (See Table 135)

Table: 135
Frequency of Use of Technology to Systematically Teach Writing

Graph	Percent	Count	Answers
	18.2	2/11	Daily
	18.2	2/11	Weekly
	36.4	4/11	Monthly
	27.3	3/11	Never

Frequency of Use of Technology to Systematically Teach Expository Writing for Reports and Research

Seven teachers (53.8 percent) reported monthly use; one teacher (7.7 percent) reported weekly use, and five teachers (38.5 percent) reported no use of technology to systematically teach expository writing for reports and research.

Once again, with the storage and retrieval capabilities of technology to support writing instruction and the connected search capability to support inquiry, this technology should be used more frequently for this purpose. (See Table 136.)

Table: 136
Frequency of Use of Technology to Systematically Teach Expository Writing for Reports and Research

Graph	Percent	Count	Answers
	0.0	0/13	Daily
	7.7	1/13	Weekly
	53.8	7/13	Monthly
	38.5	5/13	Never

Frequency of Use of Technology to Communicate Information as the Result of Investigations

Seven teachers (53.8 percent) reported no use, two teachers (15.4 percent) reported daily use, one teacher (7.7 percent) reported weekly use, and one teacher (7.7 percent) reported weekly use of technology to communicate information as the result of investigations.

With multimedia capabilities, with the storage and retrieval capabilities of technology to support writing instruction and the connected search capability to support inquiry, this technology evidently should be used more frequently for this purpose. (See Table 137.)

Table: 137
Frequency of Use of Technology to Communicate Information as the Result of Investigations

Graph	Percent	Count	Answers
	15.4	2/13	Daily
	7.7	1/13	Weekly
	23.1	3/13	Monthly
	53.8	7/13	Never

Frequency of Use of Technology to Derive Meanings of Words [Morphology]

Six teachers (46.2 percent) reported no use, two teachers (15.4 percent) reported weekly use, one teacher (7.7 percent) reported daily use, and four teachers (30.8 percent) reported monthly use of technology to derive meanings of words [morphology]. (See Table 138.)

Table: 138
Frequency of Use of Technology to Derive Meanings of Words [Morphology]

Graph	Percent	Count	Answers
	7.7	1/13	Daily
	15.4	2/13	Weekly
	30.8	4/13	Monthly
	46.2	6/13	Never

Frequency of Use of Technology for Internet Based Interaction, Such as Chat Rooms and Email, to Communicate with Students and Teachers

Five teachers (38.5 percent) reported monthly use, three teachers (23.1 percent) reported daily use, three teachers (23.1 percent) reported weekly use. Two teachers

(15.4 percent) reported no use of technology for Internet based interaction, such as chat rooms and email, to communicate with students and teachers. Communication, along with inquiry learning and presentations, compose some of the best uses of technology for learning. These staffs need to expand use for these purposes. (See Table 139.)

Table: 139
Frequency of Use of Technology for Internet Based Interaction,
Such as Chat Rooms and Email, to Communicate with Students and Teachers

Graph	Percent	Count	Answers
	23.1	3/13	Daily
	23.1	3/13	Weekly
	38.5	5/13	Monthly
	15.4	2/13	Never

Frequency of Use of the Computer to Plan, Draft, Proofread, Revise, and Publish

Five teachers (38.5 percent) reported monthly use, four teachers (30.8 percent) reported daily use, three teachers (23.1 percent) reported weekly use, and one teacher (7.7 percent) reported no use of the computer to plan, draft, proofread, revise, and publish. Publication and communication, along with inquiry learning and presentations, compose some of the best uses of technology for learning. These staffs need to expand use for these purposes. (See Table 140.)

Table: 140
Frequency of Use of the Computer to Plan, Draft, Proofread, Revise, and Publish

Graph	Percent	Count	Answers
	30.8	4/13	Daily
	23.1	3/13	Weekly
	38.5	5/13	Monthly
	7.7	1/13	Never

Frequency of Use of the Computer and TV for Presentations

Five teachers (38.5 percent) reported weekly use, and two teachers (15.4 percent) reported daily use, one teacher (7.7 percent) reported monthly use, and five teachers

(38.5 percent) reported no use of the computer and TV for presentations. Presentations are one of the best uses of technology for learning. These staffs need to expand use for these purposes. (See Table 141.)

Table: 141
Frequency of Use of the Computer and TV for Presentations

Graph	Percent	Count	Answers
	15.4	2/13	Daily
	38.5	5/13	Weekly
	7.7	1/13	Monthly
	38.5	5/13	Never

Frequency of Use of Video Camcorder to Demonstrate Knowledge

Eight teachers (66.7 percent) reported no use; three teachers (25.0 percent) reported monthly use, and one teacher (7.7 percent) reported weekly use of video camcorder to demonstrate knowledge. Group activities and presentations are some of the best uses of technology for learning. Teaching staffs need to expand their use for these purposes. Additionally, using video cameras to produce help students understand how media is made and help them develop media literacy. As more research reports continue to demonstrate that children are susceptible to media, the ability to produce and edit media may help them become less susceptible to what society describes as harmful in media. (See Table 142.)

Table: 142
Frequency of Use of Video Camcorder to Demonstrate Knowledge

Graph	Percent	Count	Answers
	0.0	0/12	Daily
	8.3	1/12	Weekly
	25.0	3/12	Monthly
	66.7	8/12	Never

Frequency of Use of Technology to Access an Online Encyclopedia

Five teachers (38.5 percent) reported monthly use, three teachers (23.1 percent) reported weekly use, one teacher (7.7 percent) reported daily use, and four teachers

(30.8 percent) reported no use of technology to access an online encyclopedia**.** With its connected search capability to support inquiry, this technology evidently should be used more frequently for this purpose for learning. These staffs need to expand their use of technology for this purpose. (See Table 143.)

Table: 143
Frequency of Use of Technology to Access an Online Encyclopedia

Graph	Percent	Count	Answers
	7.7	1/13	Daily
	23.1	3/13	Weekly
	38.5	5/13	Monthly
	30.8	4/13	Never

Frequency of Use of Technology to Access the TEAMS Web Site for Student Resources

Six teachers (46.2 percent) reported monthly use, two teachers (15.4 percent) reported weekly use, one teacher (7.7 percent) reported daily use, and four teachers (30.8 percent) reported no use of technology to access the TEAMS web site for student resources**.** With its connected search capability to support inquiry, this technology evidently should be used more frequently for this purpose for learning. These staffs need to expand use for this purpose. (See Table 144.)

Table: 144
Frequency of Use of Technology to Access the TEAMS Web Site for Student Resources

Graph	Percent	Count	Answers
	7.7	1/13	Daily
	15.4	2/13	Weekly
	46.2	6/13	Monthly
	30.8	4/13	Never

Frequency of Use of Technology to Access the TEAMS Web Site for Teacher Resources

Five teachers (41.7 percent) reported monthly use of technology to access the TEAMS Web site to locate teacher resources provided by the project. Two teachers

(16.7 percent) reported weekly use, one teacher (8.3 percent) reported daily use, and four teachers (33.3 percent) reported no use of technology to access the TEAMS web site for teacher resources**.** With its connected resource capability to support teachers, staffs evidently should use this technology more frequently. (See Table 145.)

Table: 145
Frequency of Use of Technology to Access the TEAMS Web Site for Teacher Resources

Graph	Percent	Count	Answers
	8.3	1/12	Daily
	16.7	2/12	Weekly
	41.7	5/12	Monthly
	33.3	4/12	Never

Frequency of Use of Technology to Present Oral Reports Illustrated with Internet Resources

Six teachers (46.2 percent) reported monthly use of technology to present oral reports illustrated with resources located on the Internet. One teacher (7.7 percent) reported weekly use, and six teachers (46.2 percent) reported no use of technology to present oral reports illustrated with Internet resources**.** With its connected resource capability to be accessed by students, this technology evidently should be used more frequently by classes. (See Table 146.)

Table: 146
Frequency of Use of Technology to Present Oral Reports Illustrated with Internet Resources

Graph	Percent	Count	Answers
	0.0	0/13	Daily
	7.7	1/13	Weekly
	46.2	6/13	Monthly
	46.2	6/13	Never

Frequency of Use of Technology Application Skills in the Classroom to Support the Curriculum

Teachers were asked how frequently they used technology application skills in the classroom to support the curriculum that they were teaching.

Frequency of Use of Technology to Support Individualized Learning

Six teachers (46.2 percent) reported daily use, five teachers (36.5 percent) reported weekly use, and two teachers (15.4 percent) reported monthly use of technology to support individualized learning. (See Table 147.)

Table: 147
Frequency of Use of Technology to Support Individualized Learning

Graph	Percent	Count	Answers
	46.2	6/13	Daily
	38.5	5/13	Weekly
	15.4	2/13	Monthly
	0.0	0/13	Never

Frequency of Use of Technology to Support Individualized Learning

Three teachers (23.1 percent) reported daily use of technology to support individualized learning by their students. Six teachers (46.2 percent) reported weekly use, and four teachers (30.8 percent) reported monthly use of technology to support individualized student learning. (See Table 148.)

Table: 148
Frequency of Use of Technology to Support Individualized Learning

Graph	Percent	Count	Answers
	23.1	3/13	Daily
	46.2	6/13	Weekly
	30.8	4/13	Monthly
	0.0	0/13	Never

Frequency of Use of Technology to Compensate for Disability or Limitation

Seven teachers (56.3 percent) reported daily use of technology to compensate for student disabiiities or limitations in their classroom. Two teachers (16.7 percent) reported weekly use, and one teacher (8.3 percent) reported monthly use.

Two teachers (16.7 percent) reported no use of technology to compensate for disability or limitation. (See Table 149.)

Table: 149
Frequency of Use of Technology to Compensate for Disability or Limitation

Graph	Percent	Count	Answers
	58.3	7/12	Daily
	16.7	2/12	Weekly
	8.3	1/12	Monthly
	16.7	2/12	Never

Frequency of Use of Technology to Consider Alternative Points of View and Cultural Context

Four teachers (30.8 percent) reported daily use of technology to provide an alternative point of view or illustrate the cultural context of content. Two teachers (15.4 percent) reported weekly use of this instructional strategy. While only one teacher (7.7 percent) reported monthly use, six teachers (46.2 percent) report ed no use of technology to consider alternative points of view and cultural context. (See Table 150.)

Table: 150
Frequency of Use of Technology to Consider Alternative Points of View and Cultural Context

Graph	Percent	Count	Answers
	30.8	4/13	Daily
	15.4	2/13	Weekly
	7.7	1/13	Monthly
	46.2	6/13	Never

Frequency of Use of Technology to Perform Scaffolding – Moving Students from Dependent Success to Independent Success

Four teachers (30.8 percent) reported daily use of technology instructional strategies to scaffold content for the purose of moving students from dependent success to independent success in their learning. Three teachers (23.1 percent) reported weekly use, two teachers (15.4 percent) reported monthly use, and three teachers (23.1 percent) reported no use of technology for scaffolding purposes. More teachers should considering the use of scaffolding asbecoming an independent learner has been identified as one of the prime skills of this millennium for several research reports published by the US Department of Education, including the SCANS report (See Table 151.)

Table: 151
Frequency of Use of Technology to Perform Scaffolding - Moving Students from Dependent Success to Independent Success

Graph	Percent	Count	Answers
	30.8	4/13	Daily
	23.1	3/13	Weekly
	15.4	2/13	Monthly
	30.8	4/13	Never

Biggest Challenges in Delivering Instruction Supported by Technology in the Classroom

Teachers were asked what the biggest challenges were to delivering instruction supported by technology in the classroom. While a few comments were received about lack of resources, primarily machines, the greatest response concerned lack of available time. (See Table 152). In reviewing the previous questions about frequency of use of technology for applying various kinds of Constructivist learning activities, it appeared that teachers were primarily using the technology to "deliver" learning by using the technology as an automated textbook or ditto sheet, rather than as a portal for learning.

Challenges in "delivering" instruction in the classroom through technology may indeed be about time, but the time concerns might center around one or more of the following variables:

- Lack of time for exploration by students because of the required pace for "delivery" of instruction paced by a textbook and curriculum targeted for student success on mandated, standardized state tests;
- Lack of time for teachers to learn how to use technology for Constructivist learning activities and situated cognition;
- Lack of time for teachers or district staff to develop lesson plans or units for Constructivist activities to be appropriately used as the best learning modalities for selected appropriate learning objectives currently in the curriculum, not added on;
- Lack of time for teachers to feel confident that students can learn selected mandated curriculum through Constructivist activities with technology for selected learning objectives best learned through them, rather than sticking with traditional delivery having "known" comfortable success.

Table: 152
Biggest Challenges in Delivering Instruction
Supported by Technology in the Classroom

Making sure the technology is working properly and the large amount of time spent planning the lessons that use it.
Too few computers. Not enough time.
Having adequate resources. There are many things I would love to have my students working with but we are limited in time and money to have the hardware

and software in the classroom so it is accessible to the students.
Time consistent programs for students.
Finding time for each student to be at a computer.
When the computers are down.
Not enough time in the day to do everything. We have a limited computer access time.
Time in the day.
* Kindergarten age and development of children. * Being a 1st year teacher - balancing all areas.
Reliability of equipment, seven down.
Time limited number of computers in room.
2-No Response

Biggest Concerns in Adding Technology to the Instructional Program

Other than set-up time, these responses reflect the observation in the previous paragraph above, which is that the concern teachers have, is about time. (See Table 153.)

Table: 153
Biggest Concerns in Adding Technology to the Instructional Program

Time and effort to integrate technology.
See above.
Adequate hands on time for the students.
None, if weekly or daily programs were available of excellent programs. No children would goof on instructions from watch presentation.
That they are not getting what specifics they need.
Understanding enough to make it rewarding for the students.
I wish we had access to more computers more often.
Same as above.
Keeping children focused.
Implementation and integration, so it doesn't have to be one more thing.

Set-up time.
2-No Response

Student Information
Location

Teachers reported that six or 46.2 percent were in an urban setting, while seven or 53.8 percent were in suburban setting. (See Table 154.)

Table: 154
Location

Percent	Count	Answers
46.2	6/13	urban
53.8	7/13	suburban
0.0	0/13	rural

Class Size

Reported class size ranged from 20 to 90, with a mean of 30.42, median of 25.50, and mode of 26. (See Table 155.)

Table: 155
Class Size

Count:	12
Min:	20.00
Max:	90.00
Mean:	30.42
Total:	365
Mode:	28.00
Median:	25.50
Avg Dev:	10.19
Norm:	122.94

Grade Level

Reported grade levels ranged from 0 to 24, but the median and the mode were fourth grades. (See Table 156.)

Table: 156
Grade Level

Count:	13
Min:	0.00
Max:	24.00
Mean:	5.31
Total:	69
Mode:	4.00
Median:	4.00
Avg Dev:	3.50
Norm:	28.34

Students' Socio-economic Status

Teachers report that 198 or 47.4 percent of students are of low socio-economic status, 154 or 36.8 percent are of middle status, and 66 or 15.8 percent are of high status. (See Table 157.)

Table: 157
Students' Socio-economic Status

Low socio-economic status	Middle socio-economic status	High socio-economic status
198	154	66

Student Ethnicity

Students' ethnicity was reported as is 26.4 percent African American (103 students), 32.1 percent Caucasian (125 students), 32.7 percent Hispanic (127 students), 5.6 percent American Indian (22 students), 2.8 percent Asian (11) , and two others. (See Table 158.)

Table: 158
Student Ethnicity

African American	American Indian	Asian	Hispanic	Pacific Islander	Caucasian (non-Hispanic)	Other
103	22	11	127	1	125	1

Students in Special Classifications

Teachers report that 128 students (or 28.1 percent) are Title I, 25 (or 5.5 percent) are Limited English Proficient, 19 (or 4.2 percent) are special education, 48 (or 10.5 percent) are low literacy, and 65 (or 14.3 percent) are Gifted. (See Table 159.)

Table: 159
Students in Special Classifications

Title I	Limited English Proficient	Special Education	Disabled	Low Literacy	Gifted
128	25	19	0	48	65

Hours Per Week for Average Student Use of the Computer in the Classroom

Usage of computers in the classroom ranged from one-half hour to four hours per week, with the mean being 1.85, and the median and mode being 2.0 hours. (See Table 160.)

Table: 160
Hours Per Week for Average Student Use of the Computer in the Classroom

Count:	13
Min:	0.50
Max:	4.00
Mean:	1.85
Total:	24
Mode:	2.00
Median:	2.00
Avg Dev:	0.73
Norm:	7.45

Hours Per Week for Average Student Use of the Internet in the Classroom

Students use the Internet in the classroom an average of 0.73 hours per week, with a range from zero to two hours, and a median and mode of one hour. (See Table 161.)

Table: 161
Hours Per Week for Average Student Use of the Internet in the Classroom

Count:	13
Min:	0.00
Max:	2.00
Mean:	0.73

Total:	10
Mode:	1.00
Median:	1.00
Avg Dev:	0.44
Norm:	3.28

Skill Level of Students for Mathematics

Teachers report 339 students above grade level and 407 at grade level in mathematics. They report 91 students (20 percent) two years below grade level and 30 (6.6 percent) four or more years below grade level in mathematics. (See Table 162.)

Table: 162
Skill Level of Students for Mathematics

Students Above Grade Level	Students At Grade Level	Students Two Years Below Grade Level	Students Four Years or More Below Grade Level
339	407	91	30

Skill Level of Students for Students' Problem Solving Skills

Teachers report 259 students above grade level and 301 at grade level in problem solving skills. They reported 124 or 27.3 percent two years below grade level and 39 or 8.6 percent four or more years below grade level in students' problem solving skills. (See Table 163.)

Table: 163
Skill Level of Students for Students' Problem Solving Skills

Students Above Grade Level	Students At Grade Level	Students Two Years Below Grade Level	Students Four Years or More Below Grade Level
259	301	124	39

Skill Level of Students for Students' Reading Comfort Level

Teachers report 325 students above grade level and 491 at grade level in reading comfort level, with 51 or 11.2 percent two years below grade level and 23 or 5.1 percent four or more years below grade level in students' reading comfort level. (See Table 164).

Table: 164
Skill Level of Students for Students' Reading Comfort Level

Students Above Grade Level	Students At Grade Level	Students Two Years Below Grade Level	Students Four Years or More Below Grade Level
325	491	51	23

Skill Level of Students for Students' Writing Ability Level

Teachers reported that 209 students were above grade level and 299 at grade level in writing ability level. They also reported 51 or 9.2 percent were two years below grade level and 25 or 5.15percent were four or more years below grade level in students' writing ability. (See Table 165.)

Table: 165
Skill Level of Students for Students' Writing Ability Level

Students Above Grade Level	Students At Grade Level	Students Two Years Below Grade Level	Students Four Years or More Below Grade Level
209	299	42	25

Enhancement of Student Achievement through TEAMS Support of Instruction through Technology

Teachers saw TEAMS as a motivational enhancement to learning and an additional modality for their students. (See Table 166.)

Table: 166
Enhancement of Student Achievement through TEAMS Support of Instruction through Technology

One more tool in a mixed bag that grabs student interest.
One more modality for learning!
The opportunity to participate in the TEAMS programs. Having my students being taped.
The slow pace did not harm the children's attention. I have learned a lot from excellent videos.
They saw me not as teacher but facilitator. They were able to go to TEAMS sight during time at school and even at home.
The reading component showed new ways to teach or reinforce skills - some students mastered some of those skills.
Hands on geometry kit & ETR use.
Being able to relate concepts to subjects to real life.
Presentations hold attention and reinforce skills immediately.
New approach to learning. Integration. Fun and enjoyable
Encouraged article thinking- concept building.
TEAMS helped my students most in the area of math.
1-No Response

TEAMS Reception: Methods Used To Receive TEAMS Programming

Watching TEAMS Programs

Teachers report watching TEAMS programs live (three or 23.1 percent), taped (ten or 76.9 percent), or both (six for 46.2 percent). (See Table 167.)

Table: 167
Watching TEAMS Programs

Live	Percent	Count
Watch live	23.1	3/13
Do not watch live	15.4	2/13
Watch Tape	76.9	10/13
Both Live and Taped	46.2	6/13

Watching TEAMS Programs in the Classroom with Other Students

Five teachers reported watching TEAMS with other students in the classroom, while seven responded that this never occurred. (See Table 168.)

Table: 168
Watching TEAMS Programs in the Classroom with Other Students

Graph	Percent	Count	Answers
	41.7	5/12	Yes
	58.3	7/12	No

Watching TEAMS Programs in the Classroom without Other Students

Two teachers reported watching TEAMS without other students in the classroom, while one responded that this never occured. (See Table 169.)

Table: 169
Watching TEAMS Programs in the Classroom without Other Students

Graph	Percent	Count	Answers
	66.7	2/3	Yes
	33.3	1/3	No

Phone in Classroom where TEAMS Programming Received

All three teachers who answered this question had a phone. (See Table 170.)

Table: 170
Phone in Classroom where TEAMS Programming Received

Graph	Percent	Count	Answers
	100.0	3/3	Yes
	0.0	0/3	No

Perceived Benefits Seen in Students Sharing Information over the Phone Live with Other TEAMS Students and the TEAMS Distance Learning Instructor

Teachers favored interactivity but saw the same ability available over the Internet. (See Table 171.)

Table: 171
Perceived Benefits Seen in Students Sharing Information over the Phone Live with Other TEAMS Students and the TEAMS Distance Learning Instructor

Intellectual collaboration with other students.
We didn't use the 'phone because I taped the shows.
The live interaction.
Would be great but internet does this now.
Excitement - interest level
Real life.
Did not do.
Live reactions to discussions.
Boost in confidence / interest in content.
4-No Response

Talking with the Distance Learning Instructor

Of the teachers responding to the survey instrument, o one talked live with the distance learning instructor. (See Table 172.)

Table: 172
Talking with the Distance Learning Instructor

Count:	13
Min:	0.00
Max:	0.00
Mean:	0.00
Total:	0
Mode:	0.00
Median:	0.00
Avg Dev:	0.00
Norm:	0.00

Students Use Email to Send Their Information to the TEAMS Instructor

Three teachers (23.1 percent) report using e-mail for their students to contact the TEAMS distance learning instructor. (See Table 173.)

Table: 173
Students Use Email to Send Their Information to the TEAMS Instructor

Graph	Percent	Count	Answers
	23.1	3/13	Yes
	76.9	10/13	No

Has the TEAMS Distance Learning Instructor Shared Your Students' Information on the Next Program?

One teacher (7.7 percent) reports that the TEAMS instructor has used the students' information on the next program. See Table 174.

Table: 174
Has the TEAMS Distance Learning Instructor
Shared Your Students' Information on the Next Program?

Graph	Percent	Count	Answers
	7.7	1/13	Yes
	92.3	12/13	No

Benefits Seen in Students Sharing Information over the Computer with other TEAMS Students and the TEAMS Distance Learning Instructor

The responding teachers reported that student motivation improved when live interaction was increased. (See Table 175.)

Table: 175
Benefits Seen in Students Sharing Information over the Computer with other TEAMS Students and the TEAMS Distance Learning Instructor

Intellectual collaboration.
Again interaction with others
Excitement level
Students see that other people in the U.S are learning the same thing. I like the ideas some teachers have to expand lessons.
We learn from each other - student sometimes is more receptive to peers.
Connect to real world.
Another teacher from our school was shown and it hyped the enthusiasm of the students.
Makes learning personal. Exciting to be a working part of broadcast.
Encouraged written communications.
For us, time does not allow K1, to do all this affectivity.
See 22.12
We didn't do it because we used tapes.
1-No Response

TEAMS Programming and Materials

Use of At Least One Full Module of A TEAMS Program with All of Its Materials, Manipulative, And Assessment Components, During The 1999-2000 School Year

Ten of the thirteen teachers reported using at least one full module of a TEAMS program and all supporting materials during the 1999-2000 year. (See Table 176.)

Table: 176
Use Of At Least One Full Module of A TEAMS Program with All of Its Materials, Manipulative, And Assessment Components, During The 1999-2000 School Year

Graph	Percent	Count	Answers
	76.9	10/13	Yes
	23.1	3/13	No

TEAMS History/Social Science Program Modules and Programs That Have Been Used During the 1999-2000 School Year

Student as Historian (five programs)

Of the teachers responding to the survey, no one used the Student as Historian program. (See Table 177.)

Table: 177
Student as Historian (five programs)

Count:	13
Min:	0.00
Max:	0.00
Mean:	0.00
Total:	0
Mode:	0.00
Median:	0.00
Avg Dev:	0.00
Norm:	0.00

Staff Development for Student as Historian (five programs)

Of the teachers responding to the survey instrument, no one reported using the staff development for Student as Historian (five programs). (See Table 178.)

Table: 178
Staff Development for Student as Historian (five programs)

Graph	Percent	Count	Answers
	0.0	0/4	Yes
	100.0	4/4	No

Student as Media Evaluator (five programs)

Thirteen teachers reported using five episodes of the Student as Historian program. The mean used was .38 programs. (See Table 179.)

Table: 179
Student as Media Evaluator (five programs)

Count:	13
Min:	0.00
Max:	5.00
Mean:	0.38
Total:	5
Mode:	0.00
Median:	0.00
Avg Dev:	0.71
Norm:	5.00

Staff Development for Student as Media Evaluator (five programs)

Four teachers reported that they did not use Staff Development for the Student as Historian Program. (See Table 180.)

Table: 180
Student as Media Evaluator (five programs)

Graph	Percent	Count	Answers
	0.0	0/4	Yes
	100.0	4/4	No

California Here I Come! (five programs)

Thirteen teachers reported that they did not use California Here I Come! Program. (See Table 181.)

Table: 181
California Here I Come! (five programs)

Count:	13
Min:	0.00
Max:	0.00
Mean:	0.00
Total:	0
Mode:	0.00
Median:	0.00
Avg Dev:	0.00
Norm:	0.00

Staff Development for California Here I Come! (five programs)

Four teachers reported that they did not use staff development for California Here I Come! (five programs). (See Table 182.)

Table: 182
Staff Development for California Here I Come! (5 programs)

Graph	Percent	Count	Answers
	0.0	0/4	Yes
	100.0	4/4	No

Natural Events: Then and Now (four programs)

Thirteen teachers reported that they did not use Natural Events: Then and Now program. (See Table 183.)

Table: 183
Natural Events: Then and Now (four programs)

Count:	13
Min:	0.00
Max:	0.00
Mean:	0.00
Total:	0
Mode:	0.00
Median:	0.00
Avg Dev:	0.00
Norm:	0.00

Staff Development for Natural Events: Then and Now (four programs)

Four teachers reported no use staff development for Natural Events: Then and Now (four programs). **(**See Table 184.)

Table: 184
Staff Development for Natural Events: Then and Now (four programs)

Graph	Percent	Count	Answers
	0.0	0/4	Yes
	100.0	4/4	No

TEAMS Science Program Modules and Programs That Have Been Used During the 1999-2000 School Year

Heat (nine programs)

Thirteen teachers reported using nine programs of the Heat module. The mean used was .69 programs. (See Table 185.)

Table: 185
Heat (nine programs)

Count:	13
Min:	0.00
Max:	9.00
Mean:	0.69
Total:	9
Mode:	0.00
Median:	0.00
Avg Dev:	1.28
Norm:	9.00

Staff Development for Heat (nine programs)

One teacher reported using the staff development for Heat, while three reported that they did not use it. (See Table 186.)

Table: 186
Staff Development for Heat (nine programs)

Graph	Percent	Count	Answers
	25.0	1/4	Yes
	75.0	3/4	No

Chemistry (nine programs)

Thirteen teachers reported using nine programs of the Chemistry module. The mean used was .69 programs. (See Table 187.)

Table: 187
Chemistry (nine programs)

Count:	13
Min:	0.00
Max:	9.00
Mean:	0.69
Total:	9
Mode:	0.00
Median:	0.00
Avg Dev:	1.28
Norm:	9.00

Staff Development for Chemistry (nine programs)

One teacher reported using the staff development for Chemistry, while three reported they did not use it. (See Table 188.)

Table: 188
Staff Development for Chemistry (nine programs)

Graph	Percent	Count	Answers
	25.0	1/4	Yes
	75.0	3/4	No

Earth Processes (nine programs)

Thirteen teachers reported using a total of forty-five programs of the Earth Processes module. The mean used was 4.15 programs. (See Table 189.)

Table: 189
Earth Processes (nine programs)

Count:	13
Min:	0.00
Max:	45.00
Mean:	4.15
Total:	54
Mode:	0.00
Median:	0.00
Avg Dev:	7.03
Norm:	45.89

Staff Development for Earth Processes (nine programs)

Two teachers reported that they did use staff development for Earth Processes. Three reported that they did not use the staff development. (See Table 190.)

Table: 190
Staff Development for Earth Processes (9 programs)

Graph	Percent	Count	Answers
	40.0	2/5	Yes
	60.0	3/5	No

Putting on a Science Festival (three programs)

Thirteen teachers report that they did not use the Putting on Science Festival module. (See Table 191.)

Table: 191
Putting on a Science Festival (three programs)

Count:	13
Min:	0.00
Max:	0.00
Mean:	0.00
Total:	0
Mode:	0.00
Median:	0.00
Avg Dev:	0.00
Norm:	0.00

Staff Development for Putting on a Science Festival (three programs)

Three teachers reported that they did not staff development for the Putting on Science Festival programs. (See Table 192.)

Table: 192
Staff Development for Putting on a Science Festival (three programs)

Graph	Percent	Count	Answers
	0.0	0/3	Yes
	100.0	3/3	No

Fast Plants (nine programs)

Thirteen teachers reported using nine programs of the Fast Plants module. The mean used was .69 programs. (See Table 193.)

Table: 193
Fast Plants (nine programs)

Count:	13
Min:	0.00
Max:	9.00
Mean:	0.69
Total:	9
Mode:	0.00
Median:	0.00
Avg Dev:	1.28
Norm:	9.00

Staff Development for Fast Plants (nine programs)

One teacher reported using the staff development for Fast Plants, while three reported they did not use it. (See Table 194.)

Table: 194
Staff Development for Fast Plants (nine programs)

Graph	Percent	Count	Answers
	25.0	1/4	Yes
	75.0	3/4	No

Life Cycles (six programs)

Thirteen teachers reported the use of one episode of Life Cycles, with a mean use of 0.08. (See Table 195.)

Table: 195
Life Cycles (six programs)

Count:	13
Min:	0.00
Max:	1.00
Mean:	0.08
Total:	1
Mode:	0.00
Median:	0.00
Avg Dev:	0.14
Norm:	1.00

Staff Development for Life Cycles (six programs)

Four teachers reported they did not use staff development for Life Cycles. (See Table 196.)

Table: 196
Staff Development for Life Cycles (six programs)

Graph	Percent	Count	Answers
	0.0	0/4	Yes
	100.0	4/4	No

TEAMS Mathematics/Algebra Program Modules and Programs That Have Been Used During the 1999-2000 School Year

Teaching Algebraic Concepts (staff development-two programs)

Thirteen teachers reported that they did not use the programs contained in the Teaching Algebraic Concepts programs. (See Table 197.)

Table: 197
Teaching Algebraic Concepts (staff development-two programs)

Count:	13
Min:	0.00
Max:	0.00
Mean:	0.00
Total:	0
Mode:	0.00
Median:	0.00
Avg Dev:	0.00
Norm:	0.00

Algebra and Functions for Primary Grades (six programs)

Thirteen teachers report that they did not use the Algebra and Functions for Primary Grades module. (See Table 198.)

Table: 198
Algebra and Functions for Primary Grades (six programs)

Count:	11
Min:	0.00
Max:	0.00
Mean:	0.00
Total:	0
Mode:	0.00
Median:	0.00
Avg Dev:	0.00
Norm:	0.00

Algebra in My World (six programs)

Thirteen teachers reported that they did not use the Algebra in My World module. (See Table 199.)

Table: 199
Algebra in My World (six programs)

Count:	13
Min:	0.00
Max:	0.00
Mean:	0.00
Total:	0
Mode:	0.00
Median:	0.00
Avg Dev:	0.00
Norm:	0.00

Turn on to Algebra (eight programs)

Twelve teachers report that they did not use the Turn on to Algebra module. (See Table 200.)

Table: 200
Turn on to Algebra (eight programs)

Count:	12
Min:	0.00
Max:	0.00
Mean:	0.00
Total:	0
Mode:	0.00
Median:	0.00
Avg Dev:	0.00
Norm:	0.00

Algebraic Concepts for Middle School (six programs)

Thirteen teachers reported the use of six Algebraic Concepts for Middle School programs. The mean was .46. (See Table 201.)

Table: 201
Algebraic Concepts for Middle School (six programs)

Count:	13
Min:	0.00
Max:	6.00
Mean:	0.46
Total:	6
Mode:	0.00
Median:	0.00
Avg Dev:	0.85
Norm:	6.00

TEAMS Mathematics/Geometry Program Modules and Programs That Have Been Used During The 1999-2000 School Year

Teaching Geometry Concepts (staff development-two programs)

Thirteen teachers reported that they did not use the Teaching Geometry Concepts staff development. (See Table 202.)

Table: 202
Teaching Geometry Concepts (staff development-two programs)

Count:	13
Min:	0.00
Max:	0.00
Mean:	0.00
Total:	0
Mode:	0.00
Median:	0.00
Avg Dev:	0.00
Norm:	0.00

Geometry Concepts for the Primary Grades (six programs)

Thirteen teachers' responding, one program of the Geometry Concepts for the Primary Grades module was used. (See Table 203.)

Table: 203
Geometry Concepts for the Primary Grades (six programs)

Count:	13
Min:	0.00
Max:	1.00
Mean:	0.08
Total:	1
Mode:	0.00
Median:	0.00
Avg Dev:	0.14
Norm:	1.00

Geometry in My World (eight programs)

Thirteen teachers report using eight programs in the Geometry Concepts for the Primary Grades module. (See Table 204.)

Table: 204
Geometry in My World (eight programs)

Count:	13
Min:	0.00
Max:	8.00
Mean:	0.77
Total:	10
Mode:	0.00
Median:	0.00
Avg Dev:	1.18
Norm:	8.12

Turn On to Geometry (eight programs)

Thirteen teachers reported using seventeen of the programs in the Turn On to Geometry module. The mean was 1.31. (See Table 205.)

Table: 205
Turn On to Geometry (eight programs)

Count:	13
Min:	0.00
Max:	8.00
Mean:	1.31
Total:	17
Mode:	0.00
Median:	0.00
Avg Dev:	2.06
Norm:	11.36

Geometry Concepts for Middle school (six programs)

Thirteen teachers reported the use of six programs in the Geometry Concepts for Middle School module. (See Table 206.)

Table: 206
Geometry Concepts for Middle School (six programs)

Count:	13
Min:	0.00
Max:	6.00
Mean:	0.46
Total:	6
Mode:	0.00
Median:	0.00
Avg Dev:	0.85
Norm:	6.00

TEAMS Reading: Basic To Success Grades K-1 Program Modules and Programs That Have Been Used During The 1999-2000 School Year

Reading: Basic to Success Grades K-1 Staff Development (four programs)

Thirteen teachers report the use of four Staff Development programs of the Reading: Basic to Success Grades K-1. (See Table 207.)

Table: 207
Reading: Basic to Success Grades K-1 Staff Development (four programs)

Count:	13
Min:	0.00
Max:	4.00
Mean:	0.31
Total:	4
Mode:	0.00
Median:	0.00
Avg Dev:	0.57
Norm:	4.00

Reading: Basic to Success Grades K-1 (eight programs)

Thirteen teachers report the use of four Student programs from the Reading: Basic to Success Grades K-1 module. (See Table 208.)

Table: 208
Reading: Basic to Success Grades K-1 Student Programs (eight programs)

Count:	13
Min:	0.00
Max:	4.00
Mean:	0.31
Total:	4
Mode:	0.00
Median:	0.00
Avg Dev:	0.57
Norm:	4.00

TEAMS Reading: Basic To Success Grades 2-3 Program Modules and Programs That Have Been Used During the 1999-2000 School Year

Reading: Basic to Success Grades 2-3 Staff Development (five programs)

Thirteen teachers reported that they did not use of the Staff Development programs for the Reading: Basic to Success Grades 2-3. (See Table 209.)

Table: 209
Reading: Basic to Success Grades 2-3 Staff Development (four programs)

Count:	13
Min:	0.00
Max:	0.00
Mean:	0.00
Total:	0
Mode:	0.00
Median:	0.00
Avg Dev:	0.00
Norm:	0.00

Reading: Basic to Success Grades 2-3 Student Programs (eight programs)

Thirteen teachers reported that they did not use the Reading: Basic to Success Grades 2-3 Student module. (See Table 210.)

Table: 210
Reading: Basic to Success Grades 2-3 Student Programs (eight programs)

Count:	13
Min:	0.00
Max:	0.00
Mean:	0.00
Total:	0
Mode:	0.00
Median:	0.00
Avg Dev:	0.00
Norm:	0.00

TEAMS Language Arts Program Modules and Programs That Have Been Used During The 1999-2000 School Year

Letters from Rifka (five programs)

Thirteen teachers report that they did not use the Letters from Rifka programs. (See Table 211.)

Table: 211
Letters from Rifka (five programs)

Count:	13
Min:	0.00
Max:	0.00
Mean:	0.00
Total:	0
Mode:	0.00
Median:	0.00
Avg Dev:	0.00
Norm:	0.00

Letters from Rifka Staff Development

Two teachers reported that they did not use staff development for Letters from Rifka program. (See Table 212.)

Table: 212
Letters from Rifka Staff Development

Graph	Percent	Count	Answers
	0.0	0/2	Yes
	100.0	2/2	No

Shiloh (four programs)

Thirteen teachers reported that they did not use the Shiloh module. (See Table 213.)

Table: 213
Shiloh (four programs)

Count:	13
Min:	0.00
Max:	0.00
Mean:	0.00
Total:	0
Mode:	0.00
Median:	0.00
Avg Dev:	0.00
Norm:	0.00

Shiloh Staff Development

Two teachers reported they did not use the staff development for the Shiloh program. (See Table 214.)

Table: 214
Shiloh Staff Development

Graph	Percent	Count	Answers
	0.0	0/2	Yes
	100.0	2/2	No

TEAMS Writing K-1 Program Modules and Programs that Have Been Used During The 1999-2000 School Year

TEAMS Writing K-1 Staff Development (one program)

Of the thirteen teachers, only one reported using the TEAMS Writing K-1 staff development. Program. (See Table 215.)

Table: 215
TEAMS Writing K-1 Staff Development (one program)

Count:	13
Min:	0.00
Max:	1.00
Mean:	0.08
Total:	1
Mode:	0.00
Median:	0.00
Avg Dev:	0.14
Norm:	1.00

TEAMS Writing K-1 Student Programs (two programs)

Of the thirteen teachers, two reported use of the student programs. (See Table 216.)

Table: 216
TEAMS Writing K-1 Student Programs (two programs)

Count:	13
Min:	0.00
Max:	2.00
Mean:	0.15
Total:	2
Mode:	0.00
Median:	0.00
Avg Dev:	0.28
Norm:	2.00

TEAMS Writing 2-3 Program Modules and Programs That Have Been Used During the 1999-2000 School Year

TEAMS Writing 2-3 Staff Development (one program)

Thirteen teachers reported that they did not use the staff development module.

(See Table 217.)

Table: 217
Writng 2-3 Staff Development (one program)

Count:	13
Min:	0.00
Max:	0.00
Mean:	0.00
Total:	0
Mode:	0.00
Median:	0.00
Avg Dev:	0.00
Norm:	0.00

Writing 2-3 Student Programs (two programs)

Thirteen teachers reported that they did not use the student programs.

(See Table 218.)

Table: 218
Student Programs (2 programs)

Count:	13
Min:	0.00
Max:	0.00
Mean:	0.00
Total:	0
Mode:	0.00
Median:	0.00
Avg Dev:	0.00
Norm:	0.00

Previously Produced Modules and Programs Used During the 1999-2000 school year

Two math modules that were produced in other years were reported as being used by teachers in their classrooms. The modules were Mathematics – Algebra K-2.

Individual Kit of TEAMS Materials that does not Have to Be Shared

Seven teachers (53.8 percent) report having their own TEAMS materials kit, while six did not. (See Table 219.)

Table: 219
Individual Kit of TEAMS Materials that does not Have to Be Shared

Graph	Percent	Count	Answers
	53.8	7/13	Yes
	46.2	6/13	No

Content Area of the TEAMS Kits

Although only six teachers reported having their own TEAMS kit, two reported having History/Social Science kits, two report Science kits, four report having Mathematics kits, and two reported having Language Arts kits. (See Table 220.)

Table: 220
Content Area of the TEAMS Kits

Graph	Percent	Count	Answers
	15.4	2/13	History/Social science
	15.4	2/13	Science
	30.8	4/13	Mathematics
	15.4	2/13	Language Arts
	0.0	0/13	Reading
	0.0	0/13	Writing

Use of TEAMS Program as Primary Resource Used to Teach the Curriculum Content to Students

Teachers were asked if TEAMS was the primary resource used to teach the curriculum. Three teachers (23.2 percent) said yes. (See Table 221.)

Table: 221
Use of TEAMS Program as Primary Resource Used to Teach the Curriculum Content to Students

Graph	Percent	Count	Answers
	23.1	3/13	Yes
	76.9	10/13	No

Other Resources Used if TEAMS is not the Primary Resource

A variety of other resources were used but very few commercially produced resources were listed. These are the other resources reportedly used. (See Table 222.)

Table: 222
Other Resources Used if TEAMS is not the Primary Resource

Textbooks, computer software
Foss kits
Teacher produced
Schools reading materials: whole language
Since I have a reading background I used prior knowledge to teach or reinforce.
Text, centers, (NCI strategies)
Class manipulative, class computer programs, and teacher resources.
State country, and school curriculum
Personal files / Silver Burdett - Ginn
State supplied materials, personal materials.
3-No Response

Plan to Continue Use of TEAMS Next Year

Twelve of thirteen teachers (92.3 percent) plan to continue their use of TEAMS next year. (See Table 223.)

Table: 223
Plan to Continue Use of TEAMS Next Year

Graph	Percent	Count	Answers
	92.3	12/13	Yes
	7.7	1/13	No

Plan to Continue Use of the Same TEAMS Modules Next Year

Seven of twelve teachers (58.3 percent) do not plan to use the same modules next year. (See Table 224.)

Table: 224
Plan to Continue Use of the Same TEAMS Modules Next Year

Graph	Percent	Count	Answers
	41.7	5/12	Yes
	58.3	7/12	No

Plan to Add TEAMS Modules Next Year

Ten of thirteen (76.9 percent) plan to add new TEAMS modules next year. (See Table 225.)

Table: 225
Plan to Add TEAMS Modules Next Year

Graph	Percent	Count	Answers
	76.9	10/13	Yes
	23.1	3/13	No

Access in the Classroom to the TEAMS Web Site

Eleven of thirteen teacher's (84.6 percent) report that they have access to the TEAMS Web site in their classroom. See Table 226.

Table: 226
Access in the Classroom to the TEAMS Web Site

Graph	Percent	Count	Answers
	84.6	11/13	Yes
	15.4	2/13	No

What Did You Use From the TEAMS Web Site?

Teachers were asked what they used from the TEAMS web site. (See Table 227.) One mentioned the science materials and another said he/she used the pictures sent in by the other students.

Table: 227
What Did You Use From the TEAMS Web Site?

Logged on, took a look around.
I used the science resources.
Resource
Nothing this year. It was my first year and I had limited time.
Teacher Tesselations
Check other sources.
Pictures sent in by other students.
Nothing but will next year.
None this year.
Resources.
3-No Response

What Did You Find to be Most Useful at the TEAMS Web Site?

Teachers were asked what they found most useful at the TEAMS web site. (See Table 228.) Teachers mentioned a number of resources that they found at the site.

Table: 228
What Did You Find to be Most Useful at the TEAMS Web Site?

The math classroom.
The science resources.
Teacher links
Teacher Tesselations
Contact with others.
Extended activities.
Teacher home pages + resources for teachers.
6-No Response

What Did You Find That Was Not Useful at the TEAMS Web Site?

Teachers were asked what they found that was not useful from the TEAMS web site. (See Table 229.) The respondents did not indicate anything that t they found to be unuseful. One mentioned access to the science distance learning instructor, but it was difficult to determine the nature of the problem.

Table: 229
What Did You Find That Was Not Useful at the TEAMS Web Site?

Nothing.
Nothing really
Not enough computers.
The communication accesses with Gary.
7-No Response

What Types of Materials Would You Want to Have Added to the TEAMS Web Site?

Teachers were asked what they would like to have added to the TEAMS Web site. Only two requests were received, and they were both for materials in Spanish. (See Table 230.) Two mentioned wanting materials in Spanish.

Table: 230
What Types of Materials Would You Want to Have Added to the TEAMS Web Site?

None
More science and more Spanish Web sites.
Sites and anything in Spanish
9-No Response

Did You Have Classroom Management Problems When Several Students Used Computers But Others Could Not?

Nine (75 percent) out of twelve teachers reported no classroom management problems when several students were using computers while others could not. (See Table 231.)

Table: 231
Did You Have Classroom Management Problems When Several Students Used Computers But Others Could Not?

Graph	Percent	Count	Answers
	25.0	3/12	Yes
	75.0	9/12	No

What Instructional Methods or Management Methods Were Used to Make the Sessions Productive for All Students in the Classroom?

Teachers were asked how they made the sessions productive for all students in the classroom? (See Table 232.) Several teachers mentioned small group work and collaboration

Table: 232
What Instructional Methods or Management Methods Were Used to Make the Sessions Productive for All Students in the Classroom?

Small group work, well-defined expectations.
I followed Gary's lead.
Cooperative grouping
I stood by TV and added comments.
I have four computers on line, so two to each comp. Helps and they did always do it during math. They used them during indoor recess and in the morning.
My module was taped.
Alternate.
Centers, time management.
Rotation of centers and activities.
Centers / group work
Cooperative grouping based.
2-No Response

Using A Computer Laboratory to Complete TEAMS Modules

Eleven of twelve teachers did not use a computer laboratory. (See Table 233.)

Table: 233
Using A Computer Laboratory to Complete TEAMS Modules

Graph	Percent	Count	Answers
	8.3	1/12	Yes
	91.7	11/12	No

Using A Computer Laboratory To Help Complete Work

Most teachers did not use the computer lab, but when one used it, they found a research source and learning activities. (See Table 234.)

Table: 234
Using a Computer Laboratory to Help Complete Work

None
Follow-up activities and students research
9-No Response

Teacher Reporting of Students Accessing the TEAMS Web Site

Five of twelve teachers reported that their students did access the TEAMS web site. Seven teachers responded that their students did not access the TEAMS web site. (See Table 235.)

Table: 235
Teacher Reporting of Students Accessing the TEAMS Web Site

Graph	Percent	Count	Answers
	41.7	5/12	Yes
	58.3	7/12	No

Number Of Times That Students Accessed the TEAMS Web Site

The teachers responded that their students had accessed the TEAMS Web site from zero to four times. (See Table 236.)

Table: 236
Number of Times That Students Accessed the TEAMS Web Site

Count:	11
Min:	0.00
Max:	4.00
Mean:	0.82
Total:	9
Mode:	0.00
Median:	0.00
Avg Dev:	1.04
Norm:	5.00

Students Use the TEAMS Web Site

Five teachers reported that students used the TEAMS Web site to help with answering questions, as a resource, and to communicate with other students. (See Table 237.)

Table: 237
Students Use the TEAMS Web Site

They wrote to Gary to ask questions.
Resource
Escher
Checking other student's projects & exploration of the site.
Other classes.
e-mail
Nothing
6-No Response

Students found using the TEAMS Web Site Useful.

Five teachers reported that students used the TEAMS Web site for correspondence with the TEAMS teachers and fellow students. (See Table 238.)

Table: 238
Students Found Using the TEAMS Web Site Useful.

They liked writing to Gary and receiving his replies that they then followed up on.
Links
Escher
Info.
E-mail to teachers.
Nothing
7-No Response

Students Found the TEAMS Web Site Not Useful

Teachers were asked if students found material on the TEAMS Web site that was not useful. Teachers did not report any materials. (See Table 239.)

Table: 239
Students Found the TEAMS Web Site Not Useful

Nothing, didn't use
Unclear
8-No Response

Materials That Students Would Like To Have Added to the TEAMS Web Site To Meet Their Learning Needs

Teacher's report that students felt a wider level of materials would help, and requested the addition of Spanish materials. (See Table 240.)

Table: 240
Materials That Students Would Like To Have Added to the TEAMS Web Site To Meet Their Learning Needs

Something in Spanish
Different levels of info
None
7-No Response

Using the TEAMS Program Modules as Video Tape/Delayed Broadcast the Day After Its Original Air Date

Three teachers reported using the programs on a one-day tape delay, while ten said they did not. See Table 241.

Table: 241
Using the TEAMS Program Modules as Video Tape/Delayed Broadcast the Day After Its Original Air Date

Graph	Percent	Count	Answers
	23.1	3/13	Yes
	76.9	10/13	No

How Many Days After the Program Aired Did You Receive the Program Tape?

Eleven teachers reported receiving the taped programs an average of eleven days after the airdate. Answers ranged from zero to 60 days. (See Table 242.)

Table: 242
How Many Days After the Program Aired Did You Receive the Program Tape?

Count:	11
Min:	0.00
Max:	60.00
Mean:	11.00
Total:	121
Mode:	0.00
Median:	0.00
Avg Dev:	15.82
Norm:	73.49

How Many Days After You Received the Program Tape Did You Use the Program?

Twelve teachers reported using the tapes an average of 5.58 days after they were received. However, there was a range in the responses from zero to 30 days. (See Table 243.)

Table: 243
How Many Days After You Received the Program Tape Did You Use the Program?

Count:	12
Min:	0.00
Max:	30.00
Mean:	5.58
Total:	67
Mode:	0.00
Median:	0.50
Avg Dev:	6.44
Norm:	35.65

Are You Provided With a Duplicating Budget to Print TEAMS Materials?

Seven out of ten teachers responded that they do not have a duplicating budget to print the TEAMS materials. (See Table 244.)

Table: 244
Are You Provided With a Duplicating Budget to Print TEAMS Materials?

Graph	Percent	Count	Answers
	30.0	3/10	Yes
	70.0	7/10	No

Is There a Limit Set On Your TEAMS Duplicating Budget?

Six out of eight teachers report that they have no limit on their duplicating budget, although previously only three reported having a budget. (See Table 245.)

Table: 245
Is There a Limit Set On Your TEAMS Duplicating Budget?

Graph	Percent	Count	Answers
	25.0	2/8	Yes
	75.0	6/8	No

If there is a Duplicating Budget Annual Limit, What Is the Dollar Amount?

Ten teachers report having an annual budget limit that averaged $20, ranging from zero to $200. (See Table 246.)

Table: 246
If there is a Duplicating Budget Annual Limit, What Is the Dollar Amount?

Count:	10
Min:	0.00
Max:	200.00
Mean:	20.00
Total:	200
Mode:	0.00
Median:	0.00
Avg Dev:	36.00
Norm:	200.00

If There Is a Limit On Your TEAMS Materials Duplicating Budget, How Much More Funding Do You Need for the Materials That You Want to Use Each Year?

Eleven teachers reported that they needed an average of $18.18 additional each year to use the materials, with answers ranging from zero to 200 dollars. (See Table 247.)

Table: 247
If There Is a Limit On Your TEAMS Materials Duplicating Budget, How Much More Funding Do You Need for The Materials That You Want to Use Each Year?

Count:	11
Min:	0.00
Max:	200.00
Mean:	18.18
Total:	200
Mode:	0.00
Median:	0.00
Avg Dev:	33.06
Norm:	200.00

Are You Ever Forced to Use Spirit/Ditto Duplication For TEAMS Materials?

Two of twelve reported that they are sometimes forced to use Spirit/Ditto. (See Table 248.)

Table: 248
Are You Ever Forced to Use Spirit/Ditto Duplication for TEAMS Materials?

Graph	Percent	Count	Answers
	16.7	2/12	Yes
	83.3	10/12	No

Did Your School Convert to a Digital Satellite Dish This Year?

Nine out of the nine teachers responding to this question reported that their school did not convert to a digital satellite dish this year. (See Table 249.)

Table: 249
Did Your School Convert to a Digital Satellite Dish This Year?

Graph	Percent	Count	Answers
	0.0	0/9	Yes
	100.0	9/9	No

How Quickly You Were Able to Use the New Digital System?

There were no responses to this question.

Did the Conversion Go Smoothly?

There were no responses to this question.

Classes Access to TEAMS by Analog Satellite Dish

Two of the thirteen teachers used an analog satellite dish to access classes, and five of thirteen said did not. (See Table 250.)

Table: 250
Classes Access to TEAMS by Analog Satellite Dish

Graph	Percent	Count	Answers
	15.4	2/13	Yes
	38.5	5/13	No

Classes Access to TEAMS by Digital Satellite Dish

Six of the thirteen teachers said they did not use a digital satellite dish. (See Table 251.)

Table: 251
Classes Access to TEAMS by Analog Satellite Dish

Graph	Percent	Count	Answers
	0.0	0/13	Yes
	46.2	6/13	No

Classes Access to TEAMS by Satellite Reception in the Classroom

One of the thirteen teachers said they had satellite reception in the classroom while five teachers said that did not. (See Table 252.)

Table: 252
Classes Access to TEAMS by Satellite Reception in the Classroom

Graph	Percent	Count	Answers
	7.7	1/13	Yes
	38.5	5/13	No

Classes Access to TEAMS by Public Television Station in the Classroom

Five of thirteen teachers said they received TEAMS programs through a public television station in the classroom. Three said they did not use this method. (See Table 253.)

Table: 253
Classes Access to TEAMS by Public Television Station in the Classroom

Graph	Percent	Count	Answers
	38.5	5/13	Yes
	23.1	3/13	No

Classes Access to TEAMS by Cable in the Classroom

Eight of the thirteen teachers said they had cable in the classroom while two did not. (See Table 254.)

Table: 254
Classes Access to TEAMS by Cable in the Classroom

Graph	Percent	Count	Answers
	61.5	8/13	Yes
	15.4	2/13	No

Classes Access to TEAMS by ITFS in the Classroom

Two of the thirteen teachers said they had ITFS in the classroom while five did not. (See Table 255.)

Table: 255
Classes Access to TEAMS by ITFS in the Classroom

Graph	Percent	Count	Answers
	15.4	2/13	Yes
	38.5	5/13	No

Classes Access to TEAMS by Video Tape in the Classroom

Ten of thirteen teachers said they had access to TEAMS through videotape in the classroom while no one said no. (See Table 256.)

Table: 256
Classes Access to TEAMS by Video Tape in the Classroom

Graph	Percent	Count	Answers
	76.9	10/13	Yes
	0.0	0/13	No

Classes Access to TEAMS by Internet in the Classroom

Nine of thirteen teachers report having Internet in the classroom while one did not. (See Table 257.)

Table: 257
Classes Access to TEAMS by Internet in the Classroom

Graph	Percent	Count	Answers
	69.2	9/13	Yes
	7.7	1/13	No

Which Technologies Do You Have Access to in Your Classroom?

Thirteen of thirteen teachers report having television in the classroom. Thirteen report having e-mail. Twelve report having VCR, twelve report having CD-ROM. Twelve report having Internet access, eight report having a telephone. Eight report having a laser disc, six report having a modem, and three report having Read-Write CD-ROM equipment. (See Table 258.)

Table: 258
Which Technologies Do You Have Access to in Your Classroom?

Graph	Percent	Count	Answers
	100.0	13/13	Television
	92.3	12/13	VCR
	61.5	8/13	Telephone
	92.3	12/13	CD-ROM
	23.1	3/13	Read-Write CD-ROM
	61.5	8/13	Laser disc
	100.0	13/13	Email
	46.2	6/13	Modem
	92.3	12/13	Network access

If You Have A Modem, What Is Your Modem Baud Rate?

One-teacher reports having a 28.8 modem, two report having a 56k modem, and one reports having a 100-Mb modem. (See Table 259.)

Table: 259
If You Have a Modem, What is Your Modem Baud Rate?

28.8	56 K	Other
28.8	56	100 Mb
	56k	
		system wide

If You Have Network Access, What is the Speed?

One-teacher reports having a T3 access. (See Table 260.)

Table: 260
If You Have Network Access, What Is the Speed?

ISDN	T1	Cable modem	Other
No	No	No	T3

Number of Computers in the Classroom.

Teachers reported having a variety of computer equipment in their classrooms. These included; eight 486 computers, four 586 computers, five Pentium computers, four Apple IIe computers, four Mac non-Power PC, fourteen Mac Power PC, and thirty-six other types of computers. (See Table 261.)

Table: 261
Number of Computers in the Classroom.

486	586	Pentium	Apple IIe	Mac Non-Power PC	Mac Power PC	Other
					7	
					2	
		1			1	
						4
4	4	4	4	4	4	4
						4
						4
						4
						4
						4
						4
						4
4						

Number of Computers in the Classroom with Internet Access

Teachers reported that a number of the computers in their classrooms had Internet access. These included; eight 486 computers, four 586 computers, four Pentium computers, four Apple IIe computers, four Mac non-Power PC, thirteen Mac Power PC, and thirty-six other types of computers. (See Table 262.)

Table: 262
Number of Computers in the Classroom with Internet Access.

486	586	Pentium	Apple IIe	Mac Non-Power PC	Mac Power PC	Other
					7	
					1	
					1	
						4
4	4	4	4	4	4	4
						4
						4
						4
						4
						4
						4
						4
4						

Two Way Videoconferencing in Classroom

One of twelve said they had two-way videoconferencing in classroom, eleven of twelve said they had none. (See Table 263.)

Table 263
Two Way Videoconferencing in Classroom

Graph	Percent	Count	Answers
	8.3	1/12	Yes
	91.7	11/12	No

Two-Way Videoconferencing Proxy Server System

Teachers reported having two-way videoconferencing systems in their classrooms but the brands were not listed. (See Table 264.)

Table 264
Two Way Videoconferencing Proxy Server System

Graph	Percent	Count	Answers
	0.0	0/2	VTEL
	0.0	0/2	PictureTel
	100.0	2/2	Other

Firewalls and Filters on the Network

Five of five teachers responded that they have firewalls/filters on their network. (See Table 265.)

Table 265
Firewalls and Filters on the Network

Graph	Percent	Count	Answers
	100.0	5/5	Yes
	0.0	0/5	No

Frequency of Using Computers with Students

Thirteen of thirteen teachers said they used computers with their students on a daily basis. (See Table 266.)

Table: 266
Frequency of Using Computers with Students

Graph	Percent	Count	Answers
	100.0	13/13	Daily
	0.0	0/13	Weekly
	0.0	0/13	Monthly
	0.0	0/13	Never

Frequency of Using Still Digital Camera with Students

Three of nine teachers used still digital cameras with students on a monthly basis and six of nine teachers responded that they never used them. (See Table 267.)

Table: 267
Frequency of Using Still Digital Camera with Students

Graph	Percent	Count	Answers
	0.0	0/9	Daily
	0.0	0/9	Weekly
	33.3	3/9	Monthly
	66.7	6/9	Never

Frequency of Using VHS Camcorder with Students

Three of eleven teachers reported using VHS Camcorders with students on a daily basis, three of eleven said they used camcorders on a monthly basis, and five of the teachers responded that they never used camcorders. (See Table 268.)

Table: 268
Frequency of Using VHS Camcorder with Students

Graph	Percent	Count	Answers
	0.0	0/11	Daily
	27.3	3/11	Weekly
	27.3	3/11	Monthly
	45.5	5/11	Never

Frequency of Using TV/VCR with Students

Seven of thirteen teachers responded that they used TV/VCRs with students on a daily basis, three teachers used the equipment on a weekly basis and another three used a TV/VCR on a monthly basis. (See Table 269.)

Table: 269
Frequency of Using TV/VCR with Students

Graph	Percent	Count	Answers
	53.8	7/13	Daily
	23.1	3/13	Weekly
	23.1	3/13	Monthly
	0.0	0/13	Never

Frequency of Using E-mail with Students

Ten of thirteen teachers used e-mail daily, no one reported using it on a weekly basis, but two reported using it on a monthly basis. (See Table 270.)

Table: 270
Frequency of Using E-mail with Students

Graph	Percent	Count	Answers
	76.9	10/13	Daily
	0.0	0/13	Weekly
	15.4	2/13	Monthly
	7.7	1/13	Never

Frequency of Using Word Processing Software with Students

Nine of twelve teachers reported used word processing software with students on a daily basis, one used it on a weekly basis, one used it monthly and one never used it. (See Table 271.)

Table: 271
Frequency of Using Word Processing Software with Students

Graph	Percent	Count	Answers
	75.0	9/12	Daily
	8.3	1/12	Weekly
	8.3	1/12	Monthly
	8.3	1/12	Never

Frequency of Using Presentation Software with Students

Three of twelve teachers said they used presentation software on a daily basis with students. Three teachers used it on a weekly basis, and three used it on a monthly basis. (See Table 272.)

Table: 272
Frequency of Using Presentation Software with Students

Graph	Percent	Count	Answers
	25.0	3/12	Daily
	25.0	3/12	Weekly
	25.0	3/12	Monthly
	25.0	3/12	Never

Frequency of Using Spreadsheet Software with Students

Three of eleven teachers reported using spreadsheet software with their students on a daily basis, two used it on a weekly basis, one used it on a monthly basis. (See Table 273.)

Table: 273
Frequency of Using Spreadsheet Software with Students

Graph	Percent	Count	Answers
	27.3	3/11	Daily
	18.2	2/11	Weekly
	9.1	1/11	Monthly
	45.5	5/11	Never

Frequency of Using Web Browsers with Students

Seven of twelve teachers responded that they used Web browser software with students on a daily, four used it on a weekly basis, and one used it on a monthly basis. (See Table 274.)

Table: 274
Frequency of Using Web Browsers with Students

Graph	Percent	Count	Answers
	58.3	7/12	Daily
	33.3	4/12	Weekly
	8.3	1/12	Monthly
	0.0	0/12	Never

Teachers' Comfort Level with Various Software Applications

The next two sets of questions were used to determine the teachers' comfort level in using various software applications while working alone and when using the same software applications with students.   Teachers were asked to use a scale of one to four to indicate their comfort level where one was low and four was a high comfort level.

Teachers' Comfort Level with E-mail Software while Working Alone

Most teachers were comfortable using e-mail software while working alone. Over ninety-one percent scored their comfort level at a three or four on a scale of one to four where four was high. (See Table 275.)

Table: 275
Teachers' Comfort Level with E-mail Software while Working Alone

Graph	Percent	Count	Answers
	0.0	0/13	1
	7.7	1/13	2
	15.4	2/13	3
	76.9	10/13	4

Teachers' Comfort Level with Word Processing Software while Working Alone

Most teachers appeared comfortable with word processing. Twelve teachers (over ninety-one percent) indicated a comfort level of three or four on a scaled response of one to four where four was the highest comfort level.   (See Table 276.)

Table: 276
Teachers' Comfort Level with Word Processing Software while Working Alone

Graph	Percent	Count	Answers
	7.7	1/13	1
	0.0	0/13	2
	15.4	2/13	3
	76.9	10/13	4

Teachers' Comfort Level with Presentation Software while Working Alone

Comfort levels varied greatly among the teachers using presentation software. About thirty percent or four teachers indicated a lower level of comfort and scored themselves on the scale at a one or two. However, sixty-nine percent indicated a comfort level of three or four on the scale. (See Table 277.)

Table: 277
Teachers' Comfort Level with Presentation Software while Working Alone

Graph	Percent	Count	Answers
	15.4	2/13	1
	15.4	2/13	2
	46.2	6/13	3
	23.1	3/13	4

Teachers' Comfort Level with Spread Sheet Software while Working Alone

Comfort levels were evenly divided among the teachers using spreadsheet software. Three teachers each responded to one of the scaled levels of comfort from one to four. (See Table 278.)

Table: 278
Teachers' Comfort Level with Spread Sheet Software while Working Alone

Graph	Percent	Count	Answers
	23.1	3/13	1
	23.1	3/13	2
	23.1	3/13	3
	23.1	3/13	4

Teachers' Comfort Level with Web Browser Applications while Working Alone

Most teachers appeared comfortable using the Web browser while working alone. Over ninety-two percent or twelve teachers scored their comfort level at a three or four indicating a high level of comfort. (See Table 279.)

Table: 279
Teachers' Comfort Level with Web Browse Applications while Working Alone

Graph	Percent	Count	Answers
	7.7	1/13	1
	0.0	0/13	2
	46.2	6/13	3
	46.2	6/13	4

Teachers' Comfort Level with Other Applications while Working Alone

Six teachers responded to the question about their level of comfort with other software applications but did not indicate which other applications they were using . Thirty percent of those responding, or four teachers, were less comfortable. Two indicated a high comfort level. (See Table 280.)

Table: 280
Teachers' Comfort Level with Other Applications while Working Alone

Graph	Percent	Count	Answers
	15.4	2/13	1
	15.4	2/13	2
	0.0	0/13	3
	15.4	2/13	4

Teachers’ Comfort Level with Various Applications while Working with Students

Teachers were asked a series of questions about their level of comfort in using various applications when they working with students.

Teachers’ Comfort Level with E-mail Software while Working with Students

Most teachers appeared comfortable with E-mail while working with students with ninety percent indicating comfort at a level three or four on a scale of one to four. (See Table 281.)

Table: 281
Teachers’ Comfort Level with E-mail Software while Working with Students

Graph	Percent	Count	Answers
	0.0	0/13	1
	7.7	1/13	2
	30.8	4/13	3
	61.5	8/13	4

Teachers Comfort Level with Word Processing Software while Working with Students

Most teachers appeared comfortable with word processing while using it with students. Sixty-eight percent of teachers ranked their comfort level at three or four using word processing software. Four teachers (30.8 percent) ranked their comfort level at one or two. (See Table 282.)

Table: 282
Teachers Comfort Level with Word Processing Software while Working with Students

Graph	Percent	Count	Answers
	7.7	1/13	1
	23.1	3/13	2
	7.7	1/13	3
	61.5	8/13	4

Teachers Comfort Level with Presentation Software while Working with Students

Teachers were asked what their comfort level was when using presentation software with students. Comfort levels varied greatly among the teachers with fifty-three percent responding with a discomfort level of one or two. Only twenty-two percent responded with a comfort level ranking of three or four. (See Table 283.)

Table: 283
Teachers Comfort Level with Presentation Software while Working with Students

Graph	Percent	Count	Answers
	23.1	3/13	1
	30.8	4/13	2
	7.7	1/13	3
	15.4	2/13	4

Teachers Comfort Level with Spread Sheet Software while Working with Students

About sixty-one percent of the ten responding teachers indicated that they were uncomfortable using spreadsheet software with students. Only fifteen percent report a comfort level of four. (See Table 284.)

Table: 284
Teachers Comfort Level with Spreadsheet Software while Working with Students

Graph	Percent	Count	Answers
	38.5	5/13	1
	23.1	3/13	2
	0.0	0/13	3
	15.4	2/13	4

Teachers Comfort Level with Web Browser while Working with Students

Most teachers appeared comfortable using Web browser software with students. Over sixty percent or eight teachers ranked themselves at a comfort level of three or four. However, 38.5 percent or five teachers ranked themselves at a low comfort level of one or two. (See Table 285.)

Table: 285
Teachers' Comfort Level with Web Browser while Working with Students

Graph	Percent	Count	Answers
	15.4	2/13	1
	23.1	3/13	2
	30.8	4/13	3
	30.8	4/13	4

Teachers Comfort Level with Other Applications while Working with Students

Comfort levels were scattered among the teachers when using other applications while working with students, however, they did not specify the applications. Four teachers responded. About twenty-two percent indicated a low comfort level. (See Table 286.)

Table: 286
Teachers' Comfort Level with Other Applications while Working with Students

Graph	Percent	Count	Answers
	15.4	2/13	1
	7.7	1/13	2
	0.0	0/13	3
	7.7	1/13	4

Comparison of Teachers' Comfort Level with Computer Applications when Used Alone and Used with Students

The same data is used in the following six charts to show the comfort level of teachers using the software alone and using it with students. In many cases the highest comfort level (four) dropped to three or less when the teacher thought about using the application with students in the classroom. This continues to show a need for the development of computer skills by teachers. A higher comfort level will lead to an increase in the integration of technology into the classroom and curriculum.

All scores dropped at the four level and are shown in a bold italic type.

Table: 287
Comparison of Teachers' Comfort Level with E-mail Software while Working Alone and with Students

Scale	Percent Alone	Percent w/Students	Count Alone	Count w/Students
1 Low	0.0	0.0	0/13	0/13
2	7.7	7.7	1/13	1/13
3	15.4	30.8	2/13	4/13
4High	76.9	***61.5***	10/13	8/13

Table: 288
Comparison of Teachers' Comfort Level with Word Processing Software while Working Alone and with Students

Scale	Percent Alone	Percent w/Students	Count Alone	Count w/Students
1 Low	7.7	7.7	1/13	1/13
2	0.0	23.1	0/13	3/13
3	15.4	7.7	2/13	1/13
4High	76.9	***61.5***	10/13	8/13

Table: 289
Comparison of Teachers' Comfort Level with Presentation Software while Working Alone and with Students

Scale	Percent Alone	Percent w/Students	Count Alone	Count w/Students
x1 Low	15.4	23.1	2/13	3/13
2	15.4	30.8	2/13	4/13
3	46.2	7.7	6/13	1/13
4High	23.1	***15.4***	3/13	2/13

Table: 290
Comparison of Teachers' Comfort Level with Spread Sheet Software while Working Alone and with Students

Scale	Percent Alone	Percent w/Students	Count Alone	Count w/Students
1 Low	23.1	38.5	3/13	5/13
2	23.1	23.1	3/13	3/13
3	23.1	0.0	3/13	0/13
4High	23.1	***15.4***	3/13	2/13

Table: 291
Comparison of Teachers' Comfort Level with Web Browsers while Working Alone and with Students

Scale	Percent Alone	Percent w/Students	Count Alone	Count w/Students
1 Low	7.7	15.4	1/13	2/13
2	0.0	23.1	0/13	3/13
3	46.2	30.8	6/13	4/13
4High	46.2	***30.8***	6/13	4/13

Table: 292
Comparison of Teachers' Comfort Level with Other Applications while Working Alone and working with Students

Scale	Percent Alone	Percent w/Students	Count Alone	Count w/Students
1 Low	15.4	15.4	2/13	2/13
2	15.4	7.7	1/13	2/13
3	0.0	0.0	0/13	0/13
4High	15.4	***7.7***	1/13	2/13

Teachers Using Computers at Home

Teachers were asked if they used a c omputer at their home. Ten of the twelve responding teachers have a computer at their home and use it. (See Table 293)

Table: 293
Teachers Using Computers at Home

Graph	Percent	Count	Answers
	83.3	10/12	Yes
	16.7	2/12	No
	100.0	12/12	Summary

Types of Computer Equipment and Software Teachers Use at Home

Teachers were asked what type of computer equipment and software they use in their homes. Teachers responded that five use Win 95/98 Computer. Six teachers use Mac OS Computers. Five teachers use a modem, seven teachers have Internet access. Eight teachers use a printer and two use a scanner. One used a digital camera and two teachers use a microphone. (See Table 294.)

Table: 294
Types of Computer Equipment and Software Teachers Use at Home

Graph	Percent	Count	Answers
	38.5	5/13	Win 95/98 Computer
	46.2	6/13	Mac OS Computer
	38.5	5/13	Modem
	15.4	2/13	Cable Modem
	53.8	7/13	Internet Access
	61.5	8/13	Printer
	15.4	2/13	Scanner
	7.7	1/13	Digital Camera
	15.4	2/13	Microphone

Computers in Home

Teachers were asked how many computers they had in their home. They responded with a range from zero to two computers (See Table 295.)

Table: 295
Computers in Home

Count:	13
Min:	0.00
Max:	2.00
Mean:	1.23
Total:	16
Mode:	1.00
Median:	1.00
Ave Dev:	0.59
Norm:	5.10

Teachers/Classrooms Participating in TEAMS

Teachers were asked how many other teachers and/or classrooms were participating in TEAMS at their school. Teachers responded that there were from none to twenty teachers and/or classrooms participating in TEAMS at their school for an average of over six. (See Table 296.)

Table: 296
Teachers/Classrooms Participating in TEAMS

Count:	12
Min:	0.00
Max:	20.00
Mean:	6.67
Total:	80
Mode:	0.00
Median:	3.00
Ave Dev:	6.61
Norm:	34.47

Number of Teachers Teaching the Same TEAMS Programs

Teachers were asked how many teachers were teaching the same TEAMS program at their school. Teachers responded with a range from none to four. (See Table 297.)

Table: 297
Number of Teachers Teaching the Same TEAMS Programs

Count:	13
Min:	0.00
Max:	4.00
Mean:	1.92
Total:	25
Mode:	0.00
Median:	1.00
Ave Dev:	1.76
Norm:	9.54

Regular Collaboration with Other TEAMS Teachers

Eleven of thirteen teachers responded that they do collaborate with other TEAMS teachers at their school. (See Table 298.)

Table: 298
Regular Collaboration with Other TEAMS Teachers

Graph	Percent	Count	Answers
	84.6	11/13	Yes
	15.4	2/13	No

TEAMS Teachers Have Worked and Collaborated with Each Other

Teachers were asked a qualitative question about how they have collaborated with other teachers. Teachers found support for their ideas and help with planning in a number of way. They responded that collaborated on sharing, discussion, planning, assessment, feedback, team teaching and trouble shooting. (See Table 299.)

Table: 299
TEAMS Teachers Have Worked and Collaborated with Each Other

All three of the teachers work with the same group of students. We are a multiage team of teachers working with 6th and 7th graders.
This is my first year as is my colleague in TEAMS group, so we mostly share experiences.
Shared watching before showing
Discussion of how it is going see if the kids understand it.
Planning and trouble shooting.
(1) Pre-reading / planning (2) Assessment (3) Extension activities.
Feedback and adaptation.
Feedback- ideas- planning.
My teammate did the Geometry in My World module with me.
To plan mostly.
Didn't, I'm the only TEAMS teacher.
We are the only three middle school teachers.
1-No Response

Benefits from Collaboration with Other TEAMS Teachers

Teachers were asked what benefits they found in collaborating with other TEAMS teachers. Teachers responded that collaboration with other TEAMS teachers contributed to an easier sharing of ideas, problem solving, time facilitation, support, and a better understanding of how to find the time to really work with students. (See Table 300.)

Table: 300
Benefits from Collaboration with Other TEAMS Teachers

Collaboration is very enhancing to our work.
We worked together before TEAMS and we will work together after TEAMS because it is beneficial to student learning.
Better understanding: find time to educate, where before to busy to find the time.
Always helpful to share
New ideas.
Problem solving.
Deeper understanding of expectations.
Easier planning and time facilitation.
Support.
Sharing ideas - more sources - problem solving.
Help others see / gain benefits of using TEAMS.
2-None or No Response

Benefits of Being Part of a National TEAMS IMPACT Site

Teachers were asked what they perceived to be the befits of participating with TEAMS as a national TEAMS IMPACT Focus site. Some schools had recently become IMPACT sites. While their school principals have found benefits in national TEAMS participation, the responses indicated that the teachers did as well. Teachers responded that they learned new things, collaborated with others, had more resources made available to them, and observed that the lessons and teaching styles were useful. One teacher observed that she felt it would be very beneficial after she got into it. (See Table 301.)

Table: 301
Benefits of Being Part of a National TEAMS IMPACT Site

Learn new things
We got quick attention from the staff when we needed it.
At this time none are apparent. The TEAMS broadcast would still be available to us. I do not know if the materials would be.
More availability for resources.
You get to teach a different way with all the materials. You can also collaborate with teachers of similar lessons.
As I get into it I feel it'll be very beneficial. The lessons. The teaching style.
Collaboration.
Useful teaching, similar curriculum.
Doing this survey.
3-No Response

Participation in the Site Evaluation Conducted by the TEAMS Evaluator

Teachers were asked if that had been present with the TEAMS evaluation team visited their site. Nine teachers had participated in the evaluation. (See Table 302.)

Table: 302
Participation in the Site Evaluation Conducted by the TEAMS Evaluator

Graph	Percent	Count	Answers
	75.0	9/12	Yes
	25.0	3/12	No

TEAMS Site Coordinators

TEAMS teachers were asked to provide the name of the TEAMS site coordinator. (see Table 303)

Table: 303
TEAMS Site Coordinators

2 Judi Gordon
6 Brent Hetner
1 Judith Kolbeshag & Brent Hufner
3 Judith Kolbenschlag

Meetings with the TEAMS Site Coordinator

Teachers were asked how frequently they met with the TEAMS site coordinator. Teachers responded with a range from no meetings to five meetings held with the TEAMS site coordinator. The average number of meetings was between one and two. (See Table 304.)

Table: 304
Meetings with the TEAMS Site Coordinator

Count:	12
Min:	0.00
Max:	5.00
Mean:	2.75
Total:	33
Mode:	2.00
Median:	2.50
Avg Dev:	1.42
Norm:	11.09

TEAMS Lead Teacher

TEAMS teachers were asked to provide the name of the TEAMS lead teacher. (See Table 305.)

Table: 305
TEAMS Lead Teacher

2 Marcia Terry
2 Tony Lonanne
5 Judith Kolbenslag
4 None or no response

Meetings with the TEAMS Lead Teacher

Teachers were asked how many meetings were held with the TEAMS lead teacher. Teachers responded with a range of reported meetings from none to 180 for an average of 38 meetings. It was not clear why there would have been so many meetings with the possible exception of a departmental faculty meeting being held regularly everyday, but not for the express purpose of a discussion about TEAMS. (See Table 306.)

Table: 306
Meetings with the TEAMS Lead Teacher

Count:	12
Min:	0.00
Max:	20.00
Mean:	5.56
Total:	67.0
Mode:	4.00
Median:	5.50

Number of Meetings with the TEAMS District/State Coordinator

Teachers were asked how many meetings they had had with the TEAMS district/state coordinator. The teachers responded that the number of meetings ranged from none to five. The average was one meeting. (See Table 307.)

Table: 307
Number of Meetings with the TEAMS District/State Coordinator

Count:	12
Min:	0.00
Max:	5.00
Mean:	1.33
Total:	16
Mode:	0.00
Median:	1.00
Avg Dev:	1.22
Norm:	6.93

Meetings with the Principal about TEAMS

Teachers were asked how many times that had met with the school principal about TEAMS. Teachers responded that an average of about two meetings were held with the school principal about TEAMS. The number of meetings ranged from zero to ten. (See Table 308.)

Table: 308
Meetings with the Principal about TEAMS

Count:	12
Min:	0.00
Max:	10.00
Mean:	1.33
Total:	16
Mode:	0.00
Median:	0.00
Avg Dev:	1.67
Norm:	10.49

Regularity of TEAMS Teacher Meetings Held by the Site Coordinator

Teachers were asked if meetings were held regularly by the site coordinator for the TEAMS teachers. Seven of twelve teachers said that the meetings were not regularly held. (See Table 309.)

Table: 309
Regularity of TEAMS Teacher Meetings Held by the Site Coordinator

Graph	Percent	Count	Answers
	41.7	5/12	Yes
	58.3	7/12	No

Regularity of TEAMS Teacher Meetings Held by the Lead TEAMS Teacher

TEAMS teachers were asked if the lead TEAMS teacher regularly held meetings. Six of ten teachers said that TEAMS teacher meetings were not regularly held by the lead teacher. (See Table 310.)

Table: 310
Regularity of TEAMS Teacher Meetings Held by the Lead TEAMS Teacher

Graph	Percent	Count	Answers
	40.0	4/10	Yes
	60.0	6/10	No

Principal Visits to the Classroom during TEAMS Activities

TEAMS teachers were asked how frequently the school principal visited their classroom while they were conducting TEAMS activities. A maximum of five visits was reported but the average was one visit. (See Table 311.)

Table: 311
Principal Visits to the Classroom during TEAMS Activities

Count:	13
Min:	0.00
Max:	5.00
Mean:	0.46
Total:	6
Mode:	0.00
Median:	0.00
Avg Dev:	0.78
Norm:	5.10

Factors That Limit the Use of TEAMS (in a Provided List)

A list of factors was provided to the teachers from which they could choose factors that they believed limited the use of TEAMS in their schools. They could choose any of the four responses or "other." A blank was provided to fill in the factor for "other."

Eleven of the thirteen teachers responded that time was a factor, one indicated that professional development was a factor, three said that hardware was a factor, three said that classroom access was a factor and four said that "other" factors were responsible but did not indicate the factor. (See Table 312.)

Table: 312
Factors That Limit the Use of TEAMS (in a Provided List)

Graph	Percent	Count	Answers
	84.6	11/13	Time
	7.7	1/13	Professional Development
	23.1	3/13	Hardware
	23.1	3/13	Classroom Access
	30.8	4/13	Other

Factors that Limit the use of TEAMS - Qualitative Responses

The next question asked teachers to provide additional factors that they believed limited the use of TEAMS at their school.

A variety of responses were listed including TEAMS not providing enough programs for grades 6-8, the need for a projector that could present the computer monitor display to the entire class, airing programs two times a week for longer periods of time. One teacher indicated a need for more professional development and meetings for new teachers provided by TEAMS. (See Table 313.)

Table: 313
Factors that Limit the use of TEAMS – Qualitative Responses

Not enough TEAMS programs are available for grades 6-8.
A way to present the computer to entire class (projector)
We had own videos, so this was good. However, timed programs were not as regular as I would like. Better two times a week for longer periods.
New teacher meetings, professional development., etc.
7-None or No Response

TEAMS Enhanced Communications between Teachers, Schools, Parents, the District, and Community

Teachers were asked if they believed that TEAMS enhanced the communication between all of their target audiences. Their responses are shown in Table 314.

Table: 314
TEAMS Enhanced Communications Between Teachers, Schools, Parents, the District, and Community

Positive response with all, great way to branch out and learn something new.
Materials in Spanish would be helpful.
Same as before
Too hard to catch programs.
Teachers Curriculum.
Integrate more tech.
5- None or No Response

Interaction with Parents

Teachers were asked how they interacted with parents and what methods they used for interaction. Teachers responded that they used the telephone, home visits, newsletters, Web page, daily, weekly, or biweekly as needed. (See Table 315.)

Table: 315
Interaction with Parents

Telephone and home visits to each home.
As much as possible. For example home visits are conducted at the beginning of the school year. I visit the home of each of my students.
Newsletters, B1 weekly packets
Several times a week via phone or notes home.
Daily - newsletter - web page - phone calls - notes - E-mail
Weekly, newsletter and progress report.
Bi-weekly progress reports, quarterly conferences, quarterly report cards, monthly newsletters, random phone calls.
Daily, phone, letters and e-mail.
Letters, phone calls, e-mail.
Monthly newsletters, progress reports every 2 weeks.
Often via e-mail and web page.
2 - None

TEAMS Project Strengths

Teachers were asked what they believed were the strengths of the TEAMS project. Teachers responded that they liked the hands-on teaching rules, that it was easy to use, that the distance learning instructors were “good,” the materials were quality based, the role modeling for teachers was good, and that it was good for student learning. (See Table 316.)

Table: 316
TEAMS Project Strengths

Hands on teaching rules!
If TEAMS would have three leveled lessons daily for whole units - teachers could use it and would.
Very good lessons to teach students how to do something. Modeling so everyone can see it.
Lessons - Good teachers.
Materials, TV, tapes and people.
Easy to use!
Materials, lessons, quality.
Critical thinking prepared lessons, plans, and materials.
Enhances level of academics in room.
See 22.11
Many
Unclear at this time
1-No Response

Suggestions to Improve the TEAMS Project Next Year

Teachers were asked to provide suggestions to improve the TEAMS Project for the coming year. The TEAMS project could have more Middle School level materials available. Organization could be improved; copies made readily available and more videotapes.

Their responses are shown in the following table. (See Table 317.)

Table: 317
Suggestions to Improve the TEAMS Project Next Year

Middle school level science and material in Spanish.
Material (subjects) for older students, as I will be working with 6/7/8 and the same students as last year.
For as long as I understand TEAMS to have been in excellence - organization seemed lacking. I would like to see units lasting two weeks, same time access daily so teachers can: (1) is facilitator (2) learn from watching (real) master teachers. As I mentioned the reading had no repetition of skills for long time memory and was too slow to keep children's attention. What a great and easy organization to film Master teachers. A whole year can be done. Teachers would be free to circulate room. All day using curriculum i.e. math, penmanship and spelling. It would allow such a help in mentoring programs. All teachers would be on the same page. End of unit testing would be age appropriate standardized. The CARE is marvelous of TEAMS. Personnel and screen need to be vibrant, exciting real, and motivating of basic skills. I still am amazed a corporation hasn't done this really inexpensive use of technology, capabilities.
Wouldn't
Make sure I can get copies made without problems.
Me - now I know what to expect.
Better quality videotapes.
Don't know
4-No Response

Additional Information about Equipment at the TEAMS Sites

A survey instrument was developed to gather information about equipment use at TEAMS sites. Two few instruments were returned to perform a valid statistical analysis. The TEAMS office has prepared a new survey. The information will be gathered in October, 2000.

TEAMS Distance Learning

Addressing Student Achievement

An Assessment Pilot for TEAMS Programs

The TEAMS evaluation plan was expanded during the 1998-1999 school year to begin collecting data related to specific student achievement at the completion of various modules of instruction.

Local TEAMS Assessment Pilot Outline for *Turn On to Geometry* Grades 5-6, 1998-1999

The first assessment pilot was developed for the Turn On to Geometry module which was created for grades five and six.

Test Development:

Tests were developed to access key concepts which were being taught in the module. The assessment test was created so that it could be used as a pre-test and post-test with the same group of students.

Once the test was developed it was administered to as a pre-test to four fifth grade classrooms in the area served by the Los Angeles County Office of Education. Tests were sent directly to the managing producer of the TEAMS Project for scoring.

The teachers then used the Turn On to Geometry module according to the instructions that were provided to them.

Next, they administered the same test as a post-test to the students.

All tests were sent directly to the managing producer of the TEAMS Project for scoring.

Test Modification:

Four TEAMS Mathematics teachers were recruited and receiving training in how to score the pilot pre- and post-assessment tests. The four teachers involved in the assessment pilot met with the TEAMS managing producer and the TEAMS distance learning instructor to discuss the scoring. Topics included the test implementation, format of the test, and how it was to be scored. The teachers provided input and the tests were modified based upon their input.

The TEAMS evaluator provided ongoing support, information, and guidance to ensure the validity of the pre and post test.

National TEAMS Assessment Pilot Outline for *Turn On to Geometry*
Grades 5-6, 1999-2000

After the tests had been modified, the national pilot of the assessment began. Pre- and post-tests for the Turn On to Geometry module were distributed to TEAMS school sites throughout the United States.

Fifth grade classrooms were selected to participate in the national pilot based upon their willingness to participate. It should be noted that because most schools spend a great deal of time with students in discussion about testing, covering materials, and then conducting the actual testing, few schools/districts are willing to take on another set of testing, particularly one that is still in the pilot stages.

Teacher Preparation:

Participating teachers were sent a letter explaining the assessment pilot, test administration procedures, and a list of materials that would be needed.

Teachers were asked to administer the pre-test.

They were then instructed to use the Turn On To Geometry module in its entirety. Using the module correctly included using any pre- and/or post-viewing activities included in the module.

They were then to administer the post-test to their students. No other geometry materials except TEAMS were to be used from the time that the students took the pre-test and took the post-test. This was done so that no other variables were introduced into the study.

All tests - pre and post - were sent to the TEAMS managing producer. The teachers in the classroom did not score the papers. However, the classroom teachers were asked to complete a feedback form at the conclusion of the assessment testing. The feedback form collected information about the distance learning program, the pre-and post-tests, asked for positive or negative comments, and how the participants had used the TEAMS Web home page to access online resources for the module.

In the future, teachers will be asked to score the assessment.

Student Data:

GPRA (Government Performance and Reporting Act) data was collected on each student participating in the testing pilot through a test cover page.

Scoring:

A scoring rubric was developed by the TEAMS managing producer. It included a narrative which provided a number of ways that one question could be scored.

The plan for scoring all the student pre and post tests was put into place by using the four original assessment pilot teachers. These were master teachers well versed in mathematics.

The scoring sessions were held at one location. The scoring rubric was discussed at length so that the teachers would understand the changes and modifications that had been made in the scoring rubric since the last time they used it.

Teachers scored sets of tests and discussed inconsistencies as they scored the tests. After a set of tests were scored, it was given to a second teacher to score so that all tests were scored by two teachers and the TEAMS managing producer.

Data Input:

Teacher, student, GPRA, and pre- and post-test scores were entered into a database. A preliminary report on findings was completed by the managing producer.

Preliminary Report of Findings

Preliminary scoring was completed on July 30, 2000. All data was recorded into a spreadsheet. This included information for reporting for an item-by-item analysis. Four hundred and six students participated in the testing.

Scoring Rubric: There was a raw score of fifty test items. This was multiplied by two to make a score of 100 possible.

General Findings:

The managing producer observed that students had improved significantly in their understanding of geometry as a result of their participation in the Turn On to Geometry module. The students' pre-tests indicated a non-existent to minimal understanding of geometry concepts prior to participating in the Geometry module.

While the majority of student gained and could apply great amounts of geometry material, the majority of students did not move into a grade range of average or above average.

From data reported on all students, the post-test scoring results show that 20 percent scored 70 or greater. The lowest score was a three and the highest score was 98. Forty percent of students increased their scores by 25 to 69 points from the pre-to the post-test.

From data reported on Title 1 students, the post-test results show that 53 percent scored 70 or greater. The lowest score was nine and the highest score was 98. Thirty-eight percent of the Title 1 students increased their scores by 25 to 69 points from the pre- to the post-test.

From data reported on all students who were not enrolled in any special program, the post-test results show that 17 percent scored 70 or greater. The lowest score was 14 and the highest score was 84. Twenty-seven percent of these students increased their scores by 25 to 58 points.

Limitations of the Pre- and Post Assessment Study:

There were several limitations of the study which were perceived by the project manager and the evaluator.

Based on the way that students filled out the pre- and/or post test, it was apparent that all teachers had not read the letter of instruction on how to implement the test.

Data was incomplete on some forms from teachers and students indicating that students and teachers had been hurried to take the test.

Some teacher did indicate that the TEAMS assessment pilot was not a priority item for their them or their classroom.

It was apparent that some teachers did not yet see how to integrate TEAMS modules into the curriculum they used in their classroom.

Next Steps

- Data collected will be used for analyzing student achievement and directing instruction on TEAMS programs.
- Blackline masters of tests and the scoring rubric will eventually be available for teachers to use as a part of their own student assessment.

Item Statistical Analysis

A formal item analysis is currently underway by the assessment staff at the Los Angeles County Office of Education.

A report will be forthcoming that will analyze the following:

- the relationship of items to the total test
- the reliability of each item
- item discrimination
- item total correlation

Assessment Pilot Outline for Other TEAMS Programs 1999-2000

Test Development

- Tests were developed to assess key concepts being taught in the several TEAMS modules.

- *Geometry Concepts for Primary Students*

-*Geometry In My World*

-*Geometry Concepts for Middle School*

- *Algebra In My World*

-*Turn On to Algebra*

- *Algebra Concepts for Middle School*

- *Student as an Historian*

- *Student as a Media Evaluator*

- The same tests were used as pre-tests and a post-tests.
- Tests were administered in appropriate grade levels throughout Los Angeles County.

Test Modification

- Teachers were asked to score the tests using the same procedure outlined for scoring the *Turn On to Geometry* module tests.
- Teacher input was used for format and implementation modifications.

Next Steps

- Tests will be modified and a national sample will be collected.
- Test results will direct instruction on TEAMS programs.
- Tests and rubrics will be available in specific modules and/or online for teachers to use as a part of their own student assessment. (See *Student as an Historian* test, rubric and directions to teachers as it appears in the module guide and online.)
- A test for the *Algebra Concepts for Primary Students* module will be developed and administered.

Turn On to Geometry Pre-Post Test Assessment Statistical Analysis

The data base was statistically analyzed to determine the significance of the improvement that was observed by the program manager.

To: TEAMS Assessment Pilot Teachers

From: Belinda Lister
TEAMS Managing Producer

Re: TEAMS Mathematics Assessment Pilot for ***Turn On to Geometry***

Thank-you for agreeing to participate in the TEAMS Mathematics Assessment Pilot. This assessment pilot will give us information about the effect TEAMS mathematics programs have on student achievement. It will also help us to better modify programming so that these programs will complement efforts at implementing a standards-based curriculum.

This pilot assesses the geometry module for fifth and sixth grades, ***Turn On to Geometry.*** You are asked to administer a pre-test prior to implementing the module and a post-test at the conclusion of the module. If students are absent on testing day be sure to find a convenient time for them to complete the test. If possible use only TEAMS programs and materials to teach these geometry concepts.

Procedure

Pre-Test

- Each student will need a set of Tangrams and several linking cubes, either one inch linking cubes or linking cm cubes.
- Have students completely fill out the student information portion of the test cover. Students will need to put either their names (first and last) or an ID number provided by your Regional TEAMS coordinator, on the cover of the pre-test. This same number will identify each student throughout the testing period so that pre- and post-tests results can be compared.
- Have students complete the pre-test individually.
- Begin testing by letting students know that this is a pre-test and is designed to determine what concepts need to be taught. It is alright if they do not know many of the items. Once students have completed the cover page say something similar to:

  > "Today you will be taking a pre-test on geometry. Pre-tests are to let me know what I have to teach, so I don't expect you to know all the answers. Do your best. Answer the problems you know. You have two different manipulatives that you can use on this test, a set of Tangrams (hold up set) and linking cubes (hold up sample). I can help you read a problem or I can help you with directions, but I cannot tell you what a word means. Try your best. You may begin."

- Give students a reasonable amount of time to complete the pre-test.
  - Return all completed tests to your Regional TEAMS Coordinator or to the location indicated below:

Los Angeles County Teachers (Send via blue bag.)

Belinda Lister, Room 250
Los Angeles County Office of Education

Beyond Los Angeles County:

Belinda Lister
9300 Imperial Highway Room 250
Downey, CA 90242-2890

- Please do not go over the test answers with students. The same test will be used as a post-test.

Programs

- View all programs from the ***Turn On to Geometry*** module.
- Do all pre-viewing activities you determine are needed by your students to ensure concept understanding of program materials.
- Do all post-viewing activities unless you feel students have mastered the concept being taught.
- Optional post-viewing activities are to be done at your discretion.
- Programs can be viewed live or on tape. It is suggested that programs be viewed in their entirety.
- You set the pace for participating in programs, if you prefer once a week that is fine. If you prefer several times a week, that is fine too.
- Please keep a journal of the date you participated in the program and any previewing or post-viewing activities completed.

Post-test

- Post-tests will be disseminated in January.
- Administer the post-test at the completion of the module. These post-tests, plus a feedback form, will be sent to you shortly before the last program is scheduled for broadcast. This test is the same test students took as a pre-test. The cover will be different, but the test is the same.
- If you have assigned ID numbers to students, be sure they use the same ID number on the post-test that they used for identification on the pre-test.
- Fill out the feedback form to share suggestions and concerns related to the process and help with the future planning of TEAMS mathematics programs.
- Return all post-tests and feedback forms to your Regional TEAMS Coordinator.

Thank you again for your participation in this pilot.

Turn On to Geometry

Pre-test

For student use:

Date: ____________

Student Name or ID Number: ________________________________

Gender: M F Age: ________

Grade: ______ School: ______________________ District: ________________

City: _______________________________ State: _____ Zip Code: __________

For teacher use only:

IMPACT Site: Yes No

School location: Rural Urban Suburban

Classification: GATE LEP RSP Title I

Student Ethnicity: Hispanic or Latino Not Hispanic or Latino Don't Know

Race: American Indian or Alaska Native Black or African American

White Asian Native Hawaiian or Pacific Islander Don't Know

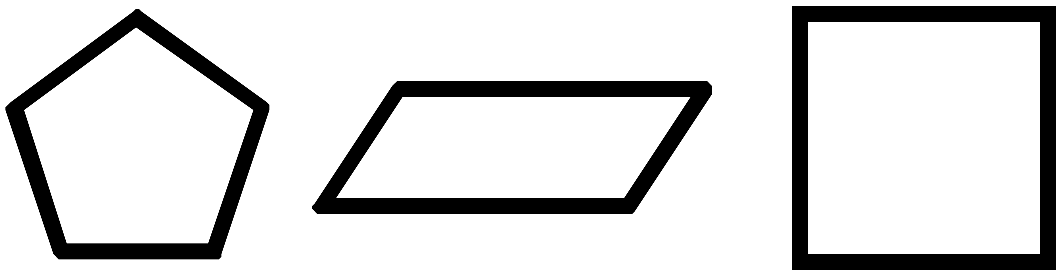
Teacher’s Name or ID Number: ____

Indicate any additional math programs used concurrently with TEAMS *Turn On to Geometry:*

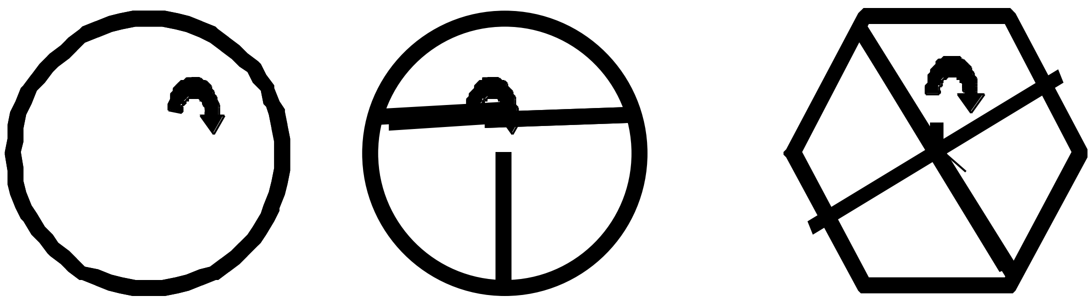
____

>>> Read each item carefully and record your solutions as indicated. <<<

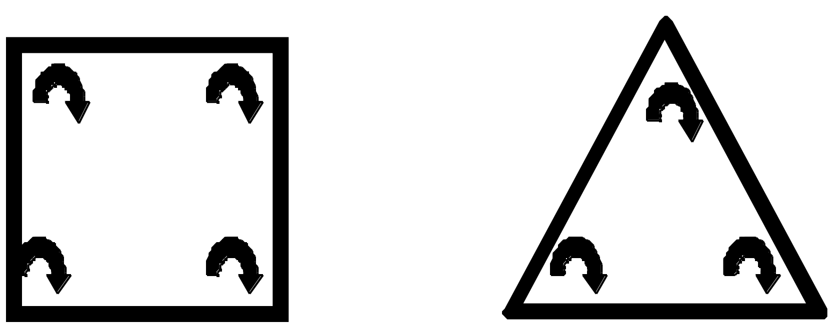
1. If the polygons below have lines of symmetry, draw the lines of symmetry.



2. Estimate the angle measure indicated for each shape. Write the number of degrees on the line under each shape.

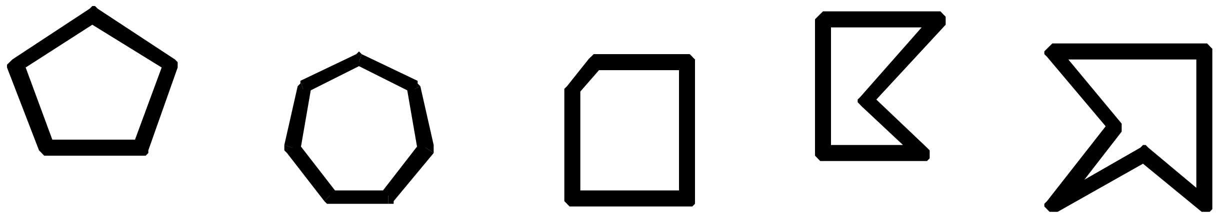


3. Write the <u>total</u> number of degrees for the vertex angles for each shape.

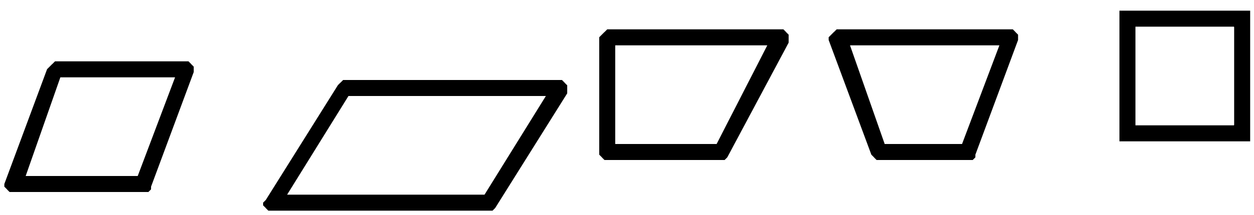


4. Circle all of the polygons that are correctly described by the word in each section.

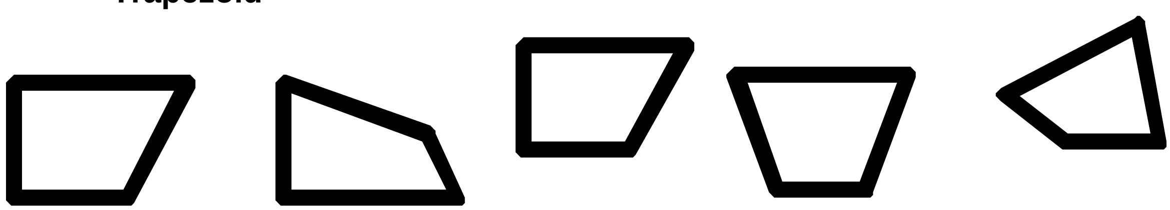
Pentagon



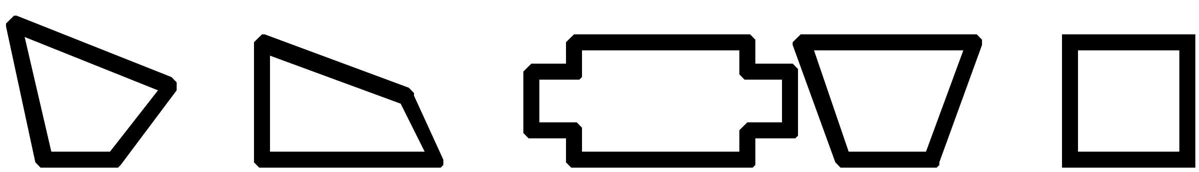
Parallelogram



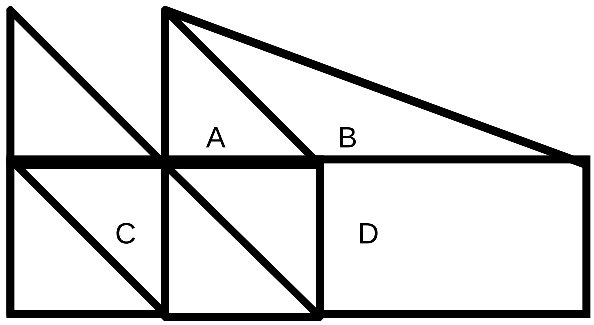
Trapezoid



Quadrilateral



5. In the design below, estimate the angle measures. Write your estimates on the spaces next to the letters that identify the angles.



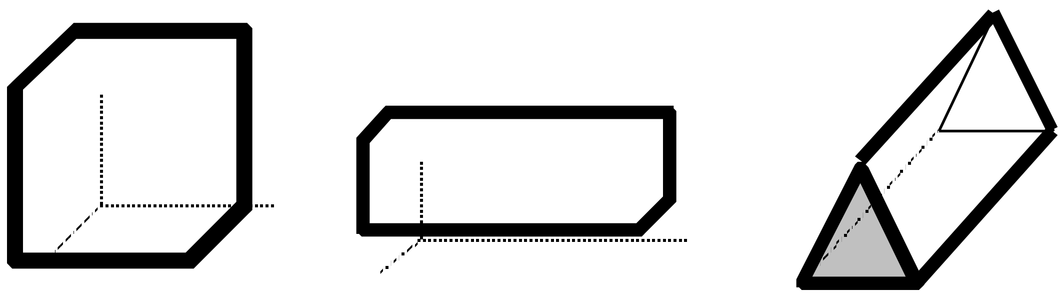
A. _______

B. _______

C. _______

D. _______

6. Circle all words that best describe all figures below.



Prisms Pyramids Polygons Polyhedrons

7. Put numbers beside the terms to indicate how many of each of the polygon shapes are needed to build the three-dimensional figure below.

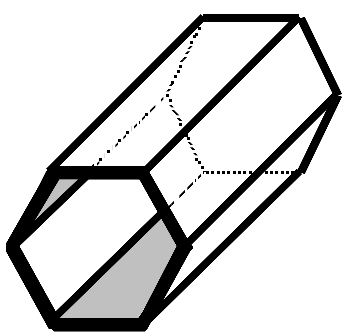
triangles _________

squares __________

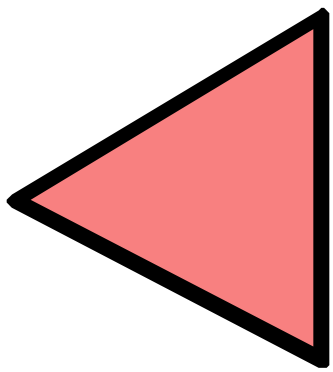
hexagons _________

rectangles ________

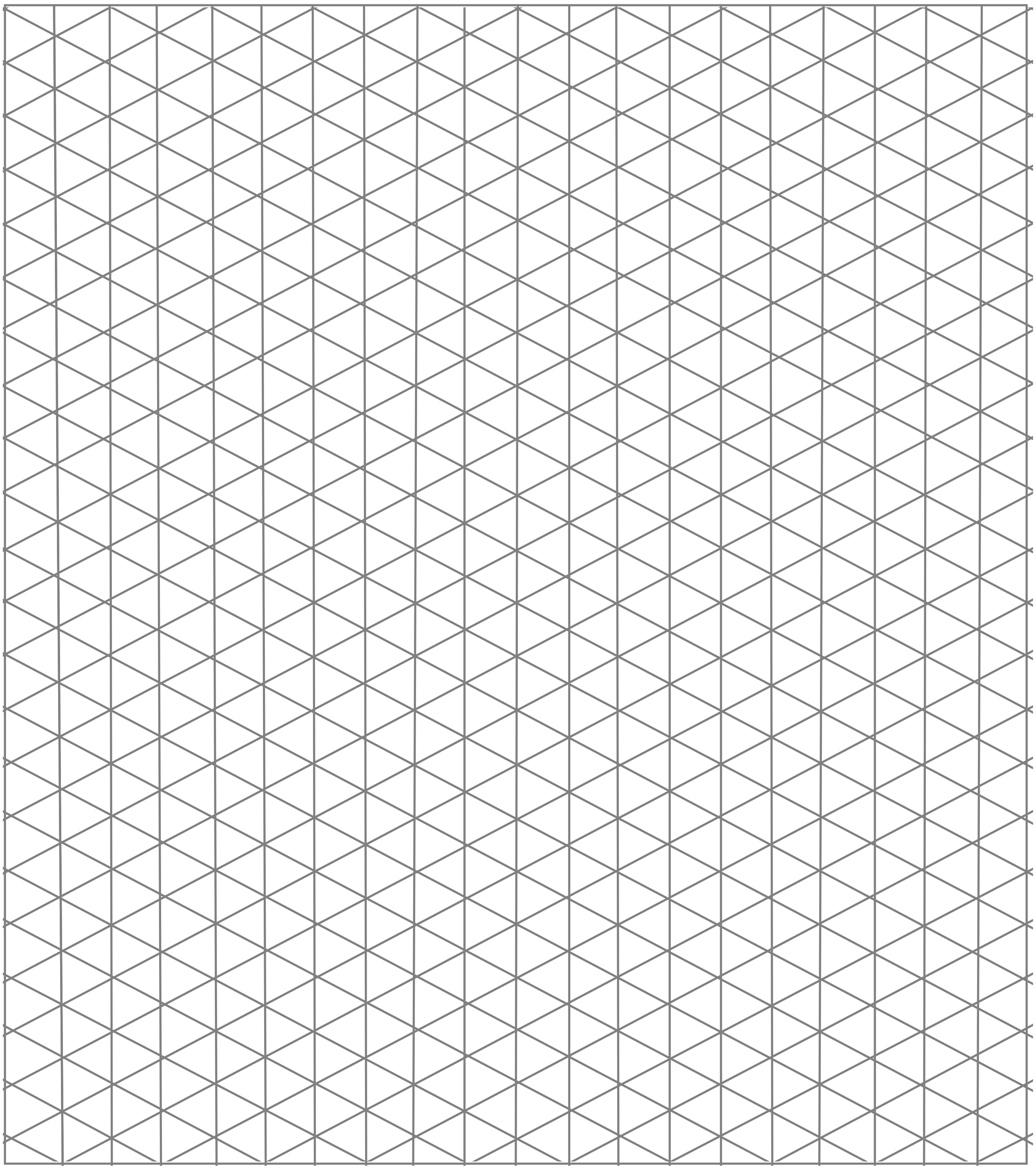
octagons __________



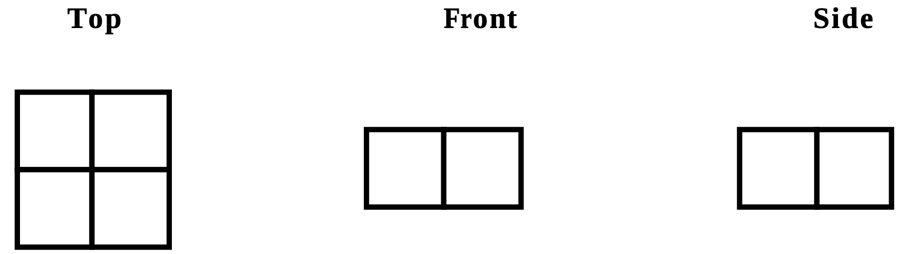
8. Use the triangle grid paper and make two more triangles, one congruent and one similar to the triangle shaded below.



Isometric Triangular Paper

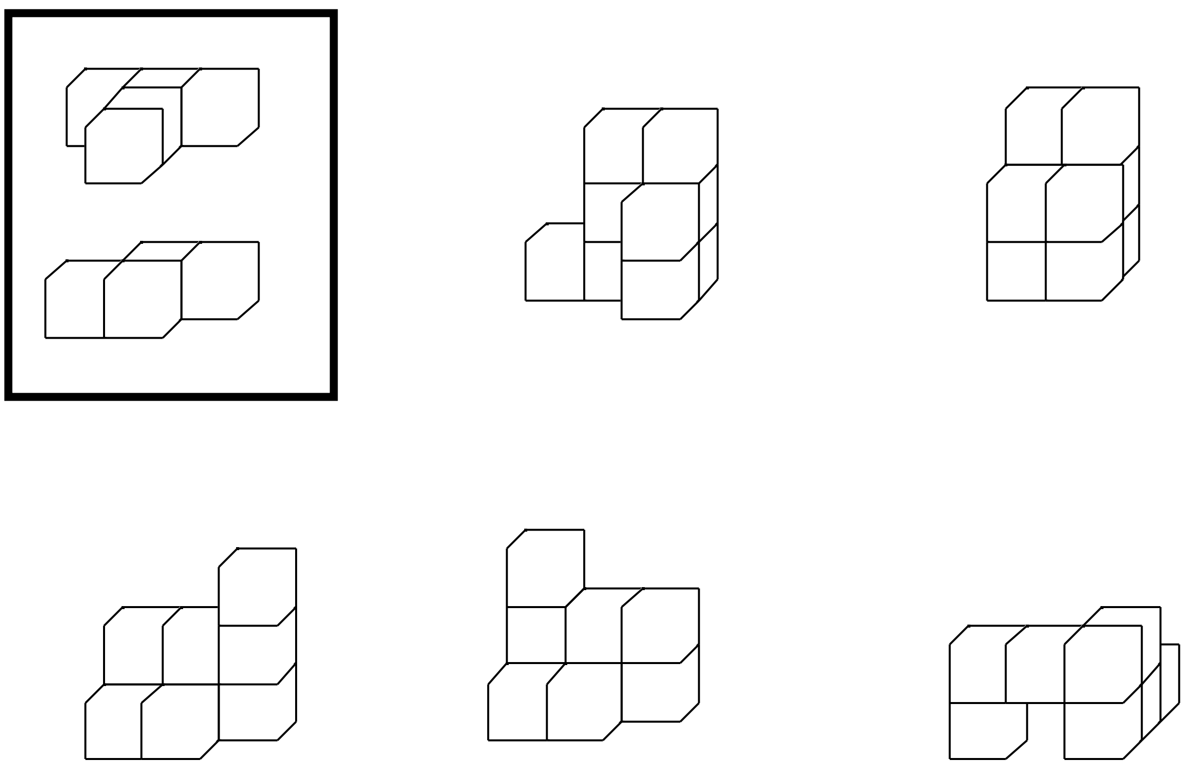


9. Here is a top, front, and side view of a three-dimensional figure. Using linking cubes, predict how many cubes it would take to build the figure. Put your answer on the line provided below.

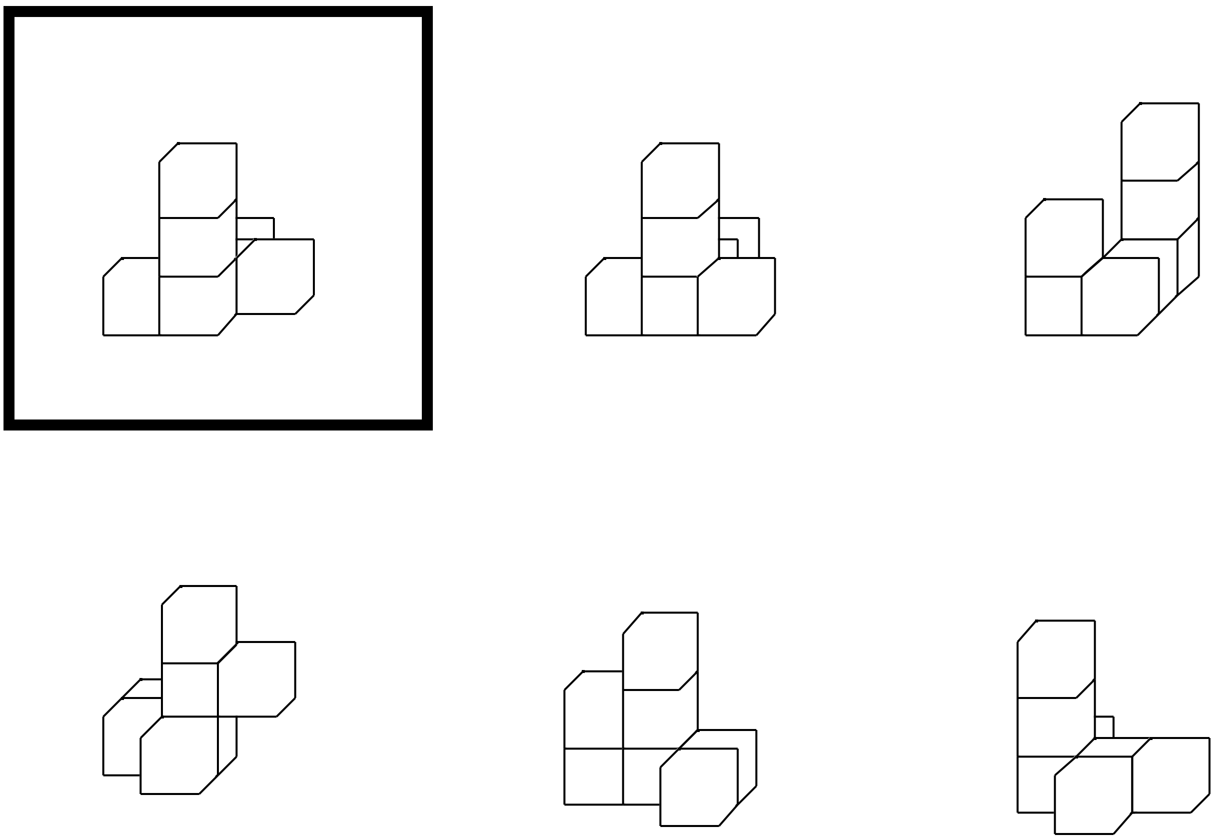


Number of cubes: ___________

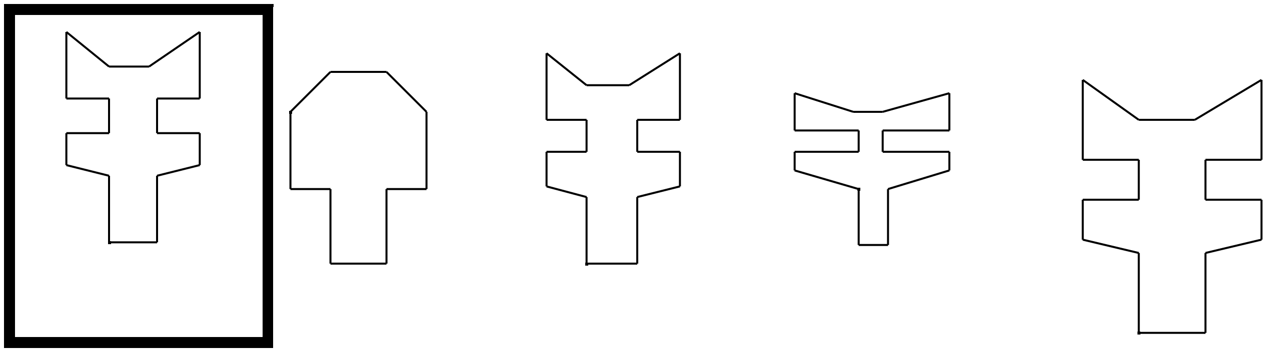
10. Here are two puzzle pieces. Circle the figures below that can be made from the two pieces shown.



11. Here is one view of a building. Circle the figure that is another view of the same building.

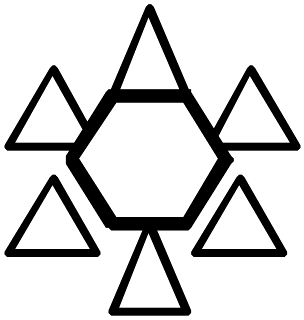


12. Look at the shape shown on the left. Circle a shape on the right that is congruent.

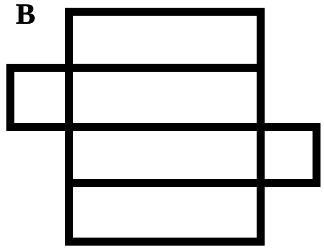


Shown below are nets or jackets that when folded on the lines form three-dimensional figures.

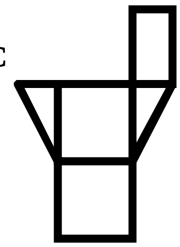
A



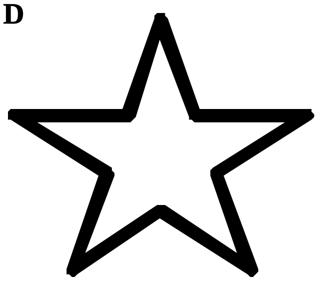
B



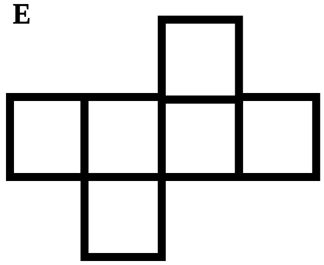
C



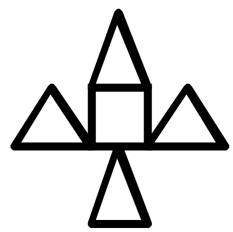
D



E



F



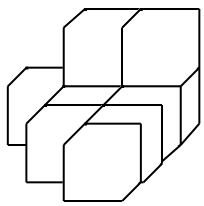
13. List the letters of all jackets pictured above that form pyramids?

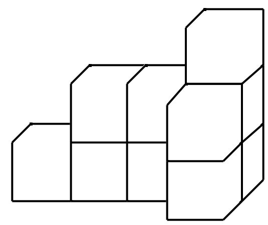
____

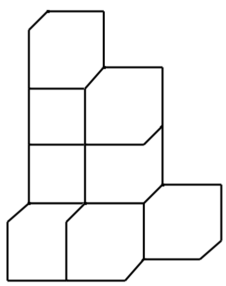
14. List the letters of all jackets pictured above that form prisms?

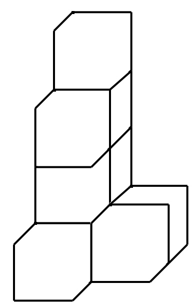
____

15. When shown from another perspective, a figure may appear to be different. Circle the figure below that is not the same as the others.

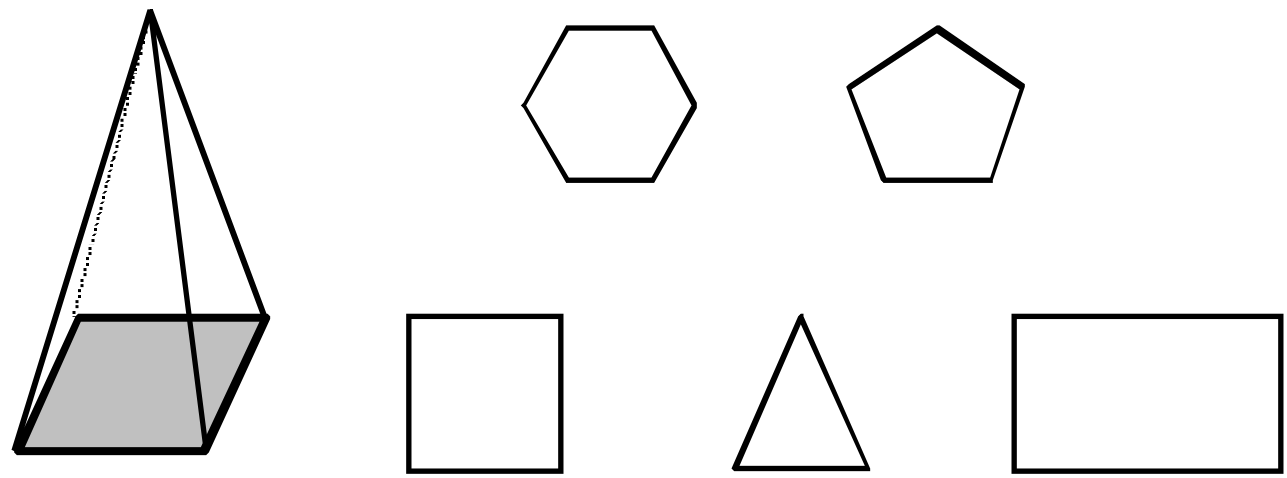






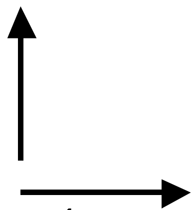


16. Circle all the polygons shown on the right that are needed to make the polyhedron shown on the left.

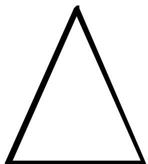


17. Record the letter of the diagrams shown on the left to the correct descriptions listed on the right.

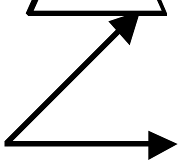
A



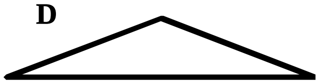
B



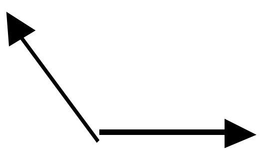
C



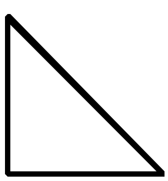
D



E



F



Right Angle _______

Acute Angle_______

Obtuse Angle_______

Right Triangle_______

Acute Triangle_______

Obtuse Triangle_______

18. (a) Trace a Tangram figure that has at least one 90¯degree angle in the space provided below.

(b) Trace a Tangram figure that has no 90¯−degree angles in the space provided below.

19. Build a rectangle in the space below using multiple Tangram pieces. Trace the rectangle, then trace the individual Tangram pieces inside the rectangle.

20. Draw a prism in the space provided below. Describe the attributes of your prism on the lines provided below.

Describe the attributes of your prism.

Turn On to Geometry
Assessment Pilot, 1999-2000
Teacher Feedback Form

Teacher: ______________________ Date: ______________

School: ______________________ District: ______________

Address: ______________________ City/Zip: ______________

Grade Level______________________

Please circle one

Student Distance Learning Programs	**High**				**Low**
Was the focus of the module clear?	5	4	3	2	1
Did the module provide guidance for effective implementation of student programs?	5	4	3	2	1
Were student activities clearly outlined?	5	4	3	2	1
Did activities reflect instructional objectives?	5	4	3	2	1

Additional remarks: ____

____

____

Pre and Post Tests	**High**				**Low**
Were directions easy for students to follow?	5	4	3	2	1
Were students motivated when taking the tests?	5	4	3	2	1
Did problems cover concepts taught?	5	4	3	2	1
Did the format of the test have enough variety?	5	4	3	2	1
Could students complete the post-test with little assistance?	5	4	3	2	1

Additional remarks: _

____

____

____

Specific Comments

Please make specific comments in this section. These can be either positive or negative, but when commenting be as specific as possible, including program number, activity, content, directions, etc. Include additional pages as necessary.

Comments on the TEAMS Home Page. How did you use the online resources for this module?

Database and Scoring Rubric

The following is an explanation of the Turn On To Geometry Test:

The first row listings are to be understood as follows:

A1 **Teacher Code** Each of the teachers participating in the testing was assigned an identification code. The first two letters represented the state the teacher was from. The last number was assigned randomly.

B1 **Student Code** Each student was assigned an identification code. The first two letters represent the state the child was from, the next letter represents the school the child was enrolled in and the last four numbers were assigned at random.

C1 **Grade**. This indicates the grade the child was enrolled in when they participated in this assessment.

D1 **Raw Pre-Test Score Times Two.** This is the total raw pre-test being multiplied to bring the final number to a 100 scale.

E1 **Raw Post Test Score Times Two.** This is the total raw score of the posttest being multiplied by 2 in order to bring the final score to a 100 scale.

F1 **Impact Site.** This is an indicator if the school is an impact site or not

G1 **School Location.** This describes where the school is located- whether it be urban, rural etc.

H1 **Classification**. This indicates if the student is under any type of special programming- for example, GATE, Title 1- or none (if nothing is listed).

I1 **Student Ethnicity.** This indicates whether the student is Hispanic/Latino or not.

J1 **Race.** This indicates whether the student is African/American, White, Asian, Native Hawaiian or Islander or Unknown

K1 **Gender.** This indicates if the student is male, female or unknown (choose not to state)

L1 There is no heading, however, at the bottom- (row 522), it indicates the Totals of the responses on the exam

M1-O1 **Question 1**. Each of these represent the possible responses that the child could have made in response to the question. If the child made an attempt with each shape, **and** this was the **correct** answer, then the student would receive a **1** in the box. If the attempt was **incorrect**, a **0** was placed in the box. The **failure to respond was also marked as incorrect or 0.**

Please note: these cells are an indicator or if the problem was properly attempted or not, and NOT subpoints adding up to a total score

P1 Total. This was the total number of points that the student achieved for this problem. Maximum possible is 3. **Please note: this is NOT the**

added total of the preceding cells. (The preceding cells merely indicate whether the problem was properly attempted or not)

Q1-S1 **Question 2**. Each of these represent the possible responses that the child could have made in response to the question. If the child made an attempt with each shape, **and** this was the **correct** answer, then the student would receive a **1** in the box. If the attempt was **incorrect**, a **0** was placed in the box. The **failure to respond was also marked as incorrect or 0.**

T1 Total. This was the total number of points that the student achieved for this problem. Maximum possible is 3. **Please note: this is NOT the added total of the preceding cells.** (The preceding cells merely indicate whether the problem was properly attempted or not)

U1-V1 **Question 3.** Each of these represent the possible responses that the child could have made in response to the question. If the child made an attempt with each shape, **and** this was the **correct** answer, then the student would receive a **1** in the box. If the attempt was **incorrect**, a **0** was placed in the box. The **failure to respond was also marked as incorrect or 0.**

W1 Total. This was the total number of points that the student achieved for this problem. Maximum possible is 2. **Please note: this is NOT the added total of the preceding cells.** (The preceding cells merely indicate whether the problem was properly attempted or not)

X1-AB1 **Question 4A.** Each of these represent the possible responses that the child could have made in response to the question. If the child made an attempt with each shape, **and** this was the **correct** answer, then the student would receive a **1** in the box. If the attempt was **incorrect**, a **0** was placed in the box and **the entire problem was considered incorrect.** The **failure to respond was also marked as incorrect or 0.**

AC1 Total. This was the total number of points that the student achieved for this problem. Maximum possible is 2. **Please note: this is NOT the added total of the preceding cells.** (The preceding cells merely indicate whether the problem was properly attempted or not)

AD1-AH1 **Question 4B.** Each of these represent the possible responses that the child could have made in response to the question. If the child made an attempt with each shape, **and** this was the **correct** answer, then the student would receive a **1** in the box. If the attempt was **incorrect**, a **0** was placed in the box and **the entire problem was considered incorrect.** The **failure to respond was also marked as incorrect or 0**

AI1 Total. This was the total number of points that the student achieved for this problem. Maximum possible is 2. **Please note: this is NOT the added total of the preceding cells.** (The preceding cells merely indicate whether the problem was properly attempted or not)

AJ1-AN1 **Question 4C.** Each of these represent the possible responses that the child could have made in response to the question. If the child made an attempt with each shape, **and** this was the **correct** answer, then the student would receive a **1** in the box. If the attempt was **incorrect**, a **0** was placed in the box and **the entire problem was considered incorrect.** The **failure to respond was also marked as incorrect or 0**

AO1 Total. This was the total number of points that the student achieved for this problem. Maximum possible is 2. **Please note: this is NOT the added total of the preceding cells.** (The preceding cells merely indicate whether the problem was properly attempted or not)

AP1-AT1 **Question 4D.** Each of these represent the possible responses that the child could have made in response to the question. If the child made an attempt with each shape, **and** this was the **correct** answer, then the student would receive a **1** in the box. If the attempt was **incorrect**, a **0** was placed in the box and **the entire problem was considered incorrect.** The **failure to respond was also marked as incorrect or 0**

AU1 Total. This was the total number of points that the student achieved for this problem. Maximum possible is 2. **Please note: this is NOT the added total of the preceding cells.** (The preceding cells merely indicate whether the problem was properly attempted or not)

AV1-AY1 **Question 5.** Each of these represent the possible responses that the child could have made in response to the question. If the child made an attempt with each estimation, **and** this was the **correct** answer, then the student would receive a **1** in the box. If the attempt was **incorrect**, a **0** was placed in the box. In the event that the student's first two estimations added up to 180 degrees, they would be warded a bonus point- which would be reflected in column EH.

AZ1 Total. This was the total number of points that the student achieved for this problem. Maximum possible is 4- unless the student was awarded a bonus point- which would be reflected in column EH. **Please note: this is NOT the added total of the preceding cells.** (The preceding cells merely indicate whether the problem was properly attempted or not)

BA1-BD1 **Question 6.** Each of these represent the possible responses that the child could have made in response to the question. If the child made a correct attempt, then the student would receive a **1** in the box. If the attempt was **incorrect**, a **0** was placed in the box**.** The **failure to respond was also marked as incorrect or 0**

BE1 Total. This was the total number of points that the student achieved for this problem. Maximum possible is 2. Although the problem required that two of the items remain uncircled, if the student had failed to attempt the problem , then no credit was given. **Please note: this is NOT the added total of the preceding cells.** (The preceding cells merely indicate whether the problem was properly attempted or not)

BF1-BJ1 **Question 7.** Each of these represent the possible responses that the child could have made in response to the question. If the child answered **correctly**, then the student would receive a **1** in the box. If the attempt was **incorrect**, a **0** was placed in the box. The **failure to respond was also marked as incorrect or 0.**

BK1 Total. This was the total number of points that the student achieved for this problem. Maximum possible is 2. **Please note: this is NOT the added total of the preceding cells.** (The preceding cells merely indicate whether the problem was properly attempted or not)

BL1-BM1 **Question 8.** Each of these represent the two possible renderings (Similar and congruent) that the child could have made in response to the question. If the child answered **correctly**, then the student would receive a **1** in each box. If the attempt was **incorrect**, a **0** was placed in the box. The **failure to respond was also marked as incorrect or 0.**

BN1 Total. This was the total number of points that the student achieved for this problem. Maximum possible is 2. **Please note: this is NOT the added total of the preceding cells.** (The preceding cells merely indicate whether the problem was properly attempted or not)

BO1 **Question 9.** This was a straightforward question. Either the answer given by the student was correct or incorrect. F the response given was correct, a **1** was placed in the box, if not, a **0** was notated.

BP1 Total. This was the total number of points that the student achieved for this problem. Maximum possible is 1. **Please note: this is NOT the added total of the preceding cells.** (The preceding cells merely indicate whether the problem was properly attempted or not)

BQ1-BU1 **Question 10.** Each of these represent the possible responses that the child could have made in response to the question. If the child made an attempt, **and** this was the **correct** answer, then the student would receive a **1** in the box.(An attempt may also have been correct if the student did *Not* circle an *incorrect* answer) If the attempt was **incorrect** i.e he/she circled the wrong shape and/or failed to circle the right shape, a **0** was placed in the box. **Also, If any of the incorrect shapes were circled, the entire problem was counted as incorrect.**

BV1 Total. This was the total number of points that the student achieved for this problem. Maximum possible is 2. **Please note: this is NOT the added total of the preceding cells.** (The preceding cells merely indicate whether the problem was properly attempted or not)

BW1-CA1 **Question 11.** Each of these represent the possible responses that the child could have made in response to the question. If the child made an attempt, **and** this was the **correct** answer, then the student would receive a **1** in the box.(An attempt may also have been correct if the student did *Not* circle an *incorrect* answer) If the attempt was **incorrect** i.e. he/she circled the wrong shape and/or failed to circle the right shape, a **0** was placed in the box. **Also, If any of the incorrect shapes were circled, the entire problem was counted as incorrect and zero points were awarded.**

CB1 Total. This was the total number of points that the student achieved for this problem. Maximum possible is 2. **Please note: this is NOT the added total of the preceding cells.** (The preceding cells merely indicate whether the problem was properly attempted or not)

CC1-CF1 Question 12. Each of these represent the possible responses that the child could have made in response to the question. If the child made an attempt, **and** this was the **correct** answer, then the student would receive a **1** in the box.(An attempt may also have been correct if the student did *Not* circle an *incorrect* answer) If the attempt was **incorrect** i.e. he/she circled the wrong shape and/or failed to circle the right shape, a **0** was placed in the box. **Also, If any of the incorrect shapes were circled, the entire problem was counted as incorrect and zero points were awarded.**

CG1 Total. This was the total number of points that the student achieved for this problem. Maximum possible is 1. **Please note: this is NOT the**

added total of the preceding cells. (The preceding cells merely indicate whether the problem was properly attempted or not)

CH1-CM1. **Question 13.** Each of these represent the possible responses that the child could have made in response to the question. Which ever letters the student listed, the corresponding boxes (i.e.13A-13F) wold have been notated with the corresponding 1 or 0 (1 =correct selection, 0=incorrect section/no attempt)

CN1 Total. This was the total number of points that the student achieved for this problem. Maximum possible is 3. **Please note: this is NOT the added total of the preceding cells.** (The preceding cells merely indicate whether the problem was properly attempted or not)

CO1-CT1 **Question 14.** Each of these represent the possible responses that the child could have made in response to the question. Which ever letters the student listed, the corresponding boxes (i.e.14A-14F) wold have been notated with the corresponding 1 or 0 (1 =correct selection, 0=incorrect selection/no attempt)

CU1 Total. This was the total number of points that the student achieved for this problem. Maximum possible is 3. **Please note: this is NOT the added total of the preceding cells.** (The preceding cells merely indicate whether the problem was properly attempted or not)

CV1-CY1 **Question 15.** Each of these represent the possible responses that the child could have made in response to the question. If the child made an attempt, **and** this was the **correct** answer, then the student would receive a **1** in the box.(An attempt may also have been correct if the student did *Not* circle an *incorrect* answer) If the attempt was **incorrect** i.e. he/she circled the wrong shape and/or failed to circle the right shape, a **0** was placed in the box.

CZ1 Total. This was the total number of points that the student achieved for this problem. Maximum possible is 1. **However, if any of the incorrect shapes were circled, the entire problem was counted as incorrect and zero points were awarded.**
Please note: this is NOT the added total of the preceding cells. (The preceding cells merely indicate whether the problem was properly attempted or not)

DA1-DE1 **Question 16.** Each of these represent the possible responses that the child could have made in response to the question. If the child made an attempt, **and** this was the **correct** answer, then the student would receive a **1** in the box.(An attempt may also have been correct if the student did *Not* circle an *incorrect* answer) If the attempt was **incorrect** i.e. he/she circled the wrong shape and/or failed to circle the right shape, a **0** was placed in the box.

DF1 Total. This was the total number of points that the student achieved for this problem. Maximum possible is 1. **However, if any of the incorrect shapes were circled, the entire problem was counted as incorrect and zero points were awarded.**
Please note: this is NOT the added total of the preceding cells. (The preceding cells merely indicate whether the problem was properly attempted or not)

DG1-DL1 **Question 17**. Each of these represent the possible responses that the child could have made in response to the question. Which ever letters the student listed, the corresponding boxes (i.e.17A-17F) wold have been notated with the corresponding 1 or 0 (1 =correct selection, 0=incorrect selection/no attempt)

DM1 Total. This was the total number of points that the student achieved for this problem. Maximum possible is 3. **Please note: this is NOT the added total of the preceding cells.** (The preceding cells merely indicate whether the problem was properly attempted or not)

DN1 **Question 18A.** This was a straightforward question. Either the answer given by the student was correct or incorrect. F the response given was correct, a **1** was placed in the box, if not, a **0** was notated.

DO1-DR1 **Question 18B.** This one is accounted for differently from the preceding part of the test. Whereas in the previous sections, all the shapes/attributes were each assigned a letter. In this instance, each letter stands for a possible answer that could have been given. Below is a listing of the possibilities:

18Ba=correct tangram piece was selected one with NO 90^{o} angle and traced
18Bb=incorrect tangram piece was selected and traced (having No 90^{o} angle)
18Bc=non-tangram piece selected but still has 90^{o} angle in it.
18Bd=no attempt was made.

If the attempt was ***correct***, a **1 was listed in all boxes** If the attempt was ***incorrect***, a **0** was placed in **18Ba** (or column DO) ***<u>and</u>*** a **0** was placed in the box that described WHY the problem was incorrect. In other words, in item 18Ba, a 1 was listed if the description occurred (if not, a 0 was listed). In items 18Bb-18Bd (columns DP-DR) if the items DID NOT occur, a 1 was listed; if they DID, a 0 was place in the box that described what had *actually* happened. (For example, if a child had traced a triangle in the space- *non-tangram piece but still has a 90 degree angle in it*-, a zero would be placed in 18Ba to indicate the problem was wrong and a zero in 18Bc to show where the wrong answer occurred. In addition, a 1 would be placed in 18Bb and 18Bd since these two things did not occur in this problem. The entire problem would be notated as such: 18Ba=0, 18Bb=1, 18Bc=0, 18Bd=1.)

DS1 Total. This was the total number of points that the student achieved for this problem. Maximum possible is 1. **Please note: this is NOT the added total of the preceding cells.** (The preceding cells merely indicate whether the problem was properly attempted or not)

DT1-DV1 **Question 19.** This one is also accounted for differently from the preceding part of the test. Whereas in the previous sections, all the shapes/attributes were each assigned a letter. In this instance, each letter stands for a possible answer that could have been given. Below is a listing of the possibilities:

19A=correct answer arrived at using tangrams
19B=incorrect tangram piece was selected and traced
19C= no attempt was made.

If the attempt was ***correct***, a **1 was listed in all boxes** If the attempt was ***incorrect***, a **0** was placed in **19A** (or column DO) ***<u>and</u>*** a **0** was placed in the box that described WHY the problem was incorrect. In other words, in item 19A, a 1 was listed if the description occurred (if not, a 0 was listed). In items 19B-19C (columns DU-DV) if the items DID NOT occur, a 1 was listed; if they DID, a 0 was place in the box that described what had *actually* happened. (For example, if a child had made no attempt at completing the problem, a zero would be placed in 19A to indicate the problem was wrong and a zero in 19C to show where the wrong answer occurred. In addition, a 1 would be placed in 19B since this thing did not occur in this problem. The entire problem would be notated as such: 19A=0, 19B=1, 19C=0.)

DW1 Total. Total. This was the total number of points that the student achieved for this problem. Maximum possible is 2. **Please note: this is NOT the added total of the preceding cells.** (The preceding cells merely indicate whether the problem was properly attempted or not)

DX1-EA1 **Question 20A.** This one is also accounted for differently from the preceding part of the test. Whereas in the previous sections, all the shapes/attributes were each assigned a letter. In this instance, each letter stands for a possible answer that could have been given. Below is a listing of the possibilities:

20Aa= prism drawn correctly
20Ab= incorrect 3 dimensional shape drawn- not a prism
20Ac= incorrect non 3-dimensional shape drawn- not a prism
20Ad=no attempt was made.

If the attempt was ***correct***, a **1 was listed in all boxes** If the attempt was ***incorrect***, a **0** was placed in **20Aa** (or column EC) ***<u>and</u>*** a **0** was placed in the box that described WHY the problem was incorrect. In other words, in item 20Aa, a 1 was listed if the description occurred (if not, a 0 was listed). In items 20Ab-20Ad (columns DX-EA) if the items DID NOT occur, a 1 was listed; if they DID, a 0 was place in the box that described what had *actually* happened. (For example, if a child had drawn a sphere- *a 3-dimensional non-prism*-, a zero would be placed in 20Aa to indicate the problem was wrong and a zero in 20Ab to show where the wrong answer occurred. In addition, a 1 would be placed in 20Ac and 20Ad since these two things did not occur in this problem. The entire problem would be notated as such: 20Aa=0, 20Ab=0, 20Ac=1, 20Ad=1.)

EB1 Total. This was the total number of points that the student achieved for this problem. Maximum possible is 1. **Please note: this is NOT the added total of the preceding cells.** (The preceding cells merely indicate whether the problem was properly attempted or not)

EC1-EF1 **Question 20B.** This one is slightly different than the rest of the questions in that in this question students must describe the shape they had drawn to answer the preceding question. In order to complete the problem fully, four attributes must be touched on. Each attribute that should be addressed is listed below:

20Ba=listed name of polygon faces
20Bb=listed number of faces
20Bc=listed number of vertices
20Bd=listed number of edges

A **1** should be placed in each box where the child has successfully described his/her prism. If the child failed to address an attribute, a **0** is placed in the box.

EG1 Total. This was the total number of points that the student achieved for this problem. Maximum possible is 2. In order to complete the problem fully, four attributes must be touched on. Partial credit was given for each attribute.
Please note: this is NOT the added total of the preceding cells. (The preceding cells merely indicate whether the problem was properly attempted or not)

EH1 **Extra Credit.** In the even that the student had answered #5 fully, an extra credit point was awarded and notated here.

EI1 Total Points. This is the sum of all the TOTALS throughout the exam.

EK1 **Post test.** This is the raw score, taken from EI1 multiplied by two in order to bring the score into the 100 scale.

Student as an Historian Pre-Post Assessment Tool

The pre-post test assessment tool is used to tap into students' prior knowledge and to evaluate how well they have learned after participating in the *Student as an Historian* module.

More specifically, the tests are designed to:

- Help teachers and the Distance Learning Instructor tailor and improve instruction;
- Give the student feedback on ways to learn more effectively;
- Determine the levels at which students are operating;
- Determine progress made by students over time.

Using the assessment tool:

1. **Pre-test**
   a. Make copies of the test.
   b. Administer pre-test before teaching the module.
   c. Set students' minds at ease.
   The increasing prevalence of institutional testing at various grade levels has made test phobia more common. Make this evaluation less threatening by explaining its purpose as outlined above.
   d. Remind students that a pre-test is intended to show what information they already know and what information they still need to learn. They are not expected to know all the answers before participating in the module.
   e. Share with them that the same test will be given at the end of the module, (post-test) at which time they will be able to show what they have learned.
2. **Grading the tests.**
   - A rubric is included, see page 8, so that you can evaluate and assign a point value to each question.
3. **Post-test assessment information.**
   a. Administer the test.
   - read each test question;
   - encourage students to ask questions if they do not understand the format of a question;
   - compare the pre-test to the post-test;
   - determine how well your students were able to progress over time.
4. **Give students feedback.**
   - After students have taken the post -test, give an overview of how the class did as a whole;
   - Discuss questions and what is needed to be included for complete answers.
5. **Share the results.**
   - Complete test information sheet, see page 11, and send to:

     Angie Sims, TEAMS Distance Learning Instructor
     Los Angeles County Office of Education
     9300 Imperial Highway, Room 250
     Downey, CA 90242-2890
   - Include any comments about the test format or content.

- The Distance Learning Instructor will use the information to improve delivery of the *Student as an Historian* module.

Historian Rubric

This rubric gives the number of points assigned to each question and suggestions for scoring depth of content.

1. *Why do we study the past? List 5 reasons.*

   5 points

   1 point for each logical reason listed.

   Students answers should reflect an understanding that:

   - Events and changes occur in a specific time and place.
   - Historical changes has both causes and effects.
   - History is a story of the way people in the past saw themselves, their ideas and values, fears and dreams.
   - We are connected to the past.
   - The past affects our present and future lives.

   Possible student 1-point answers:

   - We study the past to learn why and how events have occurred over time.
   - We study the past to learn from it so that we won't make the same mistakes.
   - We study the past to learn about our ancestors.

2. *What are ancestors?*

   5 points

   Student answers should reflect an understanding that ancestors are the people born before us.

   Possible 5-point student answer: Ancestors are the people who were born before us.

3. *Fill-in the time line to highlight 5 special events in your life. List each event and record the year the event took place.*

   15 points

   5 points for 5 significant events.

   Significant events include momentous or meaningful events that have occurred throughout the student's life.

   5 points for chronological order.

   5 points for including the year of the event.

4. *Construct your family tree as far as you can go.*

   Label the boxes to fill in the family tree.

   15 points

   3 points if the student labels the appropriate box with his/her name.

   4 points for each completed line of the family tree.

   Students should begin with themselves and add their parents, grandparents, great grandparents etc. to the appropriate tree limb.

5. *Look at the artifacts below.*

   Use these questions (artifact analysis) to make a guess about what you think they are.

   How were these artifacts used?

What are they made of?

Are the artifacts similar to something you have seen or used before? If so,

More credit is given for your explanation.

15 points

5 points for answers that include artifact analysis.

1 point for answers that do not include artifact analysis.

6. *Circle only examples of primary sources below.*

   10 points

   2 points for each item circled. Students should circle all pictures.

7. *Think of 3 more primary sources that you could use to learn more about your family's history.*

   15 points

   5 points for each source listed.

   Primary sources include written documents, images, and artifacts from the period being studied.

8. *Describe an artifact or family treasure that belongs to your family. Tell the* ***w****ho,* ***w****hat,* ***w****hen,* ***w****here, and* ***h****ow of* ***w****hy this is important to your family.*

   12 points

   Each one is worth 2 points.

   Student answer should include all 5 "w's" and "h" and its explanation.

9. *If you could create a family history book, what information would you put in your book? List 8 items that would be important to include.*

   8 points

   One point for each logical answer.

   Possible student 1-point answers - ancestors
   - family stories
   - family events
   - etc.

STUDENT AS AN HISTORIAN TEST

Student Name: ____

Teacher Name: ____

Directions: An assessment is one way of finding out what you already know or have learned about a subject. Read each question carefully and answer it to the best of your ability.

1. Why do we study the past? List 5 reasons.

____

____

____

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____

2. What are ancestors?

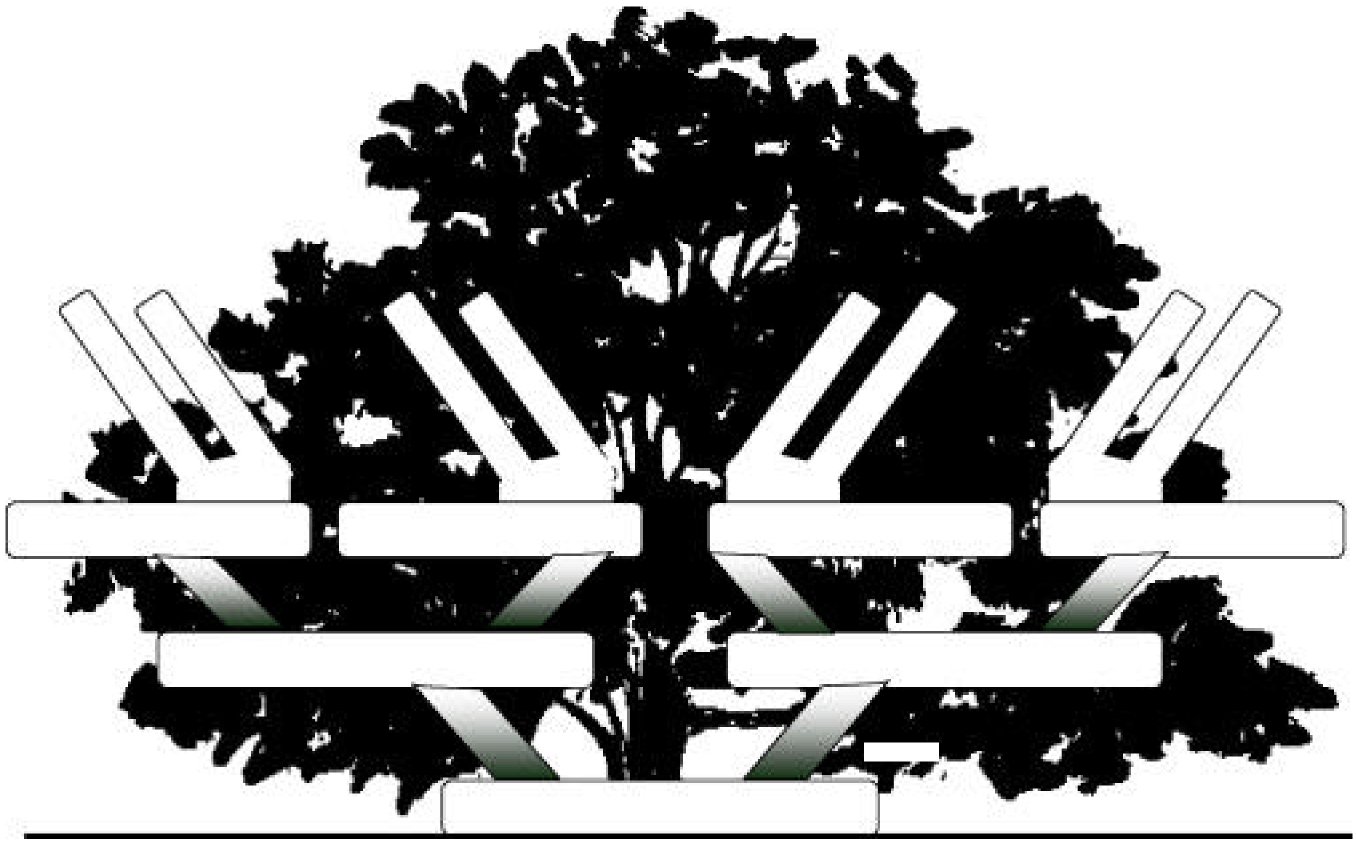
____

____

____

3. Fill-in the timeline to highlight 5 special events in your life. List each event and record the year the event took place.

4. Construct your family tree as far as you can go. Label the boxes to fill in the family tree.



5. Look at the artifacts below. Use these questions (artifact analysis) to make a guess about what you think they are.
How were these artifacts used?
What are they made out of?
Is the artifact similar to something you have seen or used before?
More credit is given for your explanation.

Back in my day..

artifact

person

photographs

sheet music

legal documents

7. Think of three more primary sources that you could use to learn more about your family's history.

8. **Describe an artifact or family treasure that belongs to your family. Tell the who, what, when, where, and how of why this is important to your family.**

____
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9. **If you could create a family history book, what information would you put in your book? List eight items that would be important to include.**

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Turn On to Geometry Pre-Post Test Statistical Analysis

Background:

The Excel Spreadsheet provided by the "Turn On to Geometry Project" contained a flat file database configuration containing the following: 1) state, school, teacher, and student ID devices, 2) a variety of demographic fields ranging from gender to special programs, to ethnicity, etc., 3) the pretest and post test grades for most of the students tested, and 4) test item listings for most of the students tested.

Methodology

Using the Excel spreadsheet as the base document, it was loaded into Statistical Program for the Social Sciences (SPSS) version 10.0. The loading was accomplished in segments in order to facilitate disaggregation of the results. The basic analytical objective was to determine if there was a statistically significant difference in the pre and post test results for the tested group as a whole, and to see how each of the subgroups (states, special programs, schools, etc.) faired. The first step statistically was to run descriptive statistics and determine the approximate degree of parametric configuration for each score distribution. A within subjects (paired samples) test was run on each grouping. A 95 percent confidence interval was used, and all paired sample significances were figured two-tailed. In the paragraphs below the results are summarized of the descriptive statistics and the t-test for each of these groups.

Limitations of the Study

In most of the groupings for analysis there were portions of the students which were missing either the pre- or post-test score. Those cases were removed from the analysis. In the descriptive statistics section for each group the number of complete cases will be stated as the "Valid N."

Group: Total students involved in the study

Statistics were generated for all of the students who were involved in the study of Turn on to Geometry.

Valid N = 422 (number of cases with both pre- and post- test results)

Pretest Mean = 28.47

Pretest Standard Deviation = 16.16

Post Test Mean = 50.38

Post Test Standard Deviation = 19.19

Correlation = .611

t-Test Result: a statistically significant difference in the means of the pretest and the post test for this group exists with the post test score higher. This indicates that the observed difference in the two means is too large to be due to sampling error.

State Groups

Statistics were run for students by state. The results for all participating states were significant. The individual results appear below by state.

Group: Arizona students involved in the study

Valid N = 99 (respondents with pre- and post-test results)

Pretest Mean = 26.88

Pretest Standard Deviation = 13.98

Post Test Mean = 46.40

Post Test Standard Deviation = 20.16

Correlation = .766

t-Test Result = a statistically significant difference in the means of the pretest and the post test for this group exists with the post test score higher. The observed difference in the two means is too large to be due to sampling error.

Group: California students involved in the study

Valid N = 196 (respondents with pre- and post-test results)

Pretest Mean = 23.79

Pretest Standard Deviation = 11.38

Post Test Mean = 49.88

Post Test Standard Deviation = 18.12

Correlation = .445

t-Test Result = a statistically significant difference in the means of the pretest and the post test for this group exists with the post test score higher. The observed difference in the two means is too large to be due to sampling error.

Group: Massachusetts students involved in the study

Valid N = 68 (respondents with pre- and post-test results)

Pretest Mean = 37.13

Pretest Standard Deviation = 21.11

Post Test Mean = 60.38

Post Test Standard Deviation = 15.59

Correlation = .724

t-Test Result = a statistically significant difference in the means of the pretest and the post test for this group exists with the post test score higher. The observed difference in the two means is too large to be due to sampling error.

Group: Mississippi students involved in the study

Valid N = 21 (respondents with pre- and post-test results)

Pretest Mean = 19.57

Pretest Standard Deviation = 6.34

Post Test Mean = 30.47

Post Test Standard Deviation = 15.35

Correlation = .647

t-Test Result = a statistically significant difference in the means of the pretest and the post test for this group exists with the post test score higher. The observed difference in the two means is too large to be due to sampling error.

Group: North Carolina students involved in the study

Valid N = 38 (respondents with pre- and post-test results)

Pretest Mean = 45.94

Pretest Standard Deviation = 17.82

Post Test Mean = 55.87

Post Test Standard Deviation = 17.14

Correlation = .764

t-Test Result = a statistically significant difference in the means of the pretest and the post test for this group exists with the post test score higher. The observed difference in the two means is too large to be due to sampling error.

Group: California School "T" students involved in the study

Valid N = 19 (respondents with pre- and post-test results)

Pretest Mean = 21.37

Pretest Standard Deviation = 11.07

Post Test Mean = 66.16

Post Test Standard Deviation = 14.91

Correlation = .455

t-Test Result = a statistically significant difference in the means of the pretest and the post test for this group exists with the post test score higher. The observed difference in the two means is too large to be due to sampling error.

Group: California School "D" students involved in the study

Valid N = 98 (respondents with pre- and post-test results)

Pretest Mean = 23.70

Pretest Standard Deviation = 10.06

Post Test Mean = 48.12

Post Test Standard Deviation = 16.67

Correlation = .589

t-Test Result = a statistically significant difference in the means of the pretest and the post test for this group exists with the post test score. The observed difference in the two means is too large to be due to sampling error.

Group: California School "M" students involved in the study

Valid N = 50 (respondents with pre- and post-test results)

Pretest Mean = 21.52

Pretest Standard Deviation = 11.69

Post Test Mean = 48.5

Post Test Standard Deviation = 19.33

Correlation = .311

t-Test Result = a statistically significant difference in the means of the pretest and the post test for this group exists with the post test score higher. The observed difference in the two means is too large to be due to sampling error.

Group: California School "W" students involved in the study

Valid N = 30 (respondents with pre- and post-test results)

Pretest Mean = 29.9

Pretest Standard Deviation = 13.55

Post Test Mean = 48.90

Post Test Standard Deviation = 19.35

Correlation = .650

t-Test Result = a statistically significant difference in the means of the pretest and the post test for this group exists with the post test score higher. The observed difference in the two means is too large to be due to sampling error.

Group: Massachusetts School "0" students involved in the study

Valid N = 50 (respondents with pre- and post-test results)

Pretest Mean = 27.24

Pretest Standard Deviation = 12.41

Post Test Mean = 54.60

Post Test Standard Deviation = 11.99

Correlation = .308

t-Test Result = a statistically significant difference in the means of the pretest and the post test for this group exists with the post test score higher. The observed difference in the two means is too large to be due to sampling error.

Group: Mississippi School "O" students involved in the study

Valid N = 40 (respondents with pre- and post-test results)

Pretest Mean = 40.36

Pretest Standard Deviation = 25.30

Post Test Mean = 51.69

Post Test Standard Deviation = 27.20

Correlation = .928

t-Test Result = a statistically significant difference in the means of the pretest and the post test for this group exists with the post test score higher. The observed difference in the two means is too large to be due to sampling error.

Group: North Carolina School "N" students involved in the study

Valid N = 38 (respondents with pre- and post-test results)

Pretest Mean = 45.94

Pretest Standard Deviation = 17.82

Post Test Mean = 55.87

Post Test Standard Deviation = 17.14

Correlation = .764

t-Test Result = a statistically significant difference in the means of the pretest and the post test for this group exists with the post test score higher. The observed difference in the two means is too large to be due to sampling error.

Group: GATE students involved in the study

Valid N = 17 (respondents with pre- and post-test results)

Pretest Mean = 38.00

Pretest Standard Deviation = 11.05

Post Test Mean = 64.53

Post Test Standard Deviation = 16.33

Correlation =.594

t-Test Result = a statistically significant difference in the means of the pretest and the post test for this group exists with the post test score higher. The observed difference in the two means is too large to be due to sampling error.

Group: LEP students involved in the study

Valid N = 45 (respondents with pre- and post-test results)

Pretest Mean = 16.31

Pretest Standard Deviation = 9.27

Post Test Mean = 48.31

Post Test Standard Deviation = 18.75

Correlation = .235

t-Test Result = a statistically significant difference in the means of the pre- and the post-test for this group exists with the post test score higher. The observed difference in the two means is too large to be due to sampling error.

Groups Analyzed by other Factors

The figures were disaggregated so that the groups could be analyzed by Program enrollment or eligibility, area in which they live, ethnicity and other factors. The results are shown below by group.

Group: Title I students involved in the study

Valid N = 192 (respondents with pre- and post-test results)

Pretest Mean = 26.88

Pretest Standard Deviation = 16.28

Post Test Mean = 49.21

Post Test Standard Deviation = 20.36

Correlation = .647

t-Test Result = a statistically significant difference in the means of the pretest and the post test for this group exists with the post test score higher. The observed difference in the two means is too large to be due to sampling error.

Group: RSP students involved in the study

Valid N = 14 (respondents with pre- and post-test results)

Pretest Mean = 16.21

Pretest Standard Deviation = 11.48

Post Test Mean = 32.21

Post Test Standard Deviation = 19.14

Correlation = .278

t-Test Result = a statistically significant difference in the means of the pretest and the post test for this group exists with the post test score higher. The observed difference in the two means is too large to be due to sampling error.

Group: Students not participating in special programs who are involved in the Geometry study

Valid N = 162 (respondents with pre- and post-test results)

Pretest Mean = 33.06

Pretest Standard Deviation = 15.80

Post Test Mean = 52.11

Post Test Standard Deviation = 16.77

Correlation = .643

t-Test Result = a statistically significant difference in the means of the pretest and the post test for this group exists with the post test score higher. The observed difference in the two means is too large to be due to sampling error.

Group: Students in the IMPACT evaluation and Geometry study

Valid N = 247 (respondents with pre- and post-test results)

Pretest Mean = 31.61

Pretest Standard Deviation = 18.14

Post Test Mean = 52.04

Post Test Standard Deviation = 20.01

Correlation = .661

t-Test Result = a statistically significant difference in the means of the pretest and the post test for this group exists with the post test score higher. The observed difference in the two means is too large to be due to sampling error.

Group: Students not in the IMPACT evaluation but involved in the Geometry study

Valid N = 176 (respondents with pre- and post-test results)

Pretest Mean = 24.14

Pretest Standard Deviation = 11.49

Post Test Mean = 48.15

Post Test Standard Deviation = 17.78

Correlation = .498

t-Test Result = a statistically significant difference in the means of the pretest and the post test for this group exists with the post test score higher. The observed difference in the two means is too large to be due to sampling error.

Group: Students who live in Rural areas that are involved in the study

Valid N = 21 (respondents with pre- and post-test results)

Pretest Mean = 19.57

Pretest Standard Deviation = 6.34

Post Test Mean = 30.47

Post Test Standard Deviation = 15.35

Correlation = .647

t-Test Result = a statistically significant difference in the means of the pre- and the post test for this group exists with the post test score higher. The observed difference in the two means is too large to be due to sampling error.

Group: Suburban Students who are involved in the study

Valid N = 117 (respondents with pre- and post-test results)

Pretest Mean = 31.57

Pretest Standard Deviation = 17.79

Post Test Mean = 51.10

Post Test Standard Deviation = 18.83

Correlation = .539

t-Test Result = a statistically significant difference in the means of the pretest and the post test for this group exists with the post test score higher. The observed difference in the two means is too large to be due to sampling error.

Group: Urban Students who are involved in the study

Valid N = 267 (respondents with pre- and post-test results)

Pretest Mean = 27.68

Pretest Standard Deviation = 15.88

Post Test Mean = 51.67

Post Test Standard Deviation = 19.17

Correlation = .650

t-Test Result = a statistically significant difference in the means of the pretest and the post test for this group exists with the post test score higher. The observed difference in the two means is too large to be due to sampling error.

Group: Asian students who are involved in the study

Valid N = 11 (respondents with pre- and post-test results)

Pretest Mean = 58.73

Pretest Standard Deviation = 25.54

Post Test Mean = 76.55

Post Test Standard Deviation = 19.97

Correlation = .879

t-Test Result = a statistically significant difference in the means of the pretest and the post test for this group exists with the post test score higher. The observed difference in the two means is too large to be due to sampling error.

Group: African American/Black students who are involved in the study

Valid N = 63 (respondents with pre- and post-test results)

Pretest Mean = 28.60

Pretest Standard Deviation = 15.09

Post Test Mean = 43.08

Post Test Standard Deviation = 17.48

Correlation = .715

t-Test Result = a statistically significant difference in the means of the pretest and the post test for this group exists with the post test score higher. The observed difference in the two means is too large to be due to sampling error.

Group: Pacific Island and Native Hawaiian students who are involved in the study

Valid N = 18 (respondents with pre- and post-test results)

Pretest Mean = 25.94

Pretest Standard Deviation = 10.29

Post Test Mean = 45.56

Post Test Standard Deviation = 15.55

Correlation = .336

t-Test Result = a statistically significant difference in the means of the pretest and the post test for this group exists with the post test score higher. The observed difference in the two means is too large to be due to sampling error.

Group: Hispanic Students who are involved in the study

Valid N = 164 (respondents with pre- and post-test results)

Pretest Mean = 22.71

Pretest Standard Deviation = 11.62

Post Test Mean = 47.71

Post Test Standard Deviation = 18.20

Correlation = .440

t-Test Result = a statistically significant difference in the means of the pretest and the post test for this group exists with the post test score higher. The observed difference in the two means is too large to be due to sampling error.

Group: White (not Hispanic) students who are involved in the study

Valid N = 93 (respondents with pre- and post-test results)

Pretest Mean = 36.04

Pretest Standard Deviation = 17.45

Post Test Mean = 55.99

Post Test Standard Deviation = 18.95

Correlation = .734

t-Test Result = a statistically significant difference in the means of the pretest and the post test for this group exists with the post test score higher. The observed difference in the two means is too large to be due to sampling error.

Group: Male students who are involved in the study

Valid N = 231 (respondents with pre- and post-test results)

Pretest Mean = 28.64

Pretest Standard Deviation = 17.07

Post Test Mean = 48.28

Post Test Standard Deviation = 20.21

Correlation = .617

t-Test Result = a statistically significant difference in the means of the pretest and the post test for this group exists with the post test score higher. The observed difference in the two means is too large to be due to sampling error.

Group: Female students who are involved in the study

Valid N = 247 (respondents with pre- and post-test results)

Pretest Mean = 28.34

Pretest Standard Deviation = 14.90

Post Test Mean = 51.56

Post Test Standard Deviation = 18.56

Correlation = .614

t-Test Result = a statistically significant difference in the means of the pretest and the post test for this group exists with the post test score higher. The observed difference in the two means is too large to be due to sampling error.

Item Analysis

There are 20 questions on the pretest/post test instrument; however several of the questions are broken into multiple subparts (e.g., 20A and 20B). The analysis below is done from two perspectives. For each question there are one or more “parts” which are evaluated in a variety of ways, but most often assigned points based on a logical attempt of the problem at hand.

The parts section does not directly determine the student’s score on the pretest/post test, but does point the observer toward a score and provides power to item analysis by giving breadth to the rubric indicators. The actual awarding of points for determining the score on the assessment is done by adding the columns marked “total.” There is a possibility of 50 points; these points are doubled to convert the scores to the more familiar 100-point based scale. In the tables below the sections summarize the items first by constituent part and then as a whole or the total score.

There are inherent limitations to this form of analysis because in several instances the answer profile are missing for cases (i.e., students) even though a pretest and post test exist. The small number of these anomalies in relation to the total number of documented responses should make little difference in the final assessment of each item.

Turn on to Geometry: Question 1:

The test page shows graphics of three polygons.

Question 1: If the polygons below have lines of symmetry, draw the lines of symmetry.

Each of these represent the possible responses that the student could have made in response to the question. If the student made an attempt with each shape, and this was the correct answer, the student would receive one point. If the attempt was or the student failed to respond, no points were given.

Points are an indicator of whether the problem was properly attempted or not, and not subpoints adding to a total score.

- All three polygons with correct lines of symmetry = three points
- One or two polygons with correct lines of symmetry = one or two points
- First or third polygon must be attempted if credit is given for second polygon
- No polygons attempted = 0 points

Students correctly answered part one at 64 percent, but dropped to 30 and 29 percent respectively for parts two and three. The total of possible points received was 43 percent This indicates that the students did not fully understand the principle behind symmetry and could not apply it easily in all cases. The highest percentages were for parts two and three at 70 and 71 percent respectively for incorrect or no response answers (see Table 318).

Table 318
Turn on to Geometry: Question 1

N = 468	Part 1	Part 2	Part 3	Percent of Total Possible Points Achieved
Percent Attempted Correctly	64	30	29	43
Percent Attempted Incorrectly or Not Attempted	36	70	71	

Turn on to Geometry: Question 2

The test shows three shapes divided into sections.

Question 2: Estimate the angle measure indicated for each shape. Write the number of degrees on the line under each shape.

These represent the possible responses that the student could have made in response to the question. If the student made an attempt with each shape, and provided the correct answer, the student would receive one point.   If the attempt was incorrect or the student failed to respond, no points were given. Points are an indicator of whether the problem was properly attempted or not, and not subpoints adding to a total score.

Point Total: Maximum of three points

This was the total number of points that the student achieved for this problem.   This is not the added total of the preceding cells.   Students could receive zero, one, two, or three points for this question.

Student correctly answered part one at 57 percent. They dropped to 12 and 18 percent respectively in correct answers to parts two and three. The total of possible points received was 29 percent correct which indicates that the responding students did not fully understand the concept of angles in order to apply it in all questions provided by the test (see Table 319).

Table 319
Turn on to Geometry: Question 2

N = 468	Part 1	Part 2	Part 3	Percent of Total Possible Points Achieved
Percent Attempted Correctly	57	12	18	29
Percent Attempted Incorrectly or Not Attempted	43	88	82	

Turn on to Geometry: Question 3:

The test shows a square and a triangle.

Question 3: Write the total number of degrees for the vertex angles for each shape.

These represent the possible responses that the student could have made in response to the question. If the student made an attempt with each shape, and this was the correct answer, then the student would receive a one. If the attempt was incorrect or the student did not respond, a 0 was recorded.

Point Total: Maximum of two points

This was the total number of points that the student achieved for this problem. This is not the added total of the preceding cells but indicates whether the problem was properly attempted or not.   The scoring points were zero, one or two points.

Students correctly answered part one 51 percent of the time. This indicates that they were not able to apply the content information to all the areas that had been covered in the TEAMS program. The group scored 43 percent of all possible points that could be achieved (see Table 320).

Table 320
Turn on to Geometry: Question 3

N = 468	Part 1	Part 2	Part 3	Percent of Total Possible Points Achieved
Percent Attempted Correctly	51	30	N/A	41
Percent Attempted Incorrectly or Not Attempted	49	70	N/A	

Turn on to Geometry: Question 4A

The test shows five assorted shapes.

Question 4A: Circle all of the polygons that are correctly described by the word Pentagon.

The following represent the possible responses that the student could make in response to the question. If the student made an attempt with each shape, and this was the correct answer, the student would receive a one. If the attempt was incorrect or the student did not respond, it was a zero.

Point Total: Maximum of two points

This was the total number of points that the student achieved for this problem. This is not the added total of the preceding scores. The preceding score indicated whether the problem was properly attempted or not)

Point Total: If all three are correct and no incorrect polygons are circled = 2

If only correct and no incorrect are circled = 1

For each set of polygons, any incorrect circled = 0

Students correctly answered part one, part two and part five at high levels of 86, 75 and 91 percent respectively. They also answered parts three and four at levels of 56 and 57 percent respectively. The total of possible points received was 55 percent which indicates that the students did not fully understand all of the concepts in this question, yet they scored highly on individual parts (see Table 321).

Table 321
Turn on to Geometry: Question 4A

N = 468	Part 1	Part 2	Part 3	Part 4	Part 5	Percent of Total Possible Points Achieved
Percent Attempted Correctly	86	75	56	57	91	55
Percent Attempted Incorrectly or Not Attempted	14	25	44	43	9	

Turn on to Geometry: Question 4B

The test shows five assorted shapes.

Question 4B: Circle all of the polygons that are correctly described by the word Parallelogram.

These represent the possible responses that the student could make in response to the question. If the student made an attempt with each shape, and this was the correct answer, the student would receive a one. If the attempt was incorrect or the student did not respond, a zero was recorded.

Point Total: Maximum of two points

This was the total number of points that the student achieved for this problem. This is not the added total of the preceding cells. The preceding cells indicate whether the problem was properly attempted or not)

Point Total: If all three correct and no incorrect polygons are circled = 2

If only correct and no incorrect are circled = 1

For each set of polygons, any incorrect circled = 0

Students correctly answered at a high level parts two, three and four. They had low scores on part five. The total of possible points received was 40 percent which indicated that students did not understand the concepts well enough to apply them consistently (see Table 322).

Table 322
Turn on to Geometry: Question 4B

N = 468	Part 1	Part 2	Part 3	Part 4	Part 5	Percent of Total Possible Points Achieved
Percent Attempted Correctly	62	84	81	76	31	40
Percent Attempted Incorrectly or Not Attempted	38	16	19	24	69	

Turn on to Geometry: Question 4C

The test shows five assorted shapes.

Question 4C. Circle all of the polygons that are correctly described by the word Trapezoid.

Each of these represent the possible responses that the student could have made in response to the question. If the student made an attempt with each shape, and this was the correct answer, then the student would receive a one. If the attempt was incorrect or the student did not respond, a 0 was recorded.

Point Total: Maximum of two points

This was the total number of points that the student achieved for this problem. This is not the added total of the preceding scores. The preceding scores indicate whether the problem was properly attempted or not.

Point Total: If all three correct and no incorrect polygons are circled = 2

If only correct and no incorrect are circled = 1

For each set of polygons, any incorrect circled = 0

Students correctly answered Part five at a high level of 80 percent and answered parts one through four at lower levels ranging from 30 to 72 percent. The percent of total possible points achieved was 32 percent indicating that the students did not fully comprehend and could not apply the content to the question (see Table 323)

Table 323
Turn on to Geometry: Question 4C

N = 468	Part 1	Part 2	Part 3	Part 4	Part 5	Percent of Total Possible Points Achieved
Percent Attempted Correctly	53	69	30	72	80	32
Percent Attempted Incorrectly or Not Attempted	47	31	70	28	20	

Turn on to Geometry: Question 4D

The test shows five assorted shapes.

Question 4D: Circle all of the polygons that are correctly described by the word Quadrilateral.

These represent the possible responses that the student could have made in response to the question. If the student made an attempt with each shape, and this was the correct answer, then the student would receive a one. If the attempt was incorrect or the student did not attempt a response, a zero was recorded.

Point Total: Maximum of two points

This was the total number of points that the student achieved for this problem. This is not the added total of the preceding scores. The preceding cells indicated whether the problem was properly attempted or not.

Scoring Points: If all three correct and no incorrect polygons are circled = 2

If only correct and no incorrect are circled = 1

For each set of polygons, any incorrect circled = 0

Students correctly answer part three at a high score of 85 percent. They scored lower on parts one, two, four and five. This indicates that students did not interpret the information on a consistently high basis. However, their total possible points achieved was 57 percent (see Table 324).

Table 324
Turn on to Geometry: Question 4D

N = 468	Part 1	Part 2	Part 3	Part 4	Part 5	Percent of Total Possible Points Achieved
Percent Attempted Correctly	55	55	85	58	62	57
Percent Attempted Incorrectly or Not Attempted	45	45	15	42	38	

Turn on to Geometry: Question 5

The test shows a picture of a house built using seven triangles and one square.

Question 5: In the design below, estimate the angle measures. Write your estimates on the spaces next to the letters that identify the angles.

These represent the possible responses that the student could have made in response to the question. If the student made an attempt with each estimation, and this was the correct answer, the student would receive a one. If the attempt was incorrect, a zero was recorded. In the event that the student's first two estimations added up to 180 degrees, they would be awarded a bonus point.

Point Total: Maximum of four points unless the student was awarded a bonus point.

This was the total number of points that the student achieved for this problem. This is not the added total of the preceding numbers. The preceding numbers indicate whether the problem was properly attempted or not.

Scoring Points: Each correct angle = 1 pt

Bonus if angle A. & angle B total 180 deg. = 1 pt

Students correctly answered parts one through four of this question in a narrow range from 39 to 49 percent. The percent of total possible points achieved was 42 percent. This indicates that the students did not completely comprehend the content and could not apply it well (see Table 325).

Table 325
Turn on to Geometry: Question 5

N = 468	Part 1	Part 2	Part 3	Part 4	Percent of Total Possible Points Achieved
Percent Attempted Correctly	39	31	48	49	42
Percent Attempted Incorrectly or Not Attempted	61	69	52	41	

Turn on to Geometry: Question 6

The test shows a cube, a rectangular prism, and a triangular prism

Question 6: Circle all words that best describe all figures below.

These represent the possible responses that the student could have made in response to the question. If the student made a correct attempt, the student would receive a one. If the attempt was incorrect or the student failed to respond, a zero was recorded.

Point Total: Maximum possible points two

This was the total number of points that the student achieved for this problem. Although the problem required that two of the items remain uncircled, if the student failed to attempt the problem, no credit was given. This is not the added total of the preceding numbers. The preceding numbers indicate whether the problem was properly attempted or not)

Scoring Points: Each correct answer = 0.5 pt. Nothing circled = 0

Students correctly scored on parts one through four in a range of 51 to 66 percent. The percent of total possible points achieved was 60 percent. This indicates a higher level of understanding by the students showing that they could apply the content to the problem (see Table 326)

Table 326
Turn on to Geometry: Question 6

N = 468	Part 1	Part 2	Part 3	Part 4	Percent of Total Possible Points Achieved
Percent Attempted Correctly	66	70	55	51	60
Percent Attempted Incorrectly or Not Attempted	34	30	45	49	

Turn on to Geometry: Question 7

The test shows a hexagonal prism.

Question 7: Put numbers beside the terms to indicate how many of each of the polygon shapes are needed to build the three-dimensional figure below.

These represent the possible responses that the student could have made in response to the question. If the student answered correctly, the student would receive a one. If the attempt was incorrect or the student did not attempt a response, a zero was recorded.

Point Total: Maximum two points

This was the total number of points that the student achieved for this problem. This is not the added total of the preceding numbers. The preceding numbers indicate whether the problem was properly attempted or not.

Scoring Points: Both answers must be correct or score = 0

Students correctly responded to parts one and two at a high level of 79 percent. Their scores were lower in parts three through five. The percent of total possible points achieved was 42 percent. This indicates a lower understanding of the content and the ability to apply it (see Table 327).

Table 327
Turn on to Geometry: Question 7

N = 468	Part 1	Part 2	Part 3	Part 4	Part 5	Percent of Total Possible Points Achieved
Percent Attempted Correctly	79	79	72	59	69	42
Percent Attempted Incorrectly or Not Attempted	21	21	28	41	31	

Turn on to Geometry: Question 8

The test shows an equilateral triangle positioned on triangle grid paper.

Question 8: Use the triangle grid paper and make two more triangles, one congruent and one similar to the triangle shaded below.

Each of these represent the two possible renderings (Similar and congruent) that the student could have made in response to the question. If the student answered correctly, the student received a one If the attempt was incorrect or no attempt to respond was made, a zero was recorded.

Point Total: Maximum possible two points

This was the total number of points that the student achieved for this problem. This is not the added total of the preceding numbers. The preceding numbers indicate whether the problem was properly attempted or not.

Scoring Points: Congruent angle = 1 pt. Similar angle = 1 pt.

Students correctly answered parts one and two at a high level of 79 and 62 percent. The percent of total possible points achieved was 71 percent. This indicates a much higher level of understanding and ability to apply the information to the content (see Table 328).

Table 328
Turn on to Geometry: Question 8

N = 468	Part 1	Part 2	Part 3	Percent of Total Possible Points Achieved
Percent Attempted Correctly	79	62	N/A	71
Percent Attempted Incorrectly or Not Attempted	21	38	N/A	

Turn on to Geometry: Question 9

The test shows connected configurations of linking cubes.

Question 9: Here is a top, front, and side view of a three-dimensional figure. Using linking cubes, predict how many cubes it would take to build the figure.

This was a straightforward question. Either the answer given by the student was correct or incorrect. If the response given was correct, a one was placed in the box, if not, a 0 was recorded.

Point Total: Maximum Possible Points One

This was the total number of points that the student achieved for this problem. This is not the added total of the preceding numbers. The preceding numbers indicate whether the problem was properly attempted or not.

Scoring Points: One response possible

Students correctly scored this question only 34 percent of the time which was also the total possible points for this question. Most students did not grasp this content or respond correctly to the question (see Table 329).

Table 329
Turn on to Geometry: Question 9

N = 468	Part 1	Part 2	Part 3	Percent of Total Possible Points Achieved
Percent Answered Correctly*	34	N/A	N/A	34
Percent Answered (Incorrectly or Not Attempted*	66	N/A	N/A	

*Part 1 responses for this question are evaluated either right or wrong—no credit is given for an attempt.

Turn on to Geometry: Question 10

The test shows connected configurations of linking cubes.

Question 10: Here are two puzzle pieces. Circle the figures below that can be made from the two pieces shown.

These represent the possible responses that the student could have made in response to the question. If the student made an attempt, and this was the correct answer, then the student would receive a one. An attempt may also have been correct if the student did not circle an incorrect answer. If the student circled the wrong shape and/or failed to circle the right shape, a 0 was recorded. If any of the incorrect shapes were circled, the entire problem was counted as incorrect.

Point Total: Maximum Possible Two Points

This was the total number of points that the student achieved for the problem. This is not the added total of the preceding numbers. The preceding numbers indicate whether the problem was properly attempted or not.

Scoring Points: If one correct and no incorrect are circled = 1 pt

Any incorrect circled = 0

Students scored high percents of correct answers on parts two and part five. They had lower correct answers on parts one, three, and four. The percent of total possible points achieved was 17 percent. This indicates that the students understood only partially the concepts that were presented and had trouble applying them (See Table 330).

Table 330
Turn on to Geometry: Question 10

N = 468	Part 1	Part 2	Part 3	Part 4	Part 5	Percent of Total Possible Points Achieved
Percent Attempted Correctly	45	90	47	44	75	17
Percent Attempted Incorrectly or Not Attempted	55	10	53	56	25	

Turn on to Geometry: Question 11

The test shows connected configurations of linking cubes.

Question 11: Here is one view of a building. Circle the figure that is another view of the same building.

These represent the possible responses that the student could have made in response to the question. If the student made an attempt, and this was the correct answer, the student would receive a one. An attempt may also have been correct if the student did not circle an incorrect answer. If the student circled the wrong shape and/or failed to circle the right shape, a zero was recorded. If any of the incorrect shapes were circled, the entire problem was counted as incorrect and zero points were awarded.

Point Total: Maximum Possible Two Points

This was the total number of points that the student achieved for this problem. This is not the added total of the preceding numbers. The preceding numbers indicate whether the problem was properly attempted or not.

Scoring Points: Any incorrect circled = 0

Students correctly scored parts one through five at a high consistency on this question. The percent of total possible points achieved was 60 percent. This indicates a much higher level of understanding and ability to apply the content information to the question (see Table 331).

Table 331
Turn on to Geometry: Question 11

N = 468	Part 1	Part 2	Part 3	Part 4	Part 5	Percent of Total Possible Points Achieved
Percent Attempted Correctly	74	94	91	95	69	60
Percent Attempted Incorrectly or Not Attempted	26	6	9	5	31	

Turn on to Geometry: Question 12

The test shows irregular polygons with matching configurations and its orientation.

Question 12: Look at the shape shown on the left. Circle a shape on the right that is congruent.

These represent the possible responses that the student could have made in response to the question. If the student made an attempt, and this was the correct answer, the student would receive a one. An attempt may also have been correct if the student did not circle an incorrect answer. If the student circled the wrong shape and/or failed to circle the right shape, a zero was recorded. If any of the incorrect shapes were circled, the entire problem was counted as incorrect and zero points were awarded.

Total Points: Maximum Possible one Point

This was the total number of points that the student achieved for this problem. This is not the added total of the preceding numbers. The preceding numbers indicate whether the problem was properly attempted or not.

Scoring Points: Any incorrect circled = 0

Students correctly answered this question at a high level. The percent of total possible points achieved was 82 percent indicating a high level of understanding and ability to apply the content information (see Table 332)

Table 332
Turn on to Geometry: Question 12

N = 468	Part 1	Part 2	Part 3	Part 4	Percent of Total Possible Points Achieved
Percent Attempted Correctly	99	86	97	85	82
Percent Attempted Incorrectly or Not Attempted	1	14	3	15	

Turn on to Geometry: Question 13

The test shows patterns for polyhedrons.

Question 13: Shown below are nets or jackets that when folded on the lines form three-dimensional figures. List the letters of all jackets pictured above that form pyramids.

These represent the possible responses that the student could have made in response to the question. Which ever letters the student listed, the corresponding boxes (i.e.13A-13F) wold have been notated with the corresponding 1 or 0 (1 =correct selection, 0=incorrect section/no attempt)

Point Total: Maximum Possible Three Points

This was the total number of points that the student achieved for this problem. This is not the added total of the preceding numbers. The preceding numbers indicate whether the problem was properly attempted or not.

Scoring Points: 0, 1, 2, or 3 pts

Students scored in a consistent pattern between 71 and 74 percent correct on parts one through five of this questions. The percent of total possible points achieved was 64 percent. This is a clear indication of student understanding and ability to consistently apply the content to the problem (see Table 333).

Table 333
Turn on to Geometry: Question 13

N = 468	Part 1	Part 2	Part 3	Part 4	Part 5	Percent of Total Possible Points Achieved
Percent Attempted Correctly	73	74	72	71	72	64
Percent Attempted Incorrectly or Not Attempted	27	26	28	28	31	

Turn on to Geometry: Question 14

The test shows patterns for polyhedrons.

Question 14: Shown below are nets or jackets that when folded on the lines form three-dimensional figures. List the letters of all jackets pictured above that form prisms.

These represent the possible responses that the student could have made in response to the question. Which ever letters the student listed, the corresponding boxes (i.e.14A-14F) wold have been notated with the corresponding 1 or 0 (1 =correct selection, 0=incorrect selection/no attempt)

Point Total: Maximum Possible Three Points

This was the total number of points that the student achieved for this problem. This is not the added total of the preceding numbers. The preceding numbers merely indicate whether the problem was properly attempted or not.

Scoring Points: 0, 1, 2, or 3 points.

Students scored fairly consistently on parts one through six of this problem. The scores ranged from 53 to 72 percent with only one score in the fifty percent range. However, the percent of total possible points achieved was 36 percent. The consistency is a good indication that the students were close to understanding the concepts in this question (see Table 334)

Table 334
Turn on to Geometry: Question 14

N = 468	Part 1	Part 2	Part 3	Part 4	Part 5	Part 6	Percent of Total Possible Points Achieved
Percent Attempted Correctly	72	69	53	72	65	71	36
Percent Attempted Incorrectly or Not Attempted	28	31	47	28	35	29	

Turn on to Geometry: Question 15

The test shows connected configurations of linking cubes.

Question 15: When shown from another perspective, a figure may appear to be different. Circle the figure below that is not the same as the others.

These represent the possible responses that the student could have made in response to the question. If the student made an attempt, and this was the correct answer, then the student would receive a one. An attempt may also have been correct if the student did not circle an incorrect answer. If the attempt was incorrect i.e. he/she circled the wrong shape and/or failed to circle the right shape, a zero was recorded.

Point Total: Maximum Possible One Points

This was the total number of points that the student achieved for this problem. However, if any of the incorrect shapes were circled, the entire problem was counted as incorrect and zero points were awarded.

This was the total number of points that the student achieved for this problem. This is not the added total of the preceding numbers. The preceding numbers merely indicate whether the problem was properly attempted or not.

Scoring Points: Any incorrect circled = 0

Students correctly answers parts one and three at a high level. While part two is at an acceptable level for the purposes of this study, part four was at a low of 39 percent. The percent of total possible points achieved was only 35 percent for this question. This indicates that students had a mixed reaction to the question and could not consistently apply the content to the question (see Table 335).

Table 335
Turn on to Geometry: Question 15

N = 468	Part 1	Part 2	Part 3	Part 4	Percent of Total Possible Points Achieved
Percent Attempted Correctly	77	62	89	39	35
Percent Attempted Incorrectly or Not Attempted	23	38	11	61	

Turn on to Geometry: Question 16

The test shows a square pyramid (polyhedron) and four different polygons.

Question 16: Circle all the polygons shown on the right that are needed to make the polyhedron shown on the left.

These represent the possible responses that the student could have made in response to the question. If the student made an attempt, and this was the correct answer, then the student would receive a one. An attempt may also have been correct if the student did not circle an incorrect answer. If the attempt was incorrect i.e. he/she circled the wrong shape and/or failed to circle the right shape, a zero was recorded.

Point Total: Maximum Possible Three Points

This was the total number of points that the student achieved for this problem. However, if any of the incorrect shapes were circled, the entire problem was counted as incorrect and zero points were awarded.

Scoring Points: Any incorrect circled = 0

Students showed their understanding of all five parts of this question. The correctly answered the questions in a range of 87 to 94 percent correct. The percent of total possible points achieved was 80 percent. This indicates that the students did understand the content well and could easily and consistently apply it to the question (see Table 336).

Table 336
Turn on to Geometry: Question 16

N = 468	Part 1	Part 2	Part 3	Part 4	Part 5	Percent of Total Possible Points Achieved
Percent Attempted Correctly	94	95	88	87	95	80
Percent Attempted Incorrectly or Not Attempted	6	5	12	13	5	

Turn on to Geometry: Question 17

The test shows a right angle, an acute angle, an obtuse angle, a right triangle, an acute triangle and an obtuse triangle.

Question 17: Record the letter of the diagrams shown on the left to the correct descriptions listed on the right.

These represent the possible responses that the student could have made in response to the question. Which ever letters the student listed, the corresponding boxes would have been notated with the corresponding 1 or 0 (1 =correct selection, 0=incorrect selection/no attempt)

Total Points: Maximum Possible Three Points

This was the total number of points that the student achieved for this problem. This is not the added total of the preceding numbers. The preceding numbers merely indicate whether the problem was properly attempted or not.

Scoring Points: Each correct answer = 0.5 pt

Students scored a range of correct answers on this problem from 57 to 76 percent. The percent of total possible points achieved was 63 percent. This indicates that there was a mixed response by students in their understanding of the concepts behind this question (see Table 337).

Table 337
Turn on to Geometry: Question 17

N = 468	Part 1	Part 2	Part 3	Part 4	Part 5	Part 6	Percent of Total Possible Points Achieved
Percent Attempted Correctly	76	66	63	64	52	57	63
Percent Attempted Incorrectly or Not Attempted	24	34	37	36	48	43	

Turn on to Geometry: Question 18

The test shows a drawing space.

Question 18A:

Question 18A: Trace a Tangram figure that has at least one 90 degree angle in the space provided below.

This was a straightforward question. Either the answer given by the student was correct or incorrect. If the response given was correct, a one was recorded, if not, a zero was recorded

Scoring Points: 18. (a) = 1 pt

Question: 18b

The test shows a drawing space.

Question 18b) Trace a Tangram figure that has no 90 degree angles in the space provided below.

This question is accounted for differently from the preceding part of the test. Whereas in the previous sections, all the shapes/attributes were each assigned a letter. In this instance, each letter stands for a possible answer that could have been given. Below is a listing of the possibilities:

18Ba=correct tangram piece was selected one with NO 90^{o} angle and traced

18Bb=incorrect tangram piece was selected and traced (having No 90^{o} angle)

18Bc=non-tangram piece selected but still has 90^{o} angle in it.

18Bd=no attempt was made.

If the attempt was *correct*, a one was listed for all scores. If the attempt was *incorrect*, a 0 was placed in 18Ba (or column DO) ***and*** a 0 was placed in the box that described WHY the problem was incorrect. In other words, in item 18B, a one was listed if the description occurred (if not, a zero was listed).

In items 18Bb-18Bd if the items did not occur, a one was listed; if they did, a zero was placed in the box that described what had *actually* happened. (For example, if a student had traced a triangle in the space- *non-tangram piece but still has a 90 degree angle in it*-, a zero would be placed in 18Ba to indicate the problem was wrong and a zero in 18Bc to show where the wrong answer occurred. In addition, a one would be placed in 18Bb and 18Bd since these two things did not occur in this problem. The entire problem would be notated as such: 18Ba=0, 18Bb=1, 18Bc=0, 18Bd=1.)

Points Total. Maximum Possible Points One

This was the total number of points that the student achieved for this problem. This is not the added total of the preceding numbers. The preceding numbers merely indicate whether the problem was properly attempted or not)

Scoring Points: 18. (b) = 1 pt

There is a student showing in this question of three parts at very high levels above 85 percent. Parts two and three scored lower at 54 and 60 percent respectively. The

percent of total possible points achieved by the students was 66 percent. This indicates a good understanding of the concepts and the ability to apply them.
(see Table 338).

Table 338
Turn on to Geometry: Question18

N = 468	Part 1	Part 2	Part 3	Part 4	Part 5	Percent of Total Possible Points Achieved
Percent Attempted Correctly	85	54	60	97	97	66
Percent Attempted Incorrectly or Not Attempted	15	46	40	3	3	

Turn on to Geometry: Question 19

The test shows a drawing space.

Question 19: Build a rectangle in the space below using multiple Tangram pieces. Trace the rectangle, then trace the individual Tangram pieces inside the rectangle.

This question is accounted for differently from the preceding part of the test. Whereas in the previous sections, all the shapes/attributes were each assigned a letter. In this instance, each letter stands for a possible answer that could have been given. Below is a listing of the possibilities:

Scoring Points: 19A=correct answer arrived at using tangrams
19B=incorrect tangram piece was selected and traced
19C= no attempt was made.

If the attempt was correct, a one was listed in all boxes. If the attempt was incorrect, a zero was placed in 19A and a zero was placed in the box that described why the problem was incorrect. In other words, in item 19A, a one was listed if the description occurred (if not, a 0zero was listed). In items 19B-19C if the items did not occur, a one was listed; if they did, a zero was place in the box that described what had actually happened. For example, if a student had made no attempt at completing the problem, a zero would be placed in 19A to indicate the problem was wrong and a zero in 19C to show where the wrong answer occurred. In addition, a one would be placed in 19B since this thing did not occur in this problem. The entire problem would be notated as such: 19A=0, 19B=1, 19C=0.)

Total Points: Maximum Possible Two Points

This was the total number of points that the student achieved for this problem. This is not the added total of the preceding numbers. The preceding numbers indicate whether the problem was properly attempted or not.

Scoring Points: No partial credit

Students correctly scored part one at 73 percent. They correctly scored parts two and three at 90 and 94 percent respectively. T percent of total possible points achieved was 73 percent. This indicates a good understanding of the concepts in this question and the ability to apply the content (see Table 339).

Table 339
Turn on to Geometry: Question19

N = 428	Part 1	Part 2	Part 3	Percent of Total Possible Points Achieved
Percent Attempted Correctly	73	90	94	73
Percent Attempted Incorrectly or Not Attempted	27	10	6	

Turn on to Geometry: Question 20A

The test shows a drawing space.

Question 20A: Draw a prism in the space provided below. Describe the attributes of your prism on the lines provided below.

This question is accounted for differently from the preceding part of the test. Whereas in the previous sections, all the shapes/attributes were each assigned a letter. In this instance, each letter stands for a possible answer that could have been given. Below is a listing of the possibilities:

20Aa= prism drawn correctly

20Ab= incorrect 3 dimensional shape drawn- not a prism

20Ac= incorrect non 3-dimensional shape drawn- not a prism

20Ad=no attempt was made.

If the attempt was correct, a one was listed in all boxes If the attempt was incorrect, a 0 was placed in 20Aa and a zero was placed in the box that described why the problem was incorrect. In other words, in item 20Aa, a one was listed if the description occurred (if not, a zero was listed). In items 20Ab-20Ad if the items did not occur, a one was listed; if they did, a zero was recorded in the box that described what had actually happened. (For example, if a student had drawn a sphere- a three-dimensional non-prism-, a zero would be placed in 20Aa to indicate the problem was wrong and a zero in 20Ab to show where the wrong answer occurred. In addition, a one would be placed in 20Ac and 20Ad since these two things did not occur in this problem. The entire problem would be notated as such: 20Aa=0, 20Ab=0, 20Ac=1, 20Ad=1.)

Point Total: Maximum Possible One Point

This was the total number of points that the student achieved for this problem. This is NOT the added total of the preceding numbers. The preceding numbers merely indicate whether the problem was properly attempted or not.

Scoring Points: Drawing = 1 pt

Description = 2 points (name polygon faces; number of faces; number of vertices; number of edges = 0.5 point each)

Students were consistent in correctly answering parts one through three with 63 and 64 percent. The percent of total possible points was 64 percent. This indicates a consistent grasp on the material that still needs more work toward understanding the content and applying the content (see Table 340).

Table 340
Turn on to Geometry: Question 20A

N = 468	Part 1	Part 2	Part 3	Part 4	Percent of Total Possible Points Achieved
Percent Attempted Correctly	63	64	64	86	64
Percent Attempted Incorrectly or Not Attempted	37	36	36	14	

Turn on to Geometry: Question 20B

The test shows lines to write a description.

Question 20B: Describe the attributes of your prism.

This question is slightly different than the rest of the questions in that students must describe the shape they had drawn to answer the preceding question. In order to complete the problem fully, four attributes must be touched on. Each attribute that should be addressed is listed below:

20Ba=listed name of polygon faces

20Bb=listed number of faces

20Bc=listed number of vertices

20Bd=listed number of edges

A one was recorded in each space where the student has successfully described his/her prism. If the student failed to address an attribute, a zero was placed in the box.

Point Total: Maximum Possible Two Point

This was the total number of points that the student achieved for this problem. In order to complete the problem fully, four attributes must be touched on. Partial credit was given for each attribute.

This is not the added total of the preceding numbers. The preceding numbers indicate whether the problem was properly attempted or not)

Scoring Points: Extra Credit. In the event that the student had answered #5 fully, an extra credit point was awarded and noted.

Total Points. This is the sum of all the TOTALS throughout the exam.

Post test. This is the raw score, arrived at by multiplying by two in order to bring the score into the 100 scale. (see Table 341).

Table 341
Turn onto Geometry: Question 20B

N = 468	Part 1	Part 2	Part 3	Part 4	Percent of Total Possible Points Achieved
Percent Attempted Correctly	41	23	10	6	20
Percent Attempted Incorrectly or Not Attempted	59	77	90	94	

Appendix A

TEAMS: Project IMPACT

1999-2000

Survey

Instruments

TEAMS Teacher Evaluation Survey
IMPACT Project 1999-2000 Evaluation

Please complete this questionnaire and return it electronically by May 30, 2000 to URL http://www.TECweb.org/TEAMS.teach/htm

The evaluation survey is available at the above Web site electronically as a PDF file which requires Adobe Acrobat to open and print. Fill in the printed form and fax or mail it to
Dr. Carla Lane, TEAMS Evaluator, The Education Coalition, 31 Segovia, San Clemente, CA 92672
949-369-3867 Fax 949-369-3865 email: CarlaLane@AOL.com

School Name____School District_____________________

Address (City, State, Zip)____

Teacher's Name____________________________Tel _________________________E-mail______________

1. This school is located in an area best described as: a. q urban b. suburban c. q rural

2. a. Number of students in your classes: ___ b. Grade Levels: ___

3. Number of students in your classes who are: a. __High b. ___Middle c. ___Low socio-economic group

4. Number of students in your classes who are: a. __ African American b. __American Indian c. __Asian

   d. ___Hispanic e. ___Pacific Islander f. ___ White (non Hispanic) g. ___Other

5. Number of students in your classes who are: a. ___Title I b. ___ Limited English c. ___Special Ed

   d. ___Disabled e. ___Low Literacy f. ___Gifted

6. Which program modules and programs have you used during the 1999-00 school year? Indicate total programs used in space provided after module title:

History/Social Science (4 modules, 19 programs)
1.Student as Historian 5 (programs___ : 2. Student as Media Evaluator 5 (programs___):
3. California Here I come! 5 (programs___ : 4. Natural Events: Then and Now 4 (programs ___):

Science (5 Modules, 45 programs)
1. Heat 9(programs___): 2. Chemistry 9(programs___): 3. Earth Processes 9(programs___):
4. Weather 9(programs___): 5. Fast plants 9(programs___):

Mathematics/Algebra 4 Modules, 30 programs
1. Primary Algbra 6 (programs___): 2. Algebra in My World 6 (programs___):
3. Turn on to Algebra 8 (programs___): 4. Middle School Algebra 6 (programs___):

Mathematics/Geometry (4 Modules, 30 programs)
1. Primary Geometry 6 (programs___): 2. Geometry in My World 8 (programs)___:
3. Turn on to Geometry 8 (programs___): 4. Middle School Geometry 6 (programs___):

Primary Reading Series Grades K-1
1. Staff Development 4(programs___): 2. Student Programs 8(programs___):

Primary Reading Series Grades 2-3
1. Staff Development 4(programs___): 2. Student Programs 8(programs___):

Language Arts (2 modules, 9 programs)
1. Letters from Rifka 5 (programs___): 2. Shiloh 4 (programs___):

2. How did you watch the programs?
   1. ___Live, interactive 2.___Videotape 3.___Both

TEAMS Student Progress 1999-2000

28. Assign a number, beginning with 1, to each of your students. Describe the student, by circling yes or no for items *a* to *e*. In boxes *f* to *p* put in a number which describes the degree of the outcome for the student that can be attributed to using TEAMS. 4: great degree 3: some degree 2: very little 1: none

Students 1-16 Criteria	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
a Female or Male	F/M	F/M	F/M	F/M	F/M	F/M	F/M	F/M	F/M	F/M	F/M	F/M	F/M	F/M	F/M	F/M
b Chapter I	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N
c LEP	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N
d Gifted	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N
e Special education	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N
f Improved content knowledge and skills	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321
g Improved critical thinking and problem solving	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321
h Improved language skills	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321
i Increased interest in subject area	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321
j Improved Quality of Work	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321
k Increased interest in school	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321
l Improved attendance	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321
m Improved behavior	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321
n Takes responsibility for own learning	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321
o Greater confidence as a learner	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321
p Higher self- regard	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321

Students 17-32 Criteria	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
a Female or Male	F/M	F/M	F/M	F/M	F/M	F/M	F/M	F/M	F/M	F/M	F/M	F/M	F/M	F/M	F/M	F/M
b Chapter I	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N
c LEP	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N
d Gifted	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N
e Special education	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N
f Improved content knowledge and skills	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321
g Improved critical thinking and problem solving	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321
h Improved language skills	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321
i Increased interest in subject area	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321
j Improved quality of work	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321
k Increased interest in school	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321
l Improved attendance	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321
m Improved behavior	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321
n Takes responsibility for own learning	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321
o Greater confidence as a learner	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321
p Higher Self- Regard	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321

TEAMS Technology Evaluation Survey
(for Principal or Site Technology Coordinators)
IMPACT Project 1999-2000 Evaluation

Please complete this questionnaire and return it electronically by May 30, 2000 to URL http://www.TECweb.org/TEAMS.tech/htm

This evaluation survey is available at the above Web site as a PDF file which requires Adobe Acrobat to open and print. Fill in the printed form and fax or mail it to
Dr. Carla Lane, TEAMS Evaluator, The Education Coalition, 31 Segovia, San Clemente, CA 92672
949-369-3867 Fax 949-369-3865 email: CarlaLane@AOL.com

School Name____School District _______________________

Address (City, State, Zip)____

Principal's Name____________________________Tel______________________email______________

1. This school is located in an area best described as: a. __urban b. __suburban c. __rural
   a. Number of students in the school: ______ b. Number using TEAMS: ______
2. Number of students in the school who are: a. __High b. __Middlec. __Low socio-economic
3. Number of students in the school who are: a. __African Am b. ___Am Indian c. __Asian
   d. ___Hispanic e. ___Pacific Islanderf. ___Caucasian (non-Hispanic) g. ___Other
4. Number of students in the school who are: a. ___Title I b. __Limited English
   c. ___Special Ed d. ___Disabled e. ___Low Literacy f. ___Gifted

- What factors limit TEAMS use? a. __Time b. __Training c. __Hardware d.__Classroom Access e. __Other
- a. Did your school convert to a digital satellite dish this year? Yes___ No____
  - Please describe the process used for the conversion and problems encountered.

____
____
____
____
____
____
____
____

7. Check the ways that the school had access to TEAMS this year.

TEAMS Access	**Yes**	**N**
a. Digital Satellite Dish at School		
b. Satellite Reception in Classroom		
c. Public TV Station		
d. Cable		
e. ITFS		
f. Tape		
g. Internet		

Classroom Technology

h. Television	Yes __ No __		
i. Display Television	Yes __ No __		
j. VCR	Yes__ No__		
k. Telephone			
l. Computers:		Check all that apply	How many computers
	i. 486	__	________
	ii. 586	__	________
	iii. Pentium	__	________
	iv. Apple IIe	__	________

	v. Mac Non Power PC __ ________ vi. Mac Power PC __ ________ vii. Other __ ________
m. CD-ROM	Yes __ No __
n. Read/Write CD-ROM	Yes __ No __
o. Laserdisc	Yes __ No __
p. Electronic Mail	Yes __ No __
q. Modem	Yes __ No __ Baud rates: 28.8__ 56K__ Other__
r. Network Access	Yes __ No __ If yes: ISDN__ T1__ Other__
s. Two-way Videoconferencing	Yes __ No __ If yes: VTEL__ Picture Tel__ Other__
t. Firewalls/Filters	Yes __ No __

TEAMS IMPACT Focus Site
Teacher Evaluation Survey
IMPACT Project 1999-2000 Evaluation

Please complete this questionnaire and return it electronically by May 30, 2000 to URL http://www.TECweb.org/TEAMS.teach/htm

The evaluation survey is available at the above Web site electronically as a PDF file which requires Adobe Acrobat to open and print. Fill in the printed form and fax or mail it to
Dr. Carla Lane, TEAMS Evaluator, The Education Coalition, 31 Segovia, San Clemente, CA 92672
949-369-3867 Fax 949-369-3865 email: CarlaLane@AOL.com

School Name____School District______________________________

Address (City, State, Zip)____

Teachers

1. Name____
   Phone____
   E-mail____

2. How long have you been a TEAMS Focus site teacher? ____ years.

3. How long have you used the TEAMS programs? ____ years.

4. Which credentials do you hold ? ____
   a) __ Emergency credentialb) __ Enrolled in a credential program in ________________(content area) which began _______(month/year) and will be completed _______ (month/year)

5. At the end of this school year, how many years will you have taught? _______

6. Professional Development: Please check the activities in which you participated.
   a) ___ TEAMS Professional Development facilitated live at the school or District Office?
   b) ___ TEAMS Professional Development via live broadcast or videotape?
   b) ___ Other 1999-2000 District or County professional development
   c) ___ College credit courses toward an advanced degree in 1999-2000
   d) During the 1999-2000 school year, approximately how many hours did you spend in all types of professional development activities_____(hours) ?

7. My experience with using technology to support curriculum in my classroom is: [check one]
   a) ___ Limited to the 1999-2000 TEAMS IMPACT Project
   b) ___ Moderate: have used technology in my classroom for two years
   c) ___ Extensive: have integrated technology into the curriculum

8. What was your initial attitude toward the support of instruction through technology in your classroom as compared to your attitude about it now?

   ____
   ____
   ____
   ____
   ____
   ____

9. How much has using supportive technology changed the way you teach your classes? (check one)
   a) ___Not at all
   b) ___Somewhat

c) ___Quite a bit
d) ___Greatly
e) Please describe any changes in your teaching and instructional methods.

____
____
____
____
____
____

10. Do you feel TEAMS helps you to learn effective instructional strategies that improve teaching and learning? Yes___ No ___

11. Did TEAMS professional development and materials support your use of the program? Yes___ No ___

12. What percentage of your curriculum is based on the textbook and textbook driven lessons? ______%

13. What percentage of time do you spend in class on “worksheets” or practice to reinforce skills? _____%

14. What percentage of time do you spend in class on concept development? ___%

15. What percentage of time do you think you act in each of the following roles?

a) Lecturer ___% b) Coach ___ % c) Mediator ___% d)Facilitator ___% Total 100%

.

16. Intellectual and Technology Applications Skills Progression: which of the following do you use in your classroom to support the curriculum and with what frequency?

Intellectual Skill (in bold) Technology Application Skill (indented and in normal font)	**Daily**	**Weekly**	**Monthly**	**Never**
a. Identification of Problems/Solutions				
b. structure/model a problem				
c. problem based learning				
d. concept based learning				
e. Information Gathering/Evidence				
f. conduct Internet searches on content areas such as math				
g. organize and store information				
h. evaluate Web resources				
i. use journals (interactive or other)				
j. spiral outward from topics from the basic to the complex through access to content resources				
k. support opinion with evidence and personal experience				
l. use inquiry learning methods – problem solving and research tasks to develop higher-order thinking skills and multiple abilities				
m. Analysis/Synthesis				
n. synthesize and analyze gathered information				
o. manipulate, analyze and interpret data				
p. develop critical thinking				
q. develop historical thinking				
r. Communications				
s. communicate clearly to multiple constituencies				
t. systematically teaching mathematics to students				
u. systematically teaching writing				
v. systematically teaching expository writing for reports and research				
w. communicate information as the result of investigations				
x. derive meanings of words - morphology				
y. Internet based interaction, such as chat rooms and e-mail, to communicate with students and teachers				
z. use the computer to plan, draft, proofread, revise, and publish written text				
aa. use the computer and TV for presentations				
bb. use video camcorder to demonstrate knowledge				
cc. access the online Encyclopedia Britannica				
dd. access the TEAMS Web site for student resources				
ee. access the TEAMS Web site for teacher resources				
ff. present oral reports illustrated with Internet resources				
gg. Authentic Learning Environments				
hh. support individualized learning				
ii. support collaborative and group work				
jj. compensate for a disability or limitation				
kk. consider alternative points of view and cultural context				
ll. present to parents, teachers, students at special cultural days				
mm. scaffolding - support students in dependent success; move toward independent success				

17. What have been the biggest challenges in delivering instruction supported by technology in the classroom?

____

____

____

18. What have been your biggest concerns in adding technology to your instructional program?

____

____

____

19. What support has been consistently helpful to you in using technology and implementing curriculum integration?

____

____

____

Students:

20. This school is located in an area best described as:
    a. __urban area
    b. __suburban area
    c. __rural area

21. a.__Number of students in your classes: ___ b. Grade Levels: ___

22. Number of students in your classes who are:
    a. ___High socio-economic group
    b. ___Middle socio-economic group
    c. ___Low socio-economic group

22. Number of students in your classes who are:
    ♋ a. __ African American
    b. ___ American Indian
    c. ___ Asian
    d. ___Hispanic
    e. ___ Pacific Islander
    f. ___ White (non Hispanic)
    g. ___Other

22. Number of students in your classes who are:
    a. ___Title I
    b. ___ Limited English proficient
    c. ___Special Education
    d.___ Disabled
    e.___ Low Literacy
    f. ___ Gifted

22. a) How many hours per week does an average student use the computer in your classroom? ____
- How many hours per week does an average student use the Internet in your classroom? ____

22. Estimate what percentage of your students have these skills at the following levels.

	% of Students Four or More Years Below Grade Level (score as 1)	% of Students Two Years Below Grade Leve (score as 2)l	% of Students At Grade Level (score as 3)	% of Students Above Grade Level (score as 4)
a) Mathematical Skill Level				
b) Problem Solving Skill Level				
c) Read at a Comfort Level				
d) Have a Writing Ability Level				

27. In what way do you feel that student achievement has been enhanced through TEAMS support of instruction through technology?

____

____

____

TEAMS Reception

28. Method used to receive TEAMS Programming:

- We received TEAMS programs live. Yes___ No___
- We watched TEAMS programs on video tape played on a VCR in our classroom. Yes___ No ___
- We used a combination of methods to watch TEAMS live and via tape. Yes___ No ___
- We watch TEAMS programs in our classroom without other students? Yes___ No___
- There is a phone in the classroom? Yes___ No___
- The students call the TEAMS distance learning instructor to share information ? Yes___ No___
- What benefits do you see in students sharing information over the phone live with other TEAMS students and the TEAMS distance learning instructor ?

  ____

  ____

  ____

- Students talked to the TEAMS distance learning instructor _____ times this year.
- Students use e-mail to send their information to the TEAMS Instructor? Yes___ No___
- The TEAMS distance learning instructor has shared their information on the next program?
  Yes___ No ____
- What benefits do you see in students sharing their information over the computer with other TEAMS students and the TEAMS distance learning instructor?

  ____

  ____

  ____

TEAMS Programming and Materials

29. Did you use at least one full module of a TEAMS Program with all of its materials, manipulatives, and assessment components, during the 1999-2000 school year?
Yes___ No___

30. Which program modules and programs have you used during the 1999-2000 school year?
Indicate total programs used in space provided after module title:

A. History/Social Science 4 modules, 19 programs

1.Student as Historian 5 (programs___)
2. Student as Media Evaluator 5 (programs___)
♋ 3. California Here I Come! 5 (programs___)
4. Natural Events: Then and Now 4 (programs ___)

B. Science 5 Modules, 45 programs

1. Heat 9 (programs___)
2. Chemistry 9 (programs___)
3. Earth Processes 9 (programs___)
♋ 4. Weather 9 (programs___)
♌ 5. Fast plants 9 (programs___)

C. Mathematics/Algebra 4 Modules, 30 programs

- Primary Algebra 6 (programs___)

2. Algebra in My World 6 (programs___)
3. Turn on to Algebra 8 (programs___)
4. Middle School Algebra 6 (programs___)

D. Mathematics/Geometry 4 Modules, 30 programs

1.Primary Geometry 6 (programs___)
2. Geometry in My World 8 (programs___)
1. Turn on to Geometry 8 (programs___)
4. Middle School Geometry 6 (programs___)

E. Primary Reading Series Grades K-1

- Staff Development 4 (programs___)

2. Student Programs 8 (programs___)

F. Primary Reading Series Grades 2-3

- Staff Development 4 (programs___)

2.Student Programs 8 (programs___)

G. Language Arts 2 modules, 9 programs

1. Letters from Rifka 5 (programs___)
2. Shiloh 4 (programs___)

H. Other Programs Used

Program name_________________________(#___programs) (#___modules) (year produced 199___)
Program name_________________________(#___programs) (#___modules) (year produced 199___)
Program name_________________________(#___programs) (#___modules) (year produced 199___)
Program name_________________________(#___programs) (#___modules) (year produced 199___)

31.Do you have your own TEAMS kit of materials that does not have to be shared with other teachers while the program module is being broadcast (or you are using the program on tape)? Yes___ No ___

32. a. Was the TEAMS Program component the primary resource used to teach the curriculum content to students?
Yes ___ No ____

- If no, what other resources were used? Please list all by name.

____
____
____
____

____

7. a. Will you continue to use TEAMS next year? Yes___ No___
b. Will you use the same TEAMS programs next year? Yes___ No___
a. Will you add TEAMS programs next year? Yes___No___

7. a. Do you have access in your classroom to the TEAMSnet Web site for your program module(s)? Yes___ No___
b.How many computers do you have in your room? working________ nonworking ______
c. How many times did you access the TEAMSNet Web site? _____
d. What did you use from the TEAMSNet Web site?
____
____
____

a. What did you find to be the most useful at the TEAMSNet Web site.?
____
____
____

f. What did you find that was not useful TEAMSNet Web site?
____
____
____

g. What types of materials would you want to have added to the TEAMSNet Web site?
____
____
____

h. Did you have classroom management problems when several students used computers but others could not? Yes___ No____

i. What instructional methods or management methods did you use to make the sessions productive for all students in the room?
____
____
____

j. Did you use a computer laboratory to complete TEAMS modules?
Yes___ No_____ If yes, please describe what work was done.
____
____
____

7. a. Did students access the TEAMSNet Web site? Yes___ No____
b. How many times did students access the TEAMSNet Web site? _____
c. What did the students use from the TEAMSNet Web site?
____
____
____

d. What did students find to be the most useful at the TEAMSNet Web site?
____
____
____

e. What did students find that was not useful at the TEAMSNet Web site?
____

____
____

- What materials would students want to have added to the site to meet their learning needs?

  ____
  ____
  ____

7. a. If you are using the TEAMS program modules as video tape/delayed broadcast, did you receive and use the program the day after its original air date? Yes___ No___

- If no, how many days after the program aired did you receive the program? ______days
- How many days after you received the program, did you use the program? ______ days

7. a. Are you provided with a duplicating budget to print the TEAMS materials that you need? _____
   b.If there is a limit set on your TEAMS duplicating budget: Yes ___ No___

♋ c. What is the amount per year that you can spend for TEAMS printing? $_______

♌ d. If there is a limit set on your TEAMS duplicating budget, how much more funding do you need for the materials that you want to use each year? $______

♍ e. Are you ever forced to use Spirit/Ditto duplication for TEAMS materials? Yes___ No____

7. a. Did the school convert to a digital satellite dish this year? Yes___ No____
   b. Please describe the process used for the conversion and how quickly you were able to use the new system.

____
____
____
____
____
____
____
____

c. Did the conversion go smoothly? Please describe.

____
____
____
____

39. Check the ways that the school had access to TEAMS this year.

TEAMS Access	**Yes**	**N**
a. Analog Satellite Dish at School		
b. Digital Satellite Dish at School		
c. Satellite Reception in Classroom		
d. Public TV Station		
e. Cable		
f. ITFS		
g. Tape		
h. Internet		

Classroom Technology

i. Television	Yes __ No __
j. Display Television	Yes __ No __
k. VCR	Yes__ No__
l. Telephone	
m. Computers:	Check all that apply How many computers i. 486 __ ________ ii. 586 __ ________ iii. Pentium __ ________

	iv. Apple IIe __ ________ v. Mac Non Power PC __ ________ vi. Mac Power PC __ ________ vii. Other __ ________
n. CD-ROM	Yes __ No __
o. Read/Write CD-ROM	Yes __ No __
p. Laserdisc	Yes __ No __
q. Electronic Mail	Yes __ No __
r. Modem	Yes __ No __ Baud rates: 28.8__ 56K__ Other__
s. Network Access	Yes __ No __ If yes: ISDN__ T1__ Other__
t. Two-way Videoconferencing	Yes __ No __ If yes: VTEL__ Picture Tel__ Other__
u. Firewalls/Filters	Yes __ No __

40. How often do you use each of these pieces of equipment or applications with your students?

Equipment	Daily	Weekly	Monthly	Never
a. Computer				
b. Still digital camera				
c. VHS Camcorder				
d. TV/VCR				
Software				
e. E-mail				
f. Word Processing Software				
g. Presentation Software				
h. Spreadsheet Software				
i. Web Browser				

41. Rate your comfort level with the applications alone and using it with students using a scale of 1-4 where four is high.

Comfort Level with Application Alone	Low ----High	Comfort Level with Application with Students	Low -----High
e-mail	1 2 3 4		1 2 3 4
Word Processing Software	1 2 3 4		1 2 3 4
Presentation Software	1 2 3 4		1 2 3 4
Spreadsheet Software	1 2 3 4		1 2 3 4
Web Browser	1 2 3 4		1 2 3 4
Other ___________	1 2 3 4	Other__________	1 2 3 4

42. Home computer: Please check the computer equipment/software you use at your home:

a) _ Win 95/98 Computer b) _ Mac OS Computer

c) _ Modem d) _ Cable modem e) _ Internet Access f_ Printer

_ We have more than one computer at home. If checked yes, how many computers _____?

TEAMS Teachers At the Site

1. How many teachers/classrooms at your school are participating in the TEAMS programs? ______

2. Are there other teachers at the school teaching the same TEAMS programs that you teach?
Yes___ No___ How many? _______

3. Do you regularly collaborate with other TEAMS teachers? Yes ___ No____

4. Please describe how you have worked and collaborated with other TEAMS teachers.

____
____
____

5. What benefits have you found in collaboration with other TEAMS Teachers?

____
____
____

6. What are the benefits of being part of a national TEAMS IMPACT site?

____
____
____

7. Did you participate in a site evaluation conducted by the TEAMS evaluator? Yes___ No___

Site Administration for TEAMS

8. Who is the TEAMS site coordinator _________________

51. How many times have you met with the TEAMS site coordinator? ______

52.How many times have you met with the TEAMS district/state coordinator? _______

53. How many times have you met with your principal about the TEAMS program? _____

i. Does the site coordinator regularly hold site TEAMS Teacher meetings? Yes ___ No ____

55. How often has the principal visited your classroom to watch the TEAMS program while the students view the program or work on TEAMS activities? _____

56.What factors limit TEAMS use?

1. __ Time
2. __ Professional Development
3. __ Hardware
   d. __ Classroom Access
   e. __Other (please describe) ____

57. In what way did the TEAMS Project enhance communications between teachers, schools, parents,
the district, and community?

____

____

____

____

58. How often do you interact with parents and in what ways?

____
____

59. What are the strengths of the TEAMS Project?

60. What would improve the TEAMS Project for next year?

TEAMS Student Progress 1999-2000

61. Assign a number, beginning with 1, to each of your students. Describe the student, by circling yes or no for items *a* to *e*. In boxes *f* to *p* put in a number which describes the degree of the outcome for the student that can be attributed to using TEAMS. 4: great degree 3: some degree 2: very little 1: none

Students 1-16 **Criteria**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**
a Female or Male	F/M	F/M	F/M	F/M	F/M	F/M	F/M	F/M	F/M	F/M	F/M	F/M	F/M	F/M	F/M	F/M
b Chapter I	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N
c LEP	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N
d Gifted	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N
e Special education	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N
f Improved content knowledge and skills	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321
g Improved critical thinking and problem solving	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321
h Improved language skills	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321
i Increased interest in subject area	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321
j Improved Quality of Work	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321
k Increased interest in school	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321
l Improved attendance	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321
m Improved behavior	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321
n Takes responsibility for own learning	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321
o Greater confidence as a learner	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321
p Higher self- regard	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321

Students 17-32 **Criteria**	**17**	**18**	**19**	**20**	**21**	**22**	**23**	**24**	**25**	**26**	**27**	**28**	**29**	**30**	**31**	**32**
a Female or Male	F/M	F/M	F/M	F/M	F/M	F/M	F/M	F/M	F/M	F/M	F/M	F/M	F/M	F/M	F/M	F/M
b Chapter I	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N
c LEP	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N
d Gifted	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N
e Special education	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N
f Improved content knowledge and skills	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321
g Improved critical thinking and problem solving	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321
h Improved language skills	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321
i Increased interest in subject area	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321
j Improved quality of work	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321
k Increased interest in school	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321
l Improved attendance	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321
m Improved behavior	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321
n Takes responsibility for own learning	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321
o Greater confidence as a learner	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321
p Higher Self- Regard	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321	4321