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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

1998-1999 Program Evaluation
1992-1999 Longitudinal Metadata Analyses

October, 1999

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TEAMS is one of the largest K-12 providers of distance learning in the United States. In 1999-2000, TEAMS will regularly serve over 150,000 Kindergarten through eighth grade students in twenty-three 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 about 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 1998-1999

During the 1998-1999 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 and mailed to them. After completion, the surveys were mailed directly to the evaluator.

The statistical data on students and variables regarding possible improvement was analyzed for the 1998-1999 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 1998-1999 school year. Survey instruments and transcribed focus interviews appear in the appendices of the full evaluation report (see Appendix A and Appendix B).

Site Demographics

For the 1998-1999 school year, forty percent of the schools were classified as urban, thirty-three percent were classified as suburban and twenty-seven percent were classified 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 fifth grade representing the largest group served. The project was used by first through eleventh grades.

Class Size: The mean class size was thirty-six students; however the median was twenty-eight and the mode was thirty-two students in a class.

Social and Economic Sector: Teachers were asked to report the social and economic sector (SES) of students. Sixty-two percent were classified as low SES a strong statistic showing that TEAMS continues to meet its mandate of serving low SES students. Twenty-nine percent of TEAMS students were classified as middle SES, and nine percent were considered high SES.

Total school SES figures varied based on 30,467 students in the participating schools whose principal or technology coordinator returned survey instruments. Low SES students were reported at 57 percent (17,425), 34 percent were middle SES (10,280), and nine percent were high SES (2,762) (see Table 1).

Table 1

Social and Economic Sector (SES)
of TEAMS Students and Their Schools 1998-1999

Social and Economic Sector (SES)	Entire School Students Percentage N= 30,467	TEAMS Students Percentage N= 1,387
Low	57	62
Middle	34	29
High	9	9

Student Ethnicity: Student ethnicity is reported in percentages in Table 2 for entire schools and for TEAMS students in those schools. The largest groups were white, African American and Hispanic.

Table 2

Student Ethnicity of TEAMS Students and Their Schools 1998-1999

Student Ethnicity	**Entire School Students Percentage N= 30,467**	**TEAMS Students Percentage N= 1,387**
White	46	41
African American	33	33
Hispanic	15	21
Asian	4	3
American Indian	+/- 1	+/- 1
Pacific Islanders	+/- 1	+/- 1
Other	+/- 1	+/- 1

TEAMS Project IMPACT Modules and Programs Used

Teachers reported their use of the TEAMS programming during the 1998-99 school year. Science and Mathematics programming were the most heavily used, but all strands were used (see Table 3).

Table 3

Program Modules and Programs Used 1998-1999

TEAMS: Project IMPACT Program and Module	**Mean** (Average Programs Used)	**Count** (Teachers Using the Programs)	**Sum** (Number of Units Used)
History/Social Science			
Student as Historian (5 programs)	2	5	8
Student as Media Evaluator (5 programs)	2	2	3
California Here I Come! (5 programs)	1	3	3
Natural Events: Then and Now (4 programs)	2	6	14
Science			
Heat (9 programs)	4	31	133
Chemistry (9 programs)	4	24	103
Earth Processes (9 programs)	4	23	97
Weather (9 programs)	5	26	119
Fast Plants (9 programs)	4	15	56
Mathematics/Algebra			
Primary Algebra (6 programs)	3	10	33
Algebra in My World (6 programs)	3	13	45
Turn on to Algebra (8 programs)	3	5	15
Middle School Algebra (6 programs)	2	8	18
Mathematics/Geometry			
Primary Geometry (6 programs)	3	10	28
Geometry in My World (8 programs)	3	16	54
Turn on to Geometry (8 programs)	4	9	38
Middle School Geometry (6 programs)	3	6	17
Primary Reading Series Grades K-1			
Staff Development (4 programs)	2	9	16
Student Programs (8 programs)	2	7	12
Primary Reading Series Grades 2-3			
Staff Development (4 programs)	2	6	9
Student Programs (8 programs)	2	4	7
Language Arts			
Letters from Rifka (5 programs)	2	7	16
Shiloh (4 programs)	2	4	7

Viewing the Programs

Eighty of the TEAMS teachers (n=99) reported how the students viewed the programs. Fifty-two classes viewed video tapes, seven classes viewed the programs live, and twenty-one used both means depending on the availability.

Project Impact on Students

During the second year of the TEAMS: Project IMPACT grant, teachers (n=99) returned report cards on 1,387 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 1998-1999 evaluation brought the number of students in the longitudinal portion of the evaluation study to n = 17,723.

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 1998-1999, 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 1,387 students, there were 724 male students and 663 female students. Five hundred and fifty-one students are listed as

Chapter 1/Title 1, 166 are LEP students, 180 students are enrolled in Special Education programs, and 177 students are enrolled in Gifted programs.

For the seven year period of the TEAMS longitudinal student study, of the 17,723 students, 8,973 were male (50.6 percent) and 8,750 were female (49.4 percent). There were 6,201 students reported as Chapter 1/Title 1, LEP students totaled 2,512 , special education students totaled 1,612, and 1,859 students were reported as part of the gifted program at their school (see Table 4).

Table 4

Comparative Demographics for 1998-1999 School Year and 1992-1999 Metadata Analyses

	Total Students	Male	Female	Chapter/ Title 1 Students	LEP Students	Gifted Students	Special Ed Students
98-99 School Year	1,387	724	663	551	166	180	177
92-99 Metadata	17,723	8,973	8,750	6,201	2,512	1,612	1,859

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 1998-1999 school year and in the 1992-1999 metadata analyses. Adding to the level of confidence for the student improvement was the database of almost 18,000 students and the extensive reporting time of seven years for the longitudinal study.

Table 5 compares the statistics of the mean, standard deviation, standard error, median and mode for the 1998-1999 school year and for the 1992-1999 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 1998-1999 School Year and 1992-1999 Metadata Analyses

Variable	98-9 Mean	92-9 Mean	98-9 Std. Dev	92-9 Std. Dev	98-9 Std. Error	92-9 Std. Error	98-9 Median	92-9 Median	98-9 Mode	92-9 Mode
Content Knowledge & Skills	3.083	3.088	.830	.793	.023	.006	3	3	3	3
Improved Critical Thinking and Problem Solving	2.992	3.038	.807	.794	.022	.006	3	3	3	3
Improved Language Skills	2.681	2.755	.960	.894	.026	.007	3	3	3	3
Increased Interest in the Subject Area	3.128	3.148	.887	.823	.024	.006	3	3	4	3
Improved Quality of Work	2.814	2.804	.980	.857	.027	.006	3	3	3	3
Increased Interest in School	2.775	2.836	1.023	.905	.029	.007	3	3	3	3
Improved Attendance	2.231	2.322	1.136	1.075	.032	.008	2	2	1	1
Improved Behavior	2.457	2.418	1.095	1.025	.030	.008	2	2	2	3
Takes Responsibility for Own Learning	2.752	2.737	1.014	.939	.028	.007	3	3	3	3
Greater Confidence as a Learner	2.873	2.872	.960	.889	.027	.007	3	3	3	3
Higher Self-Regard	2.764	2.805	1.021	.930	.029	.007	3	3	3	3

Disaggregated Student Data 1998-99 School Year and 1992-1999 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 1998-1999 and 1992-1999 showed improvement in all variables with a median score in the range of 2.50 to 3.49 for a scaled response of three.

Limited English Proficient (LEP) Students: LEP students in 1998-1999 and 1992-1999 showed improvement in all variables with a median score in the range of 2.50 to 3.49 for a scaled response of three. For attendance, the longitudinal study showed a scaled response of two.

Gifted Students: Gifted students in 1998-1999 and 1992-1999 showed improvement in all variables with a median score in the range of 2.50 to 3.49 for a scaled response of three. For the variable of attendance, the scaled response was a two for both groups.

Special Education Students: Special education students in 1998-1999 and 1992-1999 showed improvement in all variables with a median score in the range of 2.50 to 3.49 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 TEAMS

Principals and technology coordinators (n=81) were asked what they believed limited the use of TEAMS in their schools. Time was listed as the biggest limiting factor by 53 (65 percent) of the principals and technology coordinators. Training was reported as a limitation by 24 respondents. Traditionally, access has been the biggest limiting factor. Only fourteen respondents reported access through hardware as a limitation and eighteen reported lack of access in the classroom as a limitation.

Access to TEAMS Through Multiple Technologies

Principals and technology coordinators (n=81) were asked how TEAMS programs were accessed at their sites. Satellite reception was reported by twenty-five sites, cable was reported by fifty sites with forty-eight sites reporting that they received the programs through a public television station that was probably carried by the cable signal. Fifty-three reported using video tape of the programs. Five sites reported ITFS (instructional television fixed service) reception.

The largest installed base of technology was television. Eighty had televisions and VCRs in the classrooms. Fifty-three had laser discs and sixty-eight had CD-ROMs.

Internet access was reported by forty-nine respondents. The methods used to access Internet were mixed with twenty-three reporting access through T1 or

ISDN lines and forty-four reporting access through a traditional telephone modem. Forty-four also reported telephones in classrooms.

Computer technologies in the classroom were also mixed between PCs and Macintosh equipment with a wide range of aging technology. Computers ranged from the PC 486 models and Apple IIe models to the newest Pentium chip based PC and Macintosh Power PC models.

This shows a strong basis for the decision by TEAMS to continue to use multiple media to provide access to programs delivered on a national level (see Table 6).

Table 6

Other Classroom Technology 1998-1999

Technology	Number Yes	Number No	Number Missing
Television	80		1
VCR	80		1
2-way Video Conferencing	5	65	11
If yes, VTEL?	2		
If yes, PictureTel?	0		
If yes, Other?	1		
Laserdisc	53	24	4
CD ROM	68	10	3
Internet Access	49	19	13
If yes, ISDN?	4		
If yes, T1?	19		
If yes, Other?	1		
Telephone	44	37	0
Modem	44	27	10
If yes, 28.8?	3		
If yes, 56K?	7		
If yes, Other?	9		
Firewalls or filters	27	32	22
Electronic mail	57	18	6

Conclusions

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

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Since many regions provide TEAMS programs over cable or broadcast television, programs are received in millions of homes in the following areas: Los Angeles, Orange, San Diego, Imperial counties in California; all of Colorado; most of Arizona; most of Missouri; and the cities of Charlotte, NC, Washington, DC, Baltimore, Philadelphia, Boston, and Detroit.

TEAMS Partners

TEAMS collaborates with the Project IMPACT Partners, additional major clients, and also has an international partner.

Project IMPACT Partners: NETA, American Telecommunications Group, ASSET (Arizona), Boston Public Schools, Charlotte-Mecklenburg Schools, Detroit Public Schools, District of Columbia Public Schools, Georgia Public Broadcasting, Los Angeles County Schools, Louisiana Public Broadcasting, Mississippi ETV, Missouri Department of Elementary and Secondary Education, KENW-TV (New Mexico), Utah State Department of Education.

California IMPACT Council: Fresno COE, Humboldt COE, KOCE-TV, New Haven USD, Oakland USD, Plumas USD, San Diego COE.

Additional Major Clients: KLCS-TV, Baltimore Public Schools, Colorado Department of Education, MCET (Massachusetts Corporation for Educational Telecommunications), Nevada State Department of Education, PREL (Pacific Resources for Education and Learning), PSR*TEC (Pacific Southwest Regional Technology in Education Consortium) and the California Technology Assistance Project consists of Glenn COE, Region VII CTAP (Fresno, Kings, Madera, Mariposa, Merced, and Tulare counties)

International Partner: TVOntario (*Educators Exchange*)

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 second year began in October, 1998 and concluded in September, 1999.

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
C. Teacher Involvement and Use of Project IMPACT by Year in Program
D. Successful Project IMPACT School Site Models
E. Project IMPACT Indepth 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. Focus interviews by audio conference or at the site will be conducted by the evaluator 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

1998-99 Analysis of Teachers' Reports of Student Attitudes and Behaviors

During the period of the evaluation, ninety-nine teacher surveys were returned and recorded, reflecting teachers' opinions about the attitudes and behaviors of 1,387 students. The 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.

Qualitative Variables

The survey asked teachers about the degree to which any of the following statements about each student could be attributed to the project:

1. Improved content knowledge and skills? (coded "f Con" on the output table)
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 qualitative variable are shown in Table 7. 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 but two areas--attendance and behavior-- for the students to the project.

Table 7

Mean Scores for Qualitative Variables 1998-1999

	Mean	Std. Dev.	Std. Error	Count	# Missing	Sum	Median	Mode
Con	3.083	.830	.023	1311	76	4042.000	3.000	3.000
Cri	2.992	.807	.022	1306	81	3908.000	3.000	3.000
Lang	2.681	.960	.026	1327	60	3558.000	3.000	3.000
Int	3.128	.887	.024	1333	54	4170.000	3.000	4.000
Qual	2.814	.980	.027	1330	57	3742.000	3.000	3.000
Sch	2.775	1.023	.029	1288	99	3574.000	3.000	3.000
Atten	2.231	1.136	.032	1291	96	2880.000	2.000	1.000
Beh	2.457	1.095	.030	1320	67	3243.000	2.000	2.000
Resp	2.752	1.014	.028	1315	72	3619.000	3.000	3.000
Conf	2.873	.960	.027	1281	106	3680.000	3.000	3.000
Regr	2.764	1.021	.029	1275	112	3524.000	3.000	3.000

Demographics

Teachers were asked to report demographic information about the students and the data was coded as shown in the parentheses.

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)

In the database of 1,387 students, 724 of the students are male, 663 female, 551 are Chapter 1, 166 are LEP, 180 are Special Education, and 177 are Gifted (see Table 8).

Table 8

Demographics 1998-1999

	Gender	Ch 1	LEP	Gifted	SE
Count	1387	551	166	177	180
# Missing	0	836	1221	1210	1207
Sum	724	551	166	177	180

Student Attitudes and Behaviors

The following analyses address the possible relationships between each of the qualitative variables with all of the other qualitative variables.

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 3.083 (standard deviation = .830). 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 .685, F = 257.664, with a confidence level of $p < .0001$. See Table 9.

Table 9

Regression: Improved Content Knowledge/Skills vs. 10 Independents 1998-1999

Regression Summary
Con vs. 10 Independents

Count	1180
Num. Missing	207
R	.829
R Squared	.688
Adjusted R Squared	.685
RMS Residual	.477

ANOVA Table
Con vs. 10 Independents

	DF	Sum of Squares	Mean Square	F-Value	P-Value
Regression	10	585.858	58.586	257.664	<.0001
Residual	1169	265.798	.227		
Total	1179	851.657			

Regression Coefficients
Con vs. 10 Independents

	Coefficient	Std. Error	Std. Coeff.	t-Value	P-Value
Intercept	.508	.055	.508	9.178	<.0001
Cri	.544	.027	.538	20.378	<.0001
Lang	.046	.025	.054	1.833	.0670
Int	.064	.027	.069	2.364	.0183
Qual	-.009	.026	-.010	-.332	.7402
Sch	.113	.023	.140	4.926	<.0001
Atten	-.097	.021	-.131	-4.547	<.0001
Beh	-.036	.021	-.046	-1.714	.0868
Resp	.075	.027	.091	2.738	.0063
Conf	.110	.029	.126	3.799	.0002
Regr	.049	.027	.059	1.789	.0739

Teachers' responses about the students' improved content knowledge and skills were highly significant at the p< .0001 level of confidence with results for measures of improved critical thinking and problem solving. The coefficient of correlation of .544 out of 1.000, the high correlation and positive sign, indicate increased critical thinking

is perceived to occur before increased content knowledge and skill is perceived to increase.

Additionally, a relationship existed at the $p < .0001$ level for increased interest in school, with a .113 correlation coefficient, as well as a $p < .0001$ level of confidence for improved attendance and a negative correlation coefficient of -.097.

The implication is that the project impact on the students was that first their attendance increased, then interest in school increased, then critical thinking improved which was followed closely by improved content knowledge and skills.

Standardized coefficients for the variables of improved quality of work, attendance, improved behavior were negative. While the data are silent on this phenomenon, a reasonable supposition is that students doing well in content knowledge and skills are already students who exhibit better quality of work, attendance, and behavior.

Put differently, students showing improvement in the areas of improved quality of work, 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 generally high except for attendance and behavior (see Table 10).

Table 10

Correlation of Greater Content Knowledge/Skills with 10 Variables 1998-1999

Correlation Matrix

	Con	Cri	Lang	Int	Qual	Sch	Atten	Beh	Resp	Conf	Regr
Con	1.000	.793	.623	.669	.640	.597	.446	.443	.668	.678	.649
Cri	.793	1.000	.660	.696	.689	.582	.526	.490	.695	.691	.656
Lang	.623	.660	1.000	.656	.725	.673	.664	.584	.738	.677	.747
Int	.669	.696	.656	1.000	.735	.692	.475	.545	.679	.692	.676
Qual	.640	.689	.725	.735	1.000	.720	.634	.626	.744	.745	.687
Sch	.597	.582	.673	.692	.720	1.000	.665	.646	.670	.652	.700
Atten	.446	.526	.664	.475	.634	.665	1.000	.742	.648	.607	.642
Beh	.443	.490	.584	.545	.626	.646	.742	1.000	.660	.591	.597
Resp	.668	.695	.738	.679	.744	.670	.648	.660	1.000	.799	.777
Conf	.678	.691	.677	.692	.745	.652	.607	.591	.799	1.000	.804
Regr	.649	.656	.747	.676	.687	.700	.642	.597	.777	.804	1.000

1180 observations were used in this computation.
207 cases were omitted due to missing values.

2. 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 attributable to the project at a mean score of 2.992 (standard deviation = .807).

Variability in the scores on this variable were accounted for by the other measures in the model at an adjusted R squared value of .714, F = 296.000, with a confidence level of p< .0001 (see Table 11).

Table 11

Regression: Improved Critical Thinking Skills vs. 10 Independents 1998-1999

Regression Summary
Cri vs. 10 Independents

Count	1180
Num. Missing	207
R	.847
R Squared	.717
Adjusted R Squared	.714
RMS Residual	.449

ANOVA Table
Cri vs. 10 Independents

	DF	Sum of Squares	Mean Square	F-Value	P-Value
Regression	10	596.357	59.636	296.000	<.0001
Residual	1169	235.521	.201		
Total	1179	831.878			

Regression Coefficients
Cri vs. 10 Independents

	Coefficient	Std. Error	Std. Coeff.	t-Value	P-Value
Intercept	.340	.053	.340	6.405	<.0001
Con	.482	.024	.488	20.378	<.0001
Lang	.063	.024	.074	2.647	.0082
Int	.174	.025	.187	6.887	<.0001
Qual	.096	.024	.117	3.943	<.0001
Sch	-.091	.022	-.113	-4.176	<.0001
Atten	.087	.020	.118	4.330	<.0001
Beh	-.038	.020	-.049	-1.921	.0550
Resp	.076	.026	.094	2.974	.0030
Conf	.049	.027	.056	1.773	.0764
Regr	-.007	.026	-.009	-.277	.7815

Reports by teachers about students' improved critical thinking and problem solving were highly significant at the p< .0001 level of confidence with results for measures of improved content knowledge and skills, interest in the subject matter, quality of work, interest in school, and improved attendance. Confidence levels for language and for

responsibility for own learning are better than p< .01. Correlation analysis showed strong relationships of critical thinking skills with content knowledge and skills, confidence as a learner, greater self regard, subject interest and quality (see Table 12).

Table 12

Correlation of Improved Critical Thinking Skills with 10 Variables 1998-1999

Correlation Matrix

	Cri	Lang	Int	Qual	Sch	Atten	Beh	Resp	Conf	Regr	Con
Cri	1.000	.660	.696	.689	.582	.526	.490	.695	.691	.656	.793
Lang	.660	1.000	.656	.725	.673	.664	.584	.738	.677	.747	.623
Int	.696	.656	1.000	.735	.692	.475	.545	.679	.692	.676	.669
Qual	.689	.725	.735	1.000	.720	.634	.626	.744	.745	.687	.640
Sch	.582	.673	.692	.720	1.000	.665	.646	.670	.652	.700	.597
Atten	.526	.664	.475	.634	.665	1.000	.742	.648	.607	.642	.446
Beh	.490	.584	.545	.626	.646	.742	1.000	.660	.591	.597	.443
Resp	.695	.738	.679	.744	.670	.648	.660	1.000	.799	.777	.668
Conf	.691	.677	.692	.745	.652	.607	.591	.799	1.000	.804	.678
Regr	.656	.747	.676	.687	.700	.642	.597	.777	.804	1.000	.649
Con	.793	.623	.669	.640	.597	.446	.443	.668	.678	.649	1.000

1180 observations were used in this computation.
207 cases were omitted due to missing values.

3. Improved language skills

Measurement of language skills and the degree of growth for the students in the classes receiving TEAMS was reported by the teachers to be attributable to the project at a mean score of 2.681 (standard deviation = .960).

The variability in this variable was accounted for by the other measures in the model at an adjusted R squared value of .689, F = 262.797, with a confidence level of p< .0001 (see Table 13).

Table 13

Regression: Improved Language Skills vs. 10 Independents 1998-1999

Regression Summary
Lang vs. 10 Independents

Count	1180
Num. Missing	207
R	.832
R Squared	.692
Adjusted R Squared	.689
RMS Residual	.549

ANOVA Table
Lang vs. 10 Independents

	DF	Sum of Squares	Mean Square	F-Value	P-Value
Regression	10	792.800	79.280	262.797	<.0001
Residual	1169	352.661	.302		
Total	1179	1145.461			

Regression Coefficients
Lang vs. 10 Independents

	Coefficient	Std. Error	Std. Coeff.	t-Value	P-Value
Intercept	.100	.066	.100	1.514	.1304
Con	.062	.034	.053	1.833	.0670
Cri	.094	.036	.080	2.647	.0082
Int	.090	.031	.082	2.856	.0044
Qual	.191	.029	.199	6.480	<.0001
Sch	.039	.027	.042	1.462	.1441
Atten	.188	.024	.217	7.727	<.0001
Beh	-.052	.024	-.058	-2.185	.0291
Resp	.183	.031	.191	5.868	<.0001
Conf	-.132	.033	-.130	-3.945	<.0001
Regr	.278	.030	.291	9.207	<.0001

Responses by teachers about students' improved language skills were highly significant at the p< .0001 level of confidence with results for measures of higher self regard, improved quality of work, improved attendance, greater responsibility for own

learning, and greater confidence as a learner. The positive coefficient of correlation indicates that these were perceived to occur after language skills improved.

Other factors with significant relationship to improved language skills were increased critical thinking skills and interest in the subject area. Coefficients of correlation for confidence as a learner and improved behavior were negatively signed, indicating improvements in these values were perceived before improvements in perceived language skill.

Correlations for improved language skills with other model variables are significant to high for all variables. This indicates that improved language skills are perceived to benefit all learning tasks (see Table 14).

Table 14

Correlation of Improved Language Skills with 10 Variables 1998-1999

Correlation Matrix

	Lang	Int	Qual	Sch	Atten	Beh	Resp	Conf	Regr	Con	Cri
Lang	1.000	.656	.725	.673	.664	.584	.738	.677	.747	.623	.660
Int	.656	1.000	.735	.692	.475	.545	.679	.692	.676	.669	.696
Qual	.725	.735	1.000	.720	.634	.626	.744	.745	.687	.640	.689
Sch	.673	.692	.720	1.000	.665	.646	.670	.652	.700	.597	.582
Atten	.664	.475	.634	.665	1.000	.742	.648	.607	.642	.446	.526
Beh	.584	.545	.626	.646	.742	1.000	.660	.591	.597	.443	.490
Resp	.738	.679	.744	.670	.648	.660	1.000	.799	.777	.668	.695
Conf	.677	.692	.745	.652	.607	.591	.799	1.000	.804	.678	.691
Regr	.747	.676	.687	.700	.642	.597	.777	.804	1.000	.649	.656
Con	.623	.669	.640	.597	.446	.443	.668	.678	.649	1.000	.793
Cri	.660	.696	.689	.582	.526	.490	.695	.691	.656	.793	1.000

1180 observations were used in this computation.
207 cases were omitted due to missing values.

4. Increased interest in the subject area

Measurement of interest in the subject area and the degree of growth for the TEAMS students was reported by teachers to be attributable to the project at a mean score of 3.128 (standard deviation = .887).

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 .682, F = 253.591, with a confidence level of p< .0001. Responses by teachers about students' improved interest in the subject area and increased critical thinking, quality of work, interest in school, improved behavior, and improved attendance were 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 coefficient of correlation for improved attendance implies that this occurred previously (see Table 15).

Table 15

Regression: Improved Interest in Subject Area vs. 10 Independents 1998-1999

Regression Summary
Int vs. 10 Independents

Count	1180
Num. Missing	207
R	.827
R Squared	.684
Adjusted R Squared	.682
RMS Residual	.510

ANOVA Table
Int vs. 10 Independents

	DF	Sum of Squares	Mean Square	F-Value	P-Value
Regression	10	659.838	65.984	253.591	<.0001
Residual	1169	304.171	.260		
Total	1179	964.009			

Regression Coefficients
Int vs. 10 Independents

	Coefficient	Std. Error	Std. Coeff.	t-Value	P-Value
Intercept	.481	.060	.481	8.059	<.0001
Con	.074	.031	.069	2.364	.0183
Cri	.224	.033	.208	6.887	<.0001
Lang	.077	.027	.084	2.856	.0044
Qual	.222	.027	.252	8.205	<.0001
Sch	.221	.024	.257	9.226	<.0001
Atten	-.207	.022	-.260	-9.249	<.0001
Beh	.092	.022	.112	4.166	<.0001
Resp	.011	.029	.013	.386	.6993
Conf	.091	.031	.098	2.936	.0034
Regr	.079	.029	.090	2.716	.0067

Correlations of increased subject matter interest with other variables follow, significant for increases in content knowledge and skills, critical thinking, confidence as a learner, and interest in school (see Table 16).

Table 16

Correlation of Increased Interest in Subject Area with 10 Variables 1998-1999

Correlation Matrix

	Int	Qual	Sch	Atten	Beh	Resp	Conf	Regr	Con	Cri	Lang
Int	1.000	.735	.692	.475	.545	.679	.692	.676	.669	.696	.656
Qual	.735	1.000	.720	.634	.626	.744	.745	.687	.640	.689	.725
Sch	.692	.720	1.000	.665	.646	.670	.652	.700	.597	.582	.673
Atten	.475	.634	.665	1.000	.742	.648	.607	.642	.446	.526	.664
Beh	.545	.626	.646	.742	1.000	.660	.591	.597	.443	.490	.584
Resp	.679	.744	.670	.648	.660	1.000	.799	.777	.668	.695	.738
Conf	.692	.745	.652	.607	.591	.799	1.000	.804	.678	.691	.677
Regr	.676	.687	.700	.642	.597	.777	.804	1.000	.649	.656	.747
Con	.669	.640	.597	.446	.443	.668	.678	.649	1.000	.793	.623
Cri	.696	.689	.582	.526	.490	.695	.691	.656	.793	1.000	.660
Lang	.656	.725	.673	.664	.584	.738	.677	.747	.623	.660	1.000

1180 observations were used in this computation.
207 cases were omitted due to missing values.

5. Improved quality of work

Measurement of quality of work and the degree of growth for TEAMS students was reported by teachers to be attributable to the project at a mean score of 2.814 (standard deviation = .980). 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 .727, F = 314.548, with a confidence level of p< .0001 (see Table 17).

Table 17

Regression: Improved Quality of Work vs. 10 Independents 1998-1999

Regression Summary
Qual vs. 10 Independents

Count	1180
Num. Missing	207
R	.854
R Squared	.729
Adjusted R Squared	.727
RMS Residual	.535

ANOVA Table
Qual vs. 10 Independents

	DF	Sum of Squares	Mean Square	F-Value	P-Value
Regression	10	900.727	90.073	314.548	<.0001
Residual	1169	334.751	.286		
Total	1179	1235.478			

Regression Coefficients
Qual vs. 10 Independents

	Coefficient	Std. Error	Std. Coeff.	t-Value	P-Value
Intercept	-.192	.064	-.192	-2.989	.0029
Con	-.011	.033	-.009	-.332	.7402
Cri	.137	.035	.112	3.943	<.0001
Lang	.181	.028	.175	6.480	<.0001
Int	.245	.030	.216	8.205	<.0001
Sch	.168	.026	.173	6.589	<.0001
Atten	.070	.024	.077	2.876	.0041
Beh	.051	.023	.054	2.168	.0303
Resp	.114	.031	.115	3.737	.0002
Conf	.242	.032	.230	7.559	<.0001
Regr	-.133	.030	-.134	-4.398	<.0001

Teachers' responses of students' improved quality of work were highly significant at the p< .0001 level of confidence with perceptions of improvement in interest in the subject matter, confidence as a learner, improved language skills, interest in school, increased critical thinking skills and higher self regard.

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 increases before the quality of work increases.

Correlations of improved quality of work are significant with greater confidence as a learner, taking responsibility for own learning, interest in the subject matter, improved language skills, interest in school, and higher self-regard (see Table 18).

Table 18

Correlation of Improved Quality of Work with 10 Variables 1998-1999

Correlation Matrix

	Qual	Sch	Atten	Beh	Resp	Conf	Regr	Con	Cri	Lang	Int
Qual	1.000	.720	.634	.626	.744	.745	.687	.640	.689	.725	.735
Sch	.720	1.000	.665	.646	.670	.652	.700	.597	.582	.673	.692
Atten	.634	.665	1.000	.742	.648	.607	.642	.446	.526	.664	.475
Beh	.626	.646	.742	1.000	.660	.591	.597	.443	.490	.584	.545
Resp	.744	.670	.648	.660	1.000	.799	.777	.668	.695	.738	.679
Conf	.745	.652	.607	.591	.799	1.000	.804	.678	.691	.677	.692
Regr	.687	.700	.642	.597	.777	.804	1.000	.649	.656	.747	.676
Con	.640	.597	.446	.443	.668	.678	.649	1.000	.793	.623	.669
Cri	.689	.582	.526	.490	.695	.691	.656	.793	1.000	.660	.696
Lang	.725	.673	.664	.584	.738	.677	.747	.623	.660	1.000	.656
Int	.735	.692	.475	.545	.679	.692	.676	.669	.696	.656	1.000

1180 observations were used in this computation.
207 cases were omitted due to missing values.

6. Increased interest in school

Measurement of interest in school and the degree of growth for TEAMS students was attributable to TEAMS by teachers at a mean score of 2.775 (standard deviation = 1.023). 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 .672, F = 243.015, with a confidence level of $p < .0001$ (see Table 19).

Table 19

Regression: Improved Interest in School vs. 10 Independents 1998-1999

Regression Summary
Sch vs. 10 Independents

Count	1180
Num. Missing	207
R	.822
R Squared	.675
Adjusted R Squared	.672
RMS Residual	.601

ANOVA Table
Sch vs. 10 Independents

	DF	Sum of Squares	Mean Square	F-Value	P-Value
Regression	10	877.910	87.791	243.015	<.0001
Residual	1169	422.310	.361		
Total	1179	1300.219			

Regression Coefficients
Sch vs. 10 Independents

	Coefficient	Std. Error	Std. Coeff.	t-Value	P-Value
Intercept	-.012	.072	-.012	-.167	.8673
Con	.180	.036	.145	4.926	<.0001
Cri	-.162	.039	-.130	-4.176	<.0001
Lang	.047	.032	.044	1.462	.1441
Int	.307	.033	.264	9.226	<.0001
Qual	.213	.032	.207	6.589	<.0001
Atten	.209	.027	.226	7.863	<.0001
Beh	.113	.026	.118	4.347	<.0001
Resp	-.024	.035	-.024	-.706	.4801
Conf	-.072	.037	-.067	-1.963	.0499
Regr	.196	.034	.193	5.821	<.0001

Responses by teachers about students' increased interest in school were related at the p< .0001 level of confidence with results for measures of improvement in language, interest in the subject area, quality of work, improved attendance and behavior, increased responsibility for own learning. Improved confidence as a learner,

improved behavior, and improved content knowledge all showed relationships at lower confidence levels.

The negative correlation with language improvement may indicate that students have improved language skills before they have high interest in school. Correlations for improved interest in school were significant for improved quality of work, higher self-regard, interest in the subject area, and responsibility for own learning (see Table 20).

Table 20

Correlation of Improved Interest in School with 10 Variables 1998-1999

Correlation Matrix

	Sch	Atten	Beh	Resp	Conf	Regr	Con	Cri	Lang	Int	Qual
Sch	1.000	.665	.646	.670	.652	.700	.597	.582	.673	.692	.720
Atten	.665	1.000	.742	.648	.607	.642	.446	.526	.664	.475	.634
Beh	.646	.742	1.000	.660	.591	.597	.443	.490	.584	.545	.626
Resp	.670	.648	.660	1.000	.799	.777	.668	.695	.738	.679	.744
Conf	.652	.607	.591	.799	1.000	.804	.678	.691	.677	.692	.745
Regr	.700	.642	.597	.777	.804	1.000	.649	.656	.747	.676	.687
Con	.597	.446	.443	.668	.678	.649	1.000	.793	.623	.669	.640
Cri	.582	.526	.490	.695	.691	.656	.793	1.000	.660	.696	.689
Lang	.673	.664	.584	.738	.677	.747	.623	.660	1.000	.656	.725
Int	.692	.475	.545	.679	.692	.676	.669	.696	.656	1.000	.735
Qual	.720	.634	.626	.744	.745	.687	.640	.689	.725	.735	1.000

1180 observations were used in this computation.
207 cases were omitted due to missing values.

7. Improved attendance

Improved attendance for TEAMS students was attributed to the project by teachers at a mean score of 2.231 (standard deviation = 1.136). 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 .679, F = 250.174, with a confidence level of p< .0001 (see Table 21.)

Table 21

Regression: Improved Attendance vs. 10 Independents 1998-1999

Regression Summary
Atten vs. 10 Independents

Count	1180
Num. Missing	207
R	.826
R Squared	.682
Adjusted R Squared	.679
RMS Residual	.645

ANOVA Table
Atten vs. 10 Independents

	DF	Sum of Squares	Mean Square	F-Value	P-Value
Regression	10	1040.245	104.025	250.174	<.0001
Residual	1169	486.080	.416		
Total	1179	1526.325			

Regression Coefficients
Atten vs. 10 Independents

	Coefficient	Std. Error	Std. Coeff.	t-Value	P-Value
Intercept	-.034	.078	-.034	-.443	.6582
Con	-.178	.039	-.133	-4.547	<.0001
Cri	.180	.042	.133	4.330	<.0001
Lang	.259	.033	.224	7.727	<.0001
Int	-.330	.036	-.262	-9.249	<.0001
Qual	.101	.035	.091	2.876	.0041
Sch	.240	.031	.222	7.863	<.0001
Beh	.446	.025	.431	17.893	<.0001
Resp	.025	.037	.023	.673	.5012
Conf	.075	.039	.064	1.914	.0558
Regr	.117	.037	.106	3.196	.0014

Responses by teachers for students' increased interest in school were highly significant at the p< .0001 level of confidence with results for measures of improved behavior, improved language skills, increased interest in school, and greater critical

thinking skills. Also found to be highly significant were relations with increased content area knowledge and skills, and increased interest in the subject area. However, the negative coefficients of correlation indicate that these factors increase before the attendance rate increases.

Correlations for improved attendance are significant for improved behavior, increased interest in school, increased interest in the subject matter, improved language skills, taking responsibility for own learning, and higher self-regard (See Table 22).

Table 22

Correlation of Increased Attendance at School with 10 Variables 1998-1999

Correlation Matrix

	Atten	Beh	Resp	Conf	Regr	Con	Cri	Lang	Int	Qual	Sch
Atten	1.000	.742	.648	.607	.642	.446	.526	.664	.475	.634	.665
Beh	.742	1.000	.660	.591	.597	.443	.490	.584	.545	.626	.646
Resp	.648	.660	1.000	.799	.777	.668	.695	.738	.679	.744	.670
Conf	.607	.591	.799	1.000	.804	.678	.691	.677	.692	.745	.652
Regr	.642	.597	.777	.804	1.000	.649	.656	.747	.676	.687	.700
Con	.446	.443	.668	.678	.649	1.000	.793	.623	.669	.640	.597
Cri	.526	.490	.695	.691	.656	.793	1.000	.660	.696	.689	.582
Lang	.664	.584	.738	.677	.747	.623	.660	1.000	.656	.725	.673
Int	.475	.545	.679	.692	.676	.669	.696	.656	1.000	.735	.692
Qual	.634	.626	.744	.745	.687	.640	.689	.725	.735	1.000	.720
Sch	.665	.646	.670	.652	.700	.597	.582	.673	.692	.720	1.000

1180 observations were used in this computation.
207 cases were omitted due to missing values.

8. Improved behavior

Measurement of behavior and the degree of growth for TEAMS students was attributed by the teachers to the project at a mean score of 2.457 (standard deviation = 1.095).

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 .629, F = 200.471, with a confidence level of p< .0001 (see Table 23).

Table 23

Regression: Improved Behavior vs. 10 Variables 1998-1999

Regression Summary
Beh vs. 10 Independents

Count	1180
Num. Missing	207
R	.795
R Squared	.632
Adjusted R Squared	.629
RMS Residual	.670

ANOVA Table
Beh vs. 10 Independents

	DF	Sum of Squares	Mean Square	F-Value	P-Value
Regression	10	900.607	90.061	200.471	<.0001
Residual	1169	525.169	.449		
Total	1179	1425.776			

Regression Coefficients
Beh vs. 10 Independents

	Coefficient	Std. Error	Std. Coeff.	t-Value	P-Value
Intercept	.275	.080	.275	3.429	.0006
Con	-.070	.041	-.054	-1.714	.0868
Cri	-.084	.044	-.064	-1.921	.0550
Lang	-.078	.036	-.070	-2.185	.0291
Int	.159	.038	.131	4.166	<.0001
Qual	.079	.037	.074	2.168	.0303
Sch	.141	.032	.134	4.347	<.0001
Atten	.482	.027	.499	17.893	<.0001
Resp	.271	.038	.254	7.182	<.0001
Conf	-.001	.041	-.001	-.019	.9847
Regr	-.024	.038	-.023	-.642	.5212

Responses by teachers about students' increased improvements in behavior were highly significant at the p< .0001 level of confidence with results for improvement in attendance, responsibility for own learning, interest in the subject matter, and interest in school.

Correlations for behavior are significant for improved attendance, responsibility for own learning, interest in school, and quality of work (see Table 24).

Table 24

Correlation of Improved Behavior with 10 Variables 1998-1999

Correlation Matrix

	Beh	Resp	Conf	Regr	Con	Cri	Lang	Int	Qual	Sch	Atten
Beh	1.000	.660	.591	.597	.443	.490	.584	.545	.626	.646	.742
Resp	.660	1.000	.799	.777	.668	.695	.738	.679	.744	.670	.648
Conf	.591	.799	1.000	.804	.678	.691	.677	.692	.745	.652	.607
Regr	.597	.777	.804	1.000	.649	.656	.747	.676	.687	.700	.642
Con	.443	.668	.678	.649	1.000	.793	.623	.669	.640	.597	.446
Cri	.490	.695	.691	.656	.793	1.000	.660	.696	.689	.582	.526
Lang	.584	.738	.677	.747	.623	.660	1.000	.656	.725	.673	.664
Int	.545	.679	.692	.676	.669	.696	.656	1.000	.735	.692	.475
Qual	.626	.744	.745	.687	.640	.689	.725	.735	1.000	.720	.634
Sch	.646	.670	.652	.700	.597	.582	.673	.692	.720	1.000	.665
Atten	.742	.648	.607	.642	.446	.526	.664	.475	.634	.665	1.000

1180 observations were used in this computation.
207 cases were omitted due to missing values.

9. Takes responsibility for own learning

Measurement of taking responsibility for his/her own learning and the degree of growth for TEAMS students was attributed by the teachers to the project at a mean score of 2.752 (standard deviation = 1.014). 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 .757, F = 367.302, with a confidence level of p< .0001 (see Table 25).

Table 25

Regression: Greater Responsibility for Own Learning vs. 10 Independents 1998-1999

Regression Summary
Resp vs. 10 Independents

Count	1180
Num. Missing	207
R	.871
R Squared	.759
Adjusted R Squared	.757
RMS Residual	.509

ANOVA Table
Resp vs. 10 Independents

	DF	Sum of Squares	Mean Square	F-Value	P-Value
Regression	10	950.359	95.036	367.302	<.0001
Residual	1169	302.468	.259		
Total	1179	1252.827			

Regression Coefficients
Resp vs. 10 Independents

	Coefficient	Std. Error	Std. Coeff.	t-Value	P-Value
Intercept	-.267	.061	-.267	-4.397	<.0001
Con	.085	.031	.070	2.738	.0063
Cri	.098	.033	.080	2.974	.0030
Lang	.157	.027	.150	5.868	<.0001
Int	.011	.029	.010	.386	.6993
Qual	.103	.028	.103	3.737	.0002
Sch	-.017	.025	-.018	-.706	.4801
Atten	.016	.023	.017	.673	.5012
Beh	.156	.022	.166	7.182	<.0001
Conf	.299	.030	.282	10.005	<.0001
Regr	.165	.029	.165	5.778	<.0001

Responses by teachers for students' taking increased responsibility for their own learning were highly significant at the p< .0001 level of confidence with results for

improved confidence as a learner, greater self-regard, improved language skills, and improved behavior. At a lower but still significant level of confidence, quality of work, improvement in critical thinking, and increased knowledge in the content area and skills were also related to greater responsibility for own learning (see Table 26).

Table 26

Correlation of Increased Responsibility for Own Learning with 10 Variables 1998-1999

Correlation Matrix

	Resp	Conf	Regr	Con	Cri	Lang	Int	Qual	Sch	Atten	Beh
Resp	1.000	.799	.777	.668	.695	.738	.679	.744	.670	.648	.660
Conf	.799	1.000	.804	.678	.691	.677	.692	.745	.652	.607	.591
Regr	.777	.804	1.000	.649	.656	.747	.676	.687	.700	.642	.597
Con	.668	.678	.649	1.000	.793	.623	.669	.640	.597	.446	.443
Cri	.695	.691	.656	.793	1.000	.660	.696	.689	.582	.526	.490
Lang	.738	.677	.747	.623	.660	1.000	.656	.725	.673	.664	.584
Int	.679	.692	.676	.669	.696	.656	1.000	.735	.692	.475	.545
Qual	.744	.745	.687	.640	.689	.725	.735	1.000	.720	.634	.626
Sch	.670	.652	.700	.597	.582	.673	.692	.720	1.000	.665	.646
Atten	.648	.607	.642	.446	.526	.664	.475	.634	.665	1.000	.742
Beh	.660	.591	.597	.443	.490	.584	.545	.626	.646	.742	1.000

1180 observations were used in this computation.
207 cases were omitted due to missing values.

10. Greater confidence as learner

Measurement of the TEAMS students' greater confidence as a learner and the degree of growth was attributed by the teachers to the project at a mean score of 2.873 (standard deviation = .960). 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 .758, F = 204.570, with a confidence level of $p < .0001$ (see Table 27).

Table 27
Regression: Greater Confidence as Learner vs. 10 Independents 1998-1999

Regression Summary
Conf vs. 10 Independents

Count	1180
Num. Missing	207
R	.872
R Squared	.760
Adjusted R Squared	.758
RMS Residual	.478

ANOVA Table
Conf vs. 10 Independents

	DF	Sum of Squares	Mean Square	F-Value	P-Value
Regression	10	845.536	84.554	370.790	<.0001
Residual	1169	266.575	.228		
Total	1179	1112.111			

Regression Coefficients
Conf vs. 10 Independents

	Coefficient	Std. Error	Std. Coeff.	t-Value	P-Value
Intercept	.158	.057	.158	2.767	.0057
Con	.111	.029	.097	3.799	.0002
Cri	.055	.031	.048	1.773	.0764
Lang	-.100	.025	-.101	-3.945	<.0001
Int	.080	.027	.075	2.936	.0034
Qual	.193	.025	.203	7.559	<.0001
Sch	-.046	.023	-.049	-1.963	.0499
Atten	.041	.022	.049	1.914	.0558
Beh	-3.993E-4	.021	-4.522E-4	-.019	.9847
Resp	.264	.026	.280	10.005	<.0001
Regr	.360	.025	.382	14.336	<.0001

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 greater self regard, increased responsibility for own learning, improved quality of work, and improved language skills. The latter, having a negative coefficient of correlation, would have occurred first. A lesser but still highly significant relation

exists with increased content area knowledge and skills. A still lesser but significant relation exists with increased interest in the subject matter.

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 28).

Table 28

Correlations: Higher Confidence as a Learner vs. 10 Variables 1998-1999

Correlation Matrix

	Conf	Regr	Con	Cri	Lang	Int	Qual	Sch	Atten	Beh	Resp
Conf	1.000	.804	.678	.691	.677	.692	.745	.652	.607	.591	.799
Regr	.804	1.000	.649	.656	.747	.676	.687	.700	.642	.597	.777
Con	.678	.649	1.000	.793	.623	.669	.640	.597	.446	.443	.668
Cri	.691	.656	.793	1.000	.660	.696	.689	.582	.526	.490	.695
Lang	.677	.747	.623	.660	1.000	.656	.725	.673	.664	.584	.738
Int	.692	.676	.669	.696	.656	1.000	.735	.692	.475	.545	.679
Qual	.745	.687	.640	.689	.725	.735	1.000	.720	.634	.626	.744
Sch	.652	.700	.597	.582	.673	.692	.720	1.000	.665	.646	.670
Atten	.607	.642	.446	.526	.664	.475	.634	.665	1.000	.742	.648
Beh	.591	.597	.443	.490	.584	.545	.626	.646	.742	1.000	.660
Resp	.799	.777	.668	.695	.738	.679	.744	.670	.648	.660	1.000

1180 observations were used in this computation.
207 cases were omitted due to missing values.

11. Higher self-regard

Measurement of higher self-regard and the degree of growth for TEAMS students was attributed by the teachers to the project at a mean score of 2.764 (standard deviation = 1.021). 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 .752, F = 357.972, with a confidence level of $p < .0001$ (see Table 29).

Table 29

Regression: Higher Self-Regard vs. 10 Independents 1998-1999

Regression Summary
Regr vs. 10 Independents

Count	1180
Num. Missing	207
R	.868
R Squared	.754
Adjusted R Squared	.752
RMS Residual	.514

ANOVA Table
Regr vs. 10 Independents

	DF	Sum of Squares	Mean Square	F-Value	P-Value
Regression	10	944.077	94.408	357.972	<.0001
Residual	1169	308.300	.264		
Total	1179	1252.376			

Regression Coefficients
Regr vs. 10 Independents

	Coefficient	Std. Error	Std. Coeff.	t-Value	P-Value
Intercept	-.112	.062	-.112	-1.811	.0704
Con	.056	.031	.046	1.789	.0739
Cri	-.009	.033	-.008	-.277	.7815
Lang	.243	.026	.233	9.207	<.0001
Int	.080	.029	.070	2.716	.0067
Qual	-.122	.028	-.122	-4.398	<.0001
Sch	.143	.025	.146	5.821	<.0001
Atten	.074	.023	.082	3.196	.0014
Beh	-.014	.022	-.015	-.642	.5212
Resp	.168	.029	.168	5.778	<.0001
Conf	.416	.029	.392	14.336	<.0001

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 greater confidence as a learner, improved language skills, increased responsibility for own

learning, greater interest in school. With increased quality of work, the negative coefficient of correlation indicates the latter occurs first.

Correlations for higher self-regard are highly correlated with confidence as a learner, responsibility for own learning, increased language skills, quality of work, and interest in the subject matter, and significantly correlated with all other variables (see Table 30).

Table 30

Correlation of Higher Self-Regard with 10 Variables 1998-1999

Correlation Matrix

	Regr	Con	Cri	Lang	Int	Qual	Sch	Atten	Beh	Resp	Conf
Regr	1.000	.649	.656	.747	.676	.687	.700	.642	.597	.777	.804
Con	.649	1.000	.793	.623	.669	.640	.597	.446	.443	.668	.678
Cri	.656	.793	1.000	.660	.696	.689	.582	.526	.490	.695	.691
Lang	.747	.623	.660	1.000	.656	.725	.673	.664	.584	.738	.677
Int	.676	.669	.696	.656	1.000	.735	.692	.475	.545	.679	.692
Qual	.687	.640	.689	.725	.735	1.000	.720	.634	.626	.744	.745
Sch	.700	.597	.582	.673	.692	.720	1.000	.665	.646	.670	.652
Atten	.642	.446	.526	.664	.475	.634	.665	1.000	.742	.648	.607
Beh	.597	.443	.490	.584	.545	.626	.646	.742	1.000	.660	.591
Resp	.777	.668	.695	.738	.679	.744	.670	.648	.660	1.000	.799
Conf	.804	.678	.691	.677	.692	.745	.652	.607	.591	.799	1.000

1180 observations were used in this computation.
207 cases were omitted due to missing values.

1998-88 Disaggregated Student Data

Demographics

Of the 1387 TEAMS students observed during 1998-99, 724 (52.2 percent) were male and 663 (47.8 percent) female. Chapter 1/Title 1 students numbered 551 (39.7 percent), LEP 166 (12 percent), gifted 177 (12.8 percent), and special education 180 (13 percent). See Table 31.

Table 31

Student Demographics 1998-1999

	Gender	Ch 1	LEP	Gifted	SE
Count	1387	551	166	177	180
Sum	724	551	166	177	180

Title 1/Chapter 1 Students

Of the 551 Title 1/Chapter 1 students, 283 (51.4 percent) were male and 268 (48.6 percent) were female. Mean values reported for all students for each qualitative variable are shown in Table 32. 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 student improvement in all areas to TEAMS.

Table 32

Mean Scores for Qualitative Variables: Title 1 Students 1998-1999

	Mean	Std. Dev.	Count	Sum	Median	Mode
Con	3.276	.729	537	1759.000	3.000	3.000
Cri	3.170	.748	530	1680.000	3.000	3.000
Lang	2.907	.906	540	1570.000	3.000	3.000
Int	3.296	.721	540	1780.000	3.000	3.000
Qual	3.185	.800	540	1720.000	3.000	3.000
Sch	3.100	.972	522	1618.000	3.000	4.000
Atten	2.505	1.136	546	1368.000	3.000	3.000
Beh	2.724	.999	544	1482.000	3.000	3.000
Resp	2.908	.901	541	1573.000	3.000	3.000
Conf	3.157	.829	529	1670.000	3.000	4.000
Regr	2.996	.941	522	1564.000	3.000	3.000

Correlations for variables for Title 1 students were significant for all except behavior and attendance, and was highly significant for improved critical thinking skills (see Table 33).

Table 33

Correlation for Title 1 Students 1998-1999

Correlation Matrix
Inclusion criteria: Criteria 1 from Title 1.svd

	Ch 1	Con	Cri	Lang	Int	Qual	Sch	Atten	Beh	Resp	Conf	Regr
Ch 1	•	•	•	•	•	•	•	•	•	•	•	•
Con	•	1.000	.754	.683	.562	.631	.604	.433	.373	.646	.603	.616
Cri	•	.754	1.000	.643	.661	.723	.528	.522	.425	.674	.631	.576
Lang	•	.683	.643	1.000	.607	.586	.693	.643	.490	.723	.588	.789
Int	•	.562	.661	.607	1.000	.684	.626	.414	.485	.529	.574	.519
Qual	•	.631	.723	.586	.684	1.000	.647	.543	.477	.615	.665	.566
Sch	•	.604	.528	.693	.626	.647	1.000	.588	.509	.588	.543	.684
Atten	•	.433	.522	.643	.414	.543	.588	1.000	.606	.678	.612	.687
Beh	•	.373	.425	.490	.485	.477	.509	.606	1.000	.613	.504	.536
Resp	•	.646	.674	.723	.529	.615	.588	.678	.613	1.000	.711	.682
Conf	•	.603	.631	.588	.574	.665	.543	.612	.504	.711	1.000	.678
Regr	•	.616	.576	.789	.519	.566	.684	.687	.536	.682	.678	1.000

495 observations were used in this computation.
56 cases were omitted due to missing values.
A variable had a variance that was zero or missing.

Limited English Proficient (LEP) Students

Of the 166 Title 1 students, 85 (51.2 percent) were male and 81 (48.8 percent) were female. Mean values reported for all students for each qualitative variable are shown in Table 34. Equating a median score in the range of 2.50 to 3.49 to a scaled response of three, the conclusion is that teachers attribute some degree of student improvement in all areas to TEAMS.

Table 34

Mean Scores for Qualitative Variables: LEP Students 1998-1999

Descriptive Statistics
Inclusion criteria: Criteria 1 from LEP.svd

	Mean	Std. Dev.	Count	Sum	Median	Mode
Con	3.292	.720	154	507.000	3.000	•
Cri	2.974	.558	154	458.000	3.000	3.000
Lang	2.716	.689	155	421.000	3.000	3.000
Int	3.135	.663	155	486.000	3.000	3.000
Qual	3.156	.791	154	486.000	3.000	3.000
Sch	3.303	.889	152	502.000	4.000	4.000
Atten	2.331	.985	163	380.000	2.000	2.000
Beh	2.626	.815	163	428.000	2.000	2.000
Resp	2.772	.728	158	438.000	3.000	3.000
Conf	2.938	.733	146	429.000	3.000	3.000
Regr	2.918	.695	147	429.000	3.000	3.000

Correlations for variables for LEP students were slight to insignificant for all except improved language skills and improved critical thinking skills (see Table 35).

Table 35

Correlations for LEP Students 1998-1999

Correlation Matrix
Inclusion criteria: Criteria 1 from LEP.svd

	LEP	Con	Cri	Lang	Int	Qual	Sch	Atten	Beh	Resp	Conf	Regr
LEP	•	•	•	•	•	•	•	•	•	•	•	•
Con	•	1.000	.614	.622	.362	.344	.528	-.019	-.171	.487	.496	.467
Cri	•	.614	1.000	.590	.649	.578	.541	.291	.184	.404	.500	.489
Lang	•	.622	.590	1.000	.442	.330	.492	.320	.079	.742	.477	.620
Int	•	.362	.649	.442	1.000	.711	.613	.483	.395	.357	.639	.412
Qual	•	.344	.578	.330	.711	1.000	.643	.407	.404	.295	.705	.511
Sch	•	.528	.541	.492	.613	.643	1.000	.330	.171	.436	.551	.468
Atten	•	-.019	.291	.320	.483	.407	.330	1.000	.573	.427	.457	.463
Beh	•	-.171	.184	.079	.395	.404	.171	.573	1.000	.261	.301	.267
Resp	•	.487	.404	.742	.357	.295	.436	.427	.261	1.000	.488	.625
Conf	•	.496	.500	.477	.639	.705	.551	.457	.301	.488	1.000	.704
Regr	•	.467	.489	.620	.412	.511	.468	.463	.267	.625	.704	1.000

144 observations were used in this computation.
22 cases were omitted due to missing values.
A variable had a variance that was zero or missing.

Gifted Students

Of the 177 gifted students, 98 (55.4 percent) were male and 79 (44.6 percent) were female. This proportion is highly out of proportion to the population (about 10 percent more males than the population), and the reverse of the proportion for the eight year sample as a whole (53 percent female). Mean values reported for all students for each qualitative variable are contained in Table 36. Equating a median score in the range of 2.50 to 3.49 to a scaled response of three, the conclusion is that teachers attribute some degree of student improvement in all areas to TEAMS, except attendance.

Correlations for variables for gifted students were highly significant for critical thinking skills improvement and highly significant for all others except attendance, behavior, and interest in school—all of which would be assumed to be already high (see Table 37).

Table 36

Mean Scores for Qualitative Variables: Gifted Students 1998-1999

Descriptive Statistics
Inclusion criteria: Criteria 1 from Gifted.svd

	Mean	Std. Dev.	Count	Sum	Median	Mode
Con	3.133	.780	166	520.000	3.000	3.000
Cri	3.024	.789	167	505.000	3.000	3.000
Lang	2.783	.917	161	448.000	3.000	2.000
Int	3.257	.861	167	544.000	3.000	4.000
Qual	3.048	.993	166	506.000	3.000	4.000
Sch	3.006	.991	164	493.000	3.000	4.000
Atten	2.436	1.188	163	397.000	2.000	1.000
Beh	2.747	1.080	174	478.000	3.000	4.000
Resp	2.859	1.008	170	486.000	3.000	4.000
Conf	3.019	.987	159	480.000	3.000	4.000
Regr	2.919	.987	160	467.000	3.000	4.000

Table 37

Correlations for Gifted Students 1998-1999

Correlation Matrix
Inclusion criteria: Criteria 1 from Gifted.svd

	Gifted	Con	Cri	Lang	Int	Qual	Sch	Atten	Beh	Resp	Conf	Regr
Gifted	•	•	•	•	•	•	•	•	•	•	•	•
Con	•	1.000	.871	.800	.790	.722	.641	.526	.453	.771	.784	.758
Cri	•	.871	1.000	.736	.842	.733	.675	.505	.480	.661	.684	.626
Lang	•	.800	.736	1.000	.652	.586	.558	.585	.472	.838	.641	.770
Int	•	.790	.842	.652	1.000	.840	.772	.575	.517	.638	.749	.657
Qual	•	.722	.733	.586	.840	1.000	.842	.591	.620	.619	.810	.732
Sch	•	.641	.675	.558	.772	.842	1.000	.691	.674	.573	.671	.640
Atten	•	.526	.505	.585	.575	.591	.691	1.000	.750	.698	.632	.661
Beh	•	.453	.480	.472	.517	.620	.674	.750	1.000	.592	.563	.614
Resp	•	.771	.661	.838	.638	.619	.573	.698	.592	1.000	.755	.849
Conf	•	.784	.684	.641	.749	.810	.671	.632	.563	.755	1.000	.868
Regr	•	.758	.626	.770	.657	.732	.640	.661	.614	.849	.868	1.000

140 observations were used in this computation.
37 cases were omitted due to missing values.
A variable had a variance that was zero or missing.

Special Education Students

Of the 180 special education students, 108 (60 percent) were male and 72 (40 percent) were female. This is highly out of proportion to the population as there are about ten percent more males than the population, as is the proportion for the eight year sample as a whole.

Mean values reported for all students for each qualitative variable are shown in Table 38. Equating a median score in the range of 2.50 to 3.49 to a scaled response of 3, the conclusion is that teachers attribute some degree of student improvement in all areas to the project, except attendance and behavior.

Table 38

Mean Scores for Qualitative Variables: Special Education Students 1998-1999

Descriptive Statistics
Inclusion criteria: Criteria 1 from SE.svd

	Mean	Std. Dev.	Count	Sum	Median	Mode
Con	2.902	.860	163	473.000	3.000	3.000
Cri	2.790	.912	162	452.000	3.000	3.000
Lang	2.552	.877	165	421.000	2.000	2.000
Int	3.115	.870	165	514.000	3.000	4.000
Qual	2.758	.986	165	455.000	3.000	2.000
Sch	2.801	.996	161	451.000	3.000	4.000
Atten	1.970	1.126	168	331.000	1.500	1.000
Beh	2.416	1.031	173	418.000	2.000	2.000
Resp	2.509	1.027	169	424.000	2.000	2.000
Conf	2.688	.990	154	414.000	3.000	3.000
Regr	2.615	.984	156	408.000	3.000	2.000

Correlations for variables for special education students were highly significant for critical thinking skills improvement and highly significant for all others except behavior. This may be a reason for the high proportion of males initially selected for identification testing (see Table 39).

Table 39

Correlations for Special Education Students 1998-1999

Correlation Matrix
Inclusion criteria: Criteria 1 from SE.svd

	Ch 1	Con	Cri	Lang	Int	Qual	Sch	Atten	Beh	Resp	Conf	Regr
Ch 1	•	•	•	•	•	•	•	•	•	•	•	•
Con	•	1.000	.856	.732	.640	.694	.561	.579	.462	.715	.669	.601
Cri	•	.856	1.000	.682	.653	.778	.623	.705	.412	.676	.579	.505
Lang	•	.732	.682	1.000	.408	.480	.355	.580	.326	.811	.634	.724
Int	•	.640	.653	.408	1.000	.673	.756	.465	.420	.490	.580	.457
Qual	•	.694	.778	.480	.673	1.000	.821	.664	.520	.579	.622	.568
Sch	•	.561	.623	.355	.756	.821	1.000	.607	.576	.458	.649	.517
Atten	•	.579	.705	.580	.465	.664	.607	1.000	.590	.661	.588	.509
Beh	•	.462	.412	.326	.420	.520	.576	.590	1.000	.442	.592	.522
Resp	•	.715	.676	.811	.490	.579	.458	.661	.442	1.000	.594	.633
Conf	•	.669	.579	.634	.580	.622	.649	.588	.592	.594	1.000	.830
Regr	•	.601	.505	.724	.457	.568	.517	.509	.522	.633	.830	1.000

71 observations were used in this computation.
109 cases were omitted due to missing values.
A variable had a variance that was zero or missing.

1992-99 Analyses of
Teachers' Reports of Student Attitudes and Behaviors

During the seven year period of the evaluation of TEAMS students, surveys were returned and recorded reflecting teachers' opinions about the attitudes and behaviors. The TEAMS longitudinal student database now contains 17,723 students, of whom 8,973 were male (50.6 percent) and 8,750 female (49.4 percent).

The survey instruments have always focused on each student's outcomes as attributed by the teachers. The instruments use a weighted-scale response where the numeral four indicates a great degree of change, the numeral three indicates some degree of change, the numeral two indicates very little changes, and one indicates no change. Disaggregated analyses were also performed to evaluate whether the responses varied for different student populations.

Qualitative Variables

The survey asked teachers about the degree to which any of the following statements about each student could be attributed to the project:

1. Improved content knowledge and skills? (coded "f Con" on the output table)
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 qualitative variable are shown in Table 40. Equating a median score in the range of 2.50 to 3.49 to a scaled response of three, the conclusion is that teachers attribute some degree of student improvement in all but two areas--attendance and behavior-- to the project.

Table 40

Mean Scores for Qualitative Variables 1992-1999

	Mean	Std. Dev.	Std. Error	Count	# Missing	Median	Mode
Con	3.088	.793	.006	17610	113	3.000	3.000
Crit	3.038	.794	.006	17605	118	3.000	3.000
Lang	2.755	.894	.007	17639	84	3.000	3.000
Int	3.148	.823	.006	17645	78	3.000	3.000
Qual	2.804	.857	.006	17624	99	3.000	3.000
Sch	2.836	.905	.007	17591	132	3.000	3.000
Atten	2.322	1.075	.008	17565	158	2.000	1.000
Beh	2.418	1.025	.008	17571	152	2.000	3.000
Resp	2.737	.938	.007	17584	139	3.000	3.000
Conf	2.872	.889	.007	17546	177	3.000	3.000
Regard	2.805	.930	.007	17519	204	3.000	3.000

Demographics

Teachers were asked to report demographic information (see Table 41) 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 41

Demographics 1992-1999

	F/M	Ch1	LEP	Gifted	SpEd
Count	17723	16843	16359	16470	16513
# Missing	0	880	1364	1253	1210
Sum	8973	6201	2512	1859	1612

In the database of 17,723 TEAMS students, 8,973 of the students are male and 8,750 are female. Other data indicate that 6,201 students are participants in the Title 1/Chapter 1 program, 2,512 are limited English proficient, 1,612 are in special education programs, and 1,859 are assigned to gifted programs

Student Attitudes and Behaviors

The following analyses address the possible relationships between each of the qualitative variables with all of the other qualitative variables. The data has been collected during a longitudinal student study which covers seven years of the TEAMS Project.

1. Improved content knowledge and skills

Measurement of content knowledge/skills and the degree of growth for TEAMS students was attributed by teachers to the project at a mean score of 3.088 (standard deviation = .793). 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 .682, F = 3735.467, with a confidence level of p< .0001, very highly significant (see Table 42).

Table 42

Regression: Improved Content Knowledge/Skills vs. 10 Independents 1992-1999

Regression Summary
Con vs. 10 Independents

Count	17410
Num. Missing	313
R	.826
R Squared	.682
Adjusted R Squared	.682
RMS Residual	.448

ANOVA Table
Con vs. 10 Independents

	DF	Sum of Squares	Mean Square	F-Value	P-Value
Regression	10	7495.844	749.584	3735.467	<.0001
Residual	17399	3491.402	.201		
Total	17409	10987.246			

Regression Coefficients
Con vs. 10 Independents

	Coefficient	Std. Error	Std. Coeff.	t-Value	P-Value
Intercept	.377	.015	.377	25.404	<.0001
Crit	.531	.007	.532	80.277	<.0001
Lang	.070	.006	.079	11.538	<.0001
Int	.190	.006	.197	30.021	<.0001
Qual	.044	.007	.048	6.794	<.0001
Sch	.039	.006	.044	6.487	<.0001
Atten	-.039	.005	-.053	-7.633	<.0001
Beh	-.039	.006	-.051	-6.775	<.0001
Resp	.005	.006	.005	.718	.4730
Conf	-.009	.008	-.010	-1.150	.2504
Regard	.098	.007	.115	14.223	<.0001

The teachers' reports of students' improved content knowledge and skills were 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.

A relationship existed at the p< .0001 level for increased interest in school, with a .113 correlation coefficient, as well as a p< .0001 level of confidence for improved attendance and a negative correlation coefficient of - .097. The largest coefficient of correlation identified was for improved critical thinking.

Standardized coefficients for the variables of improved attendance, improved behavior, and greater confidence as a learner, 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 and behavior, and greater confidence.

Put differently, students showing improvement in the areas of improved confidence as a learner, 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 high for improved critical thinking skills, and generally high except for attendance and behavior (see Table 43).

Table 43

Correlation of Greater Content Knowledge/Skills with 10 Variables 1992-1999

Correlation Matrix

	Con	Crit	Lang	Int	Qual	Sch	Atten	Beh	Resp	Conf	Regard
Con	1.000	.790	.609	.681	.588	.553	.321	.355	.525	.590	.570
Crit	.790	1.000	.637	.669	.610	.559	.358	.393	.562	.627	.562
Lang	.609	.637	1.000	.594	.671	.620	.547	.545	.592	.606	.646
Int	.681	.669	.594	1.000	.623	.612	.343	.376	.519	.598	.566
Qual	.588	.610	.671	.623	1.000	.679	.548	.584	.637	.635	.628
Sch	.553	.559	.620	.612	.679	1.000	.566	.584	.627	.645	.629
Atten	.321	.358	.547	.343	.548	.566	1.000	.764	.547	.495	.551
Beh	.355	.393	.545	.376	.584	.584	.764	1.000	.644	.587	.602
Resp	.525	.562	.592	.519	.637	.627	.547	.644	1.000	.763	.718
Conf	.590	.627	.606	.598	.635	.645	.495	.587	.763	1.000	.814
Regard	.570	.562	.646	.566	.628	.629	.551	.602	.718	.814	1.000

17410 observations were used in this computation.
313 cases were omitted due to missing values.

2. 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 attributable to the project at a mean score of 3.038 (standard deviation = .794). Variability in the scores on this variable were accounted for by the other measures in the model at an adjusted R squared value of .696, F = 3987.671, with a confidence level of p< .0001 (see Table 44).

Table 44

Regression: Improved Critical Thinking Skills vs. 10 Independents 1992-1999

Regression Summary
Crit vs. 10 Independents

Count	17410
Num. Missing	313
R	.834
R Squared	.696
Adjusted R Squared	.696
RMS Residual	.439

ANOVA Table
Crit vs. 10 Independents

	DF	Sum of Squares	Mean Square	F-Value	P-Value
Regression	10	7683.271	768.327	3987.671	<.0001
Residual	17399	3352.364	.193		
Total	17409	11035.635			

Regression Coefficients
Crit vs. 10 Independents

	Coefficient	Std. Error	Std. Coeff.	t-Value	P-Value
Intercept	.258	.015	.258	17.601	<.0001
Con	.509	.006	.508	80.277	<.0001
Lang	.137	.006	.154	23.374	<.0001
Int	.124	.006	.129	19.832	<.0001
Qual	.063	.006	.068	9.859	<.0001
Sch	-.008	.006	-.009	-1.397	.1625
Atten	-.006	.005	-.008	-1.113	.2658
Beh	-.024	.006	-.031	-4.182	<.0001
Resp	.052	.006	.062	8.538	<.0001
Conf	.162	.007	.181	21.660	<.0001
Regard	-.091	.007	-.106	-13.449	<.0001

Reports by teachers for students' improved critical thinking and problem solving were highly significant at the p< .0001 level of confidence with results for all measures of improvement except interest in school and attendance. Coefficients of correlation

are strongest for content knowledge and skills, greater confidence as a learner, and improved language skills. Correlation analysis showed strong relationships of critical thinking skills with content knowledge and skills, confidence as a learner, greater self regard, subject interest and quality (see Table 45).

Table 45

Correlation of Improved Critical Thinking Skills with 10 Variables 1992-1999

Correlation Matrix

	Crit	Con	Lang	Int	Qual	Sch	Atten	Beh	Resp	Conf	Regard
Crit	1.000	.790	.637	.669	.610	.559	.358	.393	.562	.627	.562
Con	.790	1.000	.609	.681	.588	.553	.321	.355	.525	.590	.570
Lang	.637	.609	1.000	.594	.671	.620	.547	.545	.592	.606	.646
Int	.669	.681	.594	1.000	.623	.612	.343	.376	.519	.598	.566
Qual	.610	.588	.671	.623	1.000	.679	.548	.584	.637	.635	.628
Sch	.559	.553	.620	.612	.679	1.000	.566	.584	.627	.645	.629
Atten	.358	.321	.547	.343	.548	.566	1.000	.764	.547	.495	.551
Beh	.393	.355	.545	.376	.584	.584	.764	1.000	.644	.587	.602
Resp	.562	.525	.592	.519	.637	.627	.547	.644	1.000	.763	.718
Conf	.627	.590	.606	.598	.635	.645	.495	.587	.763	1.000	.814
Regard	.562	.570	.646	.566	.628	.629	.551	.602	.718	.814	1.000

17410 observations were used in this computation.
313 cases were omitted due to missing values.

3. Improved language skills

Measurement of language skills and the degree of growth for TEAMS students was attributed by teachers to the project at a mean score of 2.755 (standard deviation = .894). 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 46).

Table 46

Regression: Improved Language Skills vs. 10 Independents 1992-1999

Regression Summary
Lang vs. 10 Independents

Count	17410
Num. Missing	313
R	.782
R Squared	.612
Adjusted R Squared	.612
RMS Residual	.558

ANOVA Table
Lang vs. 10 Independents

	DF	Sum of Squares	Mean Square	F-Value	P-Value
Regression	10	8533.630	853.363	2745.599	<.0001
Residual	17399	5407.805	.311		
Total	17409	13941.435			

Regression Coefficients
Lang vs. 10 Independents

	Coefficient	Std. Error	Std. Coeff.	t-Value	P-Value
Intercept	-.073	.019	-.073	-3.866	.0001
Con	.108	.009	.096	11.538	<.0001
Crit	.222	.009	.197	23.374	<.0001
Int	.090	.008	.083	11.262	<.0001
Qual	.200	.008	.192	25.009	<.0001
Sch	.070	.007	.071	9.404	<.0001
Atten	.132	.006	.158	20.644	<.0001
Beh	.029	.007	.033	4.053	<.0001
Resp	.020	.008	.021	2.592	.0095
Conf	-.073	.010	-.072	-7.554	<.0001
Regard	.197	.009	.205	23.122	<.0001

Reports by teachers for students' improved language skills were highly significant at the p< .0001 level of confidence with results for all measures except greater responsibility for own learning, which was significant at the p< .01 level of confidence.

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. The 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, as Table 47 shows, indicating that improved language skills benefit all learning tasks.

Table 47

Correlation of Improved Language Skills with 10 Variables 1992-1999

Correlation Matrix

	Lang	Con	Crit	Int	Qual	Sch	Atten	Beh	Resp	Conf	Regard
Lang	1.000	.609	.637	.594	.671	.620	.547	.545	.592	.606	.646
Con	.609	1.000	.790	.681	.588	.553	.321	.355	.525	.590	.570
Crit	.637	.790	1.000	.669	.610	.559	.358	.393	.562	.627	.562
Int	.594	.681	.669	1.000	.623	.612	.343	.376	.519	.598	.566
Qual	.671	.588	.610	.623	1.000	.679	.548	.584	.637	.635	.628
Sch	.620	.553	.559	.612	.679	1.000	.566	.584	.627	.645	.629
Atten	.547	.321	.358	.343	.548	.566	1.000	.764	.547	.495	.551
Beh	.545	.355	.393	.376	.584	.584	.764	1.000	.644	.587	.602
Resp	.592	.525	.562	.519	.637	.627	.547	.644	1.000	.763	.718
Conf	.606	.590	.627	.598	.635	.645	.495	.587	.763	1.000	.814
Regard	.646	.570	.562	.566	.628	.629	.551	.602	.718	.814	1.000

17410 observations were used in this computation.
313 cases were omitted due to missing values.

4. Increased interest in the subject area

Measurement of interest in the subject area and the degree of growth for TEAMS students was attributed by teachers to TEAMS at a mean score of 3.148 (standard deviation = .823).

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 .595, F = 2562.823, with a confidence level of p< .0001. Reports by teachers for students' improved interest in the subject area were highly significant at the p< .0001 level of confidence with all variables. The negative coefficients of correlation for perceived improved attendance, behavior, and responsibility for own learning implies that these occurred previous to the improved interest in the subject area (see Table 48).

Table 48

Regression: Improved Interest in Subject Area vs. 10 Independents 1992-1999

Regression Summary
Int vs. 10 Independents

Count	17410
Num. Missing	313
R	.772
R Squared	.596
Adjusted R Squared	.595
RMS Residual	.524

ANOVA Table
Int vs. 10 Independents

	DF	Sum of Squares	Mean Square	F-Value	P-Value
Regression	10	7049.510	704.951	2562.823	<.0001
Residual	17399	4785.911	.275		
Total	17409	11835.422			

Regression Coefficients
Int vs. 10 Independents

	Coefficient	Std. Error	Std. Coeff.	t-Value	P-Value
Intercept	.516	.017	.516	29.881	<.0001
Con	.260	.009	.250	30.021	<.0001
Crit	.178	.009	.172	19.832	<.0001
Lang	.080	.007	.087	11.262	<.0001
Qual	.166	.008	.173	21.963	<.0001
Sch	.188	.007	.207	27.393	<.0001
Atten	-.052	.006	-.068	-8.626	<.0001
Beh	-.053	.007	-.065	-7.749	<.0001
Resp	-.033	.007	-.037	-4.473	<.0001
Conf	.100	.009	.108	11.115	<.0001
Regard	.042	.008	.048	5.225	<.0001

Correlations of increased subject matter interest with other variables were significant for all variables except attendance and behavior as shown in Table 49.

Table 49

Correlation of Increased Interest in Subject Area with 10 Variables 1992-1999

Correlation Matrix

	Int	Con	Crit	Lang	Qual	Sch	Atten	Beh	Resp	Conf	Regard
Int	1.000	.681	.669	.594	.623	.612	.343	.376	.519	.598	.566
Con	.681	1.000	.790	.609	.588	.553	.321	.355	.525	.590	.570
Crit	.669	.790	1.000	.637	.610	.559	.358	.393	.562	.627	.562
Lang	.594	.609	.637	1.000	.671	.620	.547	.545	.592	.606	.646
Qual	.623	.588	.610	.671	1.000	.679	.548	.584	.637	.635	.628
Sch	.612	.553	.559	.620	.679	1.000	.566	.584	.627	.645	.629
Atten	.343	.321	.358	.547	.548	.566	1.000	.764	.547	.495	.551
Beh	.376	.355	.393	.545	.584	.584	.764	1.000	.644	.587	.602
Resp	.519	.525	.562	.592	.637	.627	.547	.644	1.000	.763	.718
Conf	.598	.590	.627	.606	.635	.645	.495	.587	.763	1.000	.814
Regard	.566	.570	.562	.646	.628	.629	.551	.602	.718	.814	1.000

17410 observations were used in this computation.
313 cases were omitted due to missing values.

5. Improved quality of work

Measurement of quality of work and the degree of growth for TEAMS students was attributed by the teachers to the project at a mean score of 2.804 (standard deviation = .857). 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 .634, F = 3011.117, with a confidence level of p< .0001 (see Table 50).

Table 50

Regression: Improved Quality of Work vs. 10 Independents 1992-1999

Regression Summary
Qual vs. 10 Independents

Count	17410
Num. Missing	313
R	.796
R Squared	.634
Adjusted R Squared	.634
RMS Residual	.520

ANOVA Table
Qual vs. 10 Independents

	DF	Sum of Squares	Mean Square	F-Value	P-Value
Regression	10	8131.559	813.156	3011.117	<.0001
Residual	17399	4698.621	.270		
Total	17409	12830.179			

Regression Coefficients
Qual vs. 10 Independents

	Coefficient	Std. Error	Std. Coeff.	t-Value	P-Value
Intercept	.092	.018	.092	5.257	<.0001
Con	.060	.009	.055	6.794	<.0001
Crit	.088	.009	.082	9.859	<.0001
Lang	.174	.007	.181	25.009	<.0001
Int	.163	.007	.156	21.963	<.0001
Sch	.184	.007	.195	27.060	<.0001
Atten	.057	.006	.071	9.497	<.0001
Beh	.092	.007	.110	13.798	<.0001
Resp	.103	.007	.112	14.154	<.0001
Conf	.019	.009	.020	2.161	.0307
Regard	.019	.008	.020	2.340	.0193

Teachers' responses about students' improved quality of work were highly significant at the p< .0001 level of confidence with perceptions of improvement in all areas except greater confidence as a learner and higher self regard, which themselves were related at the p< .05 level of confidence. These 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 51).

Table 51

Correlation of Improved Quality of Work with 10 Variables 1992-1999

Correlation Matrix

	Qual	Con	Crit	Lang	Int	Sch	Atten	Beh	Resp	Conf	Regard
Qual	1.000	.588	.610	.671	.623	.679	.548	.584	.637	.635	.628
Con	.588	1.000	.790	.609	.681	.553	.321	.355	.525	.590	.570
Crit	.610	.790	1.000	.637	.669	.559	.358	.393	.562	.627	.562
Lang	.671	.609	.637	1.000	.594	.620	.547	.545	.592	.606	.646
Int	.623	.681	.669	.594	1.000	.612	.343	.376	.519	.598	.566
Sch	.679	.553	.559	.620	.612	1.000	.566	.584	.627	.645	.629
Atten	.548	.321	.358	.547	.343	.566	1.000	.764	.547	.495	.551
Beh	.584	.355	.393	.545	.376	.584	.764	1.000	.644	.587	.602
Resp	.637	.525	.562	.592	.519	.627	.547	.644	1.000	.763	.718
Conf	.635	.590	.627	.606	.598	.645	.495	.587	.763	1.000	.814
Regard	.628	.570	.562	.646	.566	.629	.551	.602	.718	.814	1.000

17410 observations were used in this computation.
313 cases were omitted due to missing values.

6. Increased interest in school

Measurement of interest in school and the degree of growth for TEAMS students in was attributed by teachers to the project at a mean score of 2.836 (standard deviation = .905). 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 .609, F = 2710.863, with a confidence level of p< .0001. See Table 52.

Table 52

Regression: Improved Interest in School vs. 10 Independents 1992-1999

Regression Summary
Sch vs. 10 Independents

Count	17410
Num. Missing	313
R	.780
R Squared	.609
Adjusted R Squared	.609
RMS Residual	.567

ANOVA Table
Sch vs. 10 Independents

	DF	Sum of Squares	Mean Square	F-Value	P-Value
Regression	10	8699.789	869.979	2710.863	<.0001
Residual	17399	5583.744	.321		
Total	17409	14283.534			

Regression Coefficients
Sch vs. 10 Independents

	Coefficient	Std. Error	Std. Coeff.	t-Value	P-Value
Intercept	.074	.019	.074	3.898	<.0001
Con	.062	.010	.054	6.487	<.0001
Crit	-.014	.010	-.012	-1.397	.1625
Lang	.072	.008	.071	9.404	<.0001
Int	.220	.008	.200	27.393	<.0001
Qual	.219	.008	.208	27.060	<.0001
Atten	.130	.006	.154	20.068	<.0001
Beh	.068	.007	.077	9.255	<.0001
Resp	.079	.008	.082	9.969	<.0001
Conf	.123	.010	.120	12.583	<.0001
Regard	.026	.009	.027	2.988	.0028

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 and higher self-regard. Higher self regard is significant at the p< .01 level of confidence.

The negative correlation with critical thinking skills improvement may indicate that students have improved critical thinking skills before they have higher interest in school.

Correlations for improved interest in school were significant for improved quality of work, higher self-regard, interest in the subject area, and responsibility for own learning (see Table 53).

Table 53

Correlation of Improved Interest in School with 10 Variables 1992-1999

Correlation Matrix

	Sch	Con	Crit	Lang	Int	Qual	Atten	Beh	Resp	Conf
Sch	1.000	.553	.559	.620	.612	.680	.567	.584	.627	.645
Con	.553	1.000	.790	.609	.681	.589	.322	.356	.525	.590
Crit	.559	.790	1.000	.637	.670	.610	.359	.394	.563	.628
Lang	.620	.609	.637	1.000	.594	.671	.548	.546	.593	.606
Int	.612	.681	.670	.594	1.000	.623	.343	.377	.519	.598
Qual	.680	.589	.610	.671	.623	1.000	.548	.584	.638	.635
Atten	.567	.322	.359	.548	.343	.548	1.000	.765	.548	.495
Beh	.584	.356	.394	.546	.377	.584	.765	1.000	.644	.588
Resp	.627	.525	.563	.593	.519	.638	.548	.644	1.000	.763
Conf	.645	.590	.628	.606	.598	.635	.495	.588	.763	1.000

17439 observations were used in this computation.
284 cases were omitted due to missing values.

7. Improved attendance

Improvement of attendance for TEAMS students was attributed by teachers to the project at a mean score of 2.322 (standard deviation = 1.075). 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 .628, F = 2936.713, with a confidence level of p< .0001 (see Table 54).

Table 54

Regression: Improved Attendance vs. 10 Independents 1992-1999

Regression Summary
Atten vs. 10 Independents

Count	17410
Num. Missing	313
R	.792
R Squared	.628
Adjusted R Squared	.628
RMS Residual	.655

ANOVA Table
Atten vs. 10 Independents

	DF	Sum of Squares	Mean Square	F-Value	P-Value
Regression	10	12606.066	1260.607	2936.713	<.0001
Residual	17399	7468.653	.429		
Total	17409	20074.720			

Regression Coefficients
Atten vs. 10 Independents

	Coefficient	Std. Error	Std. Coeff.	t-Value	P-Value
Intercept	.103	.022	.103	4.676	<.0001
Con	-.084	.011	-.063	-7.633	<.0001
Crit	-.013	.011	-.009	-1.113	.2658
Lang	.182	.009	.151	20.644	<.0001
Int	-.082	.009	-.063	-8.626	<.0001
Qual	.091	.010	.072	9.497	<.0001
Sch	.174	.009	.147	20.068	<.0001
Beh	.619	.007	.591	87.677	<.0001
Resp	.005	.009	.004	.516	.6059
Conf	-.124	.011	-.103	-11.032	<.0001
Regard	.135	.010	.117	13.383	<.0001

Responses by teachers for students' increased interest in school were highly significant at the p< .0001 level of confidence with all results for measures except increased responsibility for own learning and critical thinking skills.

Correlations for improved attendance are significant for improved behavior, and related to increased interest in school, improved quality of work, improved language skills, taking responsibility for own learning, and higher self-regard (see Table 55).

Table 55

Correlation of Increased Attendance at School with 10 Variables 1992-1999

Correlation Matrix

	Atten	Con	Crit	Lang	Int	Qual	Sch	Beh	Resp	Conf	Regard
Atten	1.000	.321	.358	.547	.343	.548	.566	.764	.547	.495	.551
Con	.321	1.000	.790	.609	.681	.588	.553	.355	.525	.590	.570
Crit	.358	.790	1.000	.637	.669	.610	.559	.393	.562	.627	.562
Lang	.547	.609	.637	1.000	.594	.671	.620	.545	.592	.606	.646
Int	.343	.681	.669	.594	1.000	.623	.612	.376	.519	.598	.566
Qual	.548	.588	.610	.671	.623	1.000	.679	.584	.637	.635	.628
Sch	.566	.553	.559	.620	.612	.679	1.000	.584	.627	.645	.629
Beh	.764	.355	.393	.545	.376	.584	.584	1.000	.644	.587	.602
Resp	.547	.525	.562	.592	.519	.637	.627	.644	1.000	.763	.718
Conf	.495	.590	.627	.606	.598	.635	.645	.587	.763	1.000	.814
Regard	.551	.570	.562	.646	.566	.628	.629	.602	.718	.814	1.000

17410 observations were used in this computation.
313 cases were omitted due to missing values.

8. Improved behavior

Measurement of improved behavior and the degree of growth for TEAMS students was attributed by teachers to the project at a mean score of 2.418 (standard deviation = 1.025).

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 .673, F = 3582.556, with a confidence level of p< .0001 (see Table 56).

Table 56

Regression: Improved Behavior vs. 10 Variables 1992-1999

Regression Summary
Beh vs. 10 Independents

Count	17410
Num. Missing	313
R	.820
R Squared	.673
Adjusted R Squared	.673
RMS Residual	.586

ANOVA Table
Beh vs. 10 Independents

	DF	Sum of Squares	Mean Square	F-Value	P-Value
Regression	10	12293.017	1229.302	3582.556	<.0001
Residual	17399	5970.213	.343		
Total	17409	18263.231			

Regression Coefficients
Beh vs. 10 Independents

	Coefficient	Std. Error	Std. Coeff.	t-Value	P-Value
Intercept	.105	.020	.105	5.294	<.0001
Con	-.067	.010	-.052	-6.775	<.0001
Crit	-.042	.010	-.033	-4.182	<.0001
Lang	.032	.008	.028	4.053	<.0001
Int	-.066	.008	-.053	-7.749	<.0001
Qual	.117	.008	.098	13.798	<.0001
Sch	.072	.008	.064	9.255	<.0001
Atten	.495	.006	.519	87.677	<.0001
Resp	.224	.008	.205	27.877	<.0001
Conf	.113	.010	.098	11.206	<.0001
Regard	.051	.009	.046	5.621	<.0001

Reports by teachers for students' increased improvements in behavior were highly significant at the p< .0001 level of confidence with results for improvement in all variables, and the coefficient of correlation was strong for attendance improvement.

Correlations for behavior are significant for improved attendance and strong for all but increased critical thinking skills, increased interest in the subject area, and increased content area knowledge and skills (see Table 57).

Table 57

Correlation of Improved Behavior with 10 Variables 1992-1999

Correlation Matrix

	Beh	Con	Crit	Lang	Int	Qual	Sch	Atten	Resp	Conf	Regard
Beh	1.000	.355	.393	.545	.376	.584	.584	.764	.644	.587	.602
Con	.355	1.000	.790	.609	.681	.588	.553	.321	.525	.590	.570
Crit	.393	.790	1.000	.637	.669	.610	.559	.358	.562	.627	.562
Lang	.545	.609	.637	1.000	.594	.671	.620	.547	.592	.606	.646
Int	.376	.681	.669	.594	1.000	.623	.612	.343	.519	.598	.566
Qual	.584	.588	.610	.671	.623	1.000	.679	.548	.637	.635	.628
Sch	.584	.553	.559	.620	.612	.679	1.000	.566	.627	.645	.629
Atten	.764	.321	.358	.547	.343	.548	.566	1.000	.547	.495	.551
Resp	.644	.525	.562	.592	.519	.637	.627	.547	1.000	.763	.718
Conf	.587	.590	.627	.606	.598	.635	.645	.495	.763	1.000	.814
Regard	.602	.570	.562	.646	.566	.628	.629	.551	.718	.814	1.000

17410 observations were used in this computation.
313 cases were omitted due to missing values.

9. Takes responsibility for own learning

Measurement of taking responsibility for one's own learning and the degree of growth for TEAMS students was attributed by teachers to TEAMS at a mean score of 2.737 (standard deviation = .938). 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 .668, F = 3508.298, with a confidence level of p< .0001 (see Table 58).

Table 58

Regression: Greater Responsibility for Own Learning vs. 10 Independents 1992-1999

Regression Summary
Resp vs. 10 Independents

Count	17410
Num. Missing	313
R	.818
R Squared	.668
Adjusted R Squared	.668
RMS Residual	.541

ANOVA Table
Resp vs. 10 Independents

	DF	Sum of Squares	Mean Square	F-Value	P-Value
Regression	10	10259.451	1025.945	3508.298	<.0001
Residual	17399	5088.057	.292		
Total	17409	15347.509			

Regression Coefficients
Resp vs. 10 Independents

	Coefficient	Std. Error	Std. Coeff.	t-Value	P-Value
Intercept	.005	.018	.005	.292	.7705
Con	.007	.009	.006	.718	.4730
Crit	.080	.009	.067	8.538	<.0001
Lang	.019	.007	.018	2.592	.0095
Int	-.035	.008	-.031	-4.473	<.0001
Qual	.111	.008	.102	14.154	<.0001
Sch	.072	.007	.069	9.969	<.0001
Atten	.003	.006	.004	.516	.6059
Beh	.191	.007	.208	27.877	<.0001
Conf	.398	.009	.377	45.040	<.0001
Regard	.141	.008	.140	17.005	<.0001

Reports by teachers for students' taking an increased responsibility for their own learning were highly significant at the p< .0001 level of confidence with results for all except attendance and language, which itself was significant at p< .01 (see Table 59).

Correlations were significant for greater confidence as a learner and higher self-regard, and high for all others.

Table 59

Correlation of Increased Responsibility for Own Learning with 10 Variables 1992-1999

Correlation Matrix

	Resp	Con	Crit	Lang	Int	Qual	Sch	Atten	Beh	Conf	Regard
Resp	1.000	.525	.562	.592	.519	.637	.627	.547	.644	.763	.718
Con	.525	1.000	.790	.609	.681	.588	.553	.321	.355	.590	.570
Crit	.562	.790	1.000	.637	.669	.610	.559	.358	.393	.627	.562
Lang	.592	.609	.637	1.000	.594	.671	.620	.547	.545	.606	.646
Int	.519	.681	.669	.594	1.000	.623	.612	.343	.376	.598	.566
Qual	.637	.588	.610	.671	.623	1.000	.679	.548	.584	.635	.628
Sch	.627	.553	.559	.620	.612	.679	1.000	.566	.584	.645	.629
Atten	.547	.321	.358	.547	.343	.548	.566	1.000	.764	.495	.551
Beh	.644	.355	.393	.545	.376	.584	.584	.764	1.000	.587	.602
Conf	.763	.590	.627	.606	.598	.635	.645	.495	.587	1.000	.814
Regard	.718	.570	.562	.646	.566	.628	.629	.551	.602	.814	1.000

17410 observations were used in this computation.
313 cases were omitted due to missing values.

10. Greater confidence as a learner

Measurement of developing greater confidence as a learner and the degree of growth for TEAMS students was attributed by teachers to TEAMS at a mean score of 2.872 (standard deviation = .889). 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 .757, F = 5416.582, with a confidence level of p< .0001 (see Table 60).

Table 60

Regression: Greater Confidence as Learner vs. 10 Independents 1992-1999

Regression Summary
Conf vs. 10 Independents

Count	17410
Num. Missing	313
R	.870
R Squared	.757
Adjusted R Squared	.757
RMS Residual	.439

ANOVA Table
Conf vs. 10 Independents

	DF	Sum of Squares	Mean Square	F-Value	P-Value
Regression	10	10427.670	1042.767	5416.582	<.0001
Residual	17399	3349.549	.193		
Total	17409	13777.219			

Regression Coefficients
Conf vs. 10 Independents

	Coefficient	Std. Error	Std. Coeff.	t-Value	P-Value
Intercept	.065	.015	.065	4.390	<.0001
Con	-.009	.007	-.008	-1.150	.2504
Crit	.162	.007	.145	21.660	<.0001
Lang	-.045	.006	-.045	-7.554	<.0001
Int	.070	.006	.065	11.115	<.0001
Qual	.014	.006	.013	2.161	.0307
Sch	.074	.006	.075	12.583	<.0001
Atten	-.056	.005	-.067	-11.032	<.0001
Beh	.063	.006	.073	11.206	<.0001
Resp	.262	.006	.277	45.040	<.0001
Regard	.448	.006	.469	75.935	<.0001

Reports by teachers for students' increased confidence as a learner were 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 61).

Table 61

Correlation: Higher Confidence as a Learner vs. 10 Variables 1992-1999

Correlation Matrix

	Conf	Con	Crit	Lang	Int	Qual	Sch	Atten	Beh	Resp	Regard
Conf	1.000	.590	.627	.606	.598	.635	.645	.495	.587	.763	.814
Con	.590	1.000	.790	.609	.681	.588	.553	.321	.355	.525	.570
Crit	.627	.790	1.000	.637	.669	.610	.559	.358	.393	.562	.562
Lang	.606	.609	.637	1.000	.594	.671	.620	.547	.545	.592	.646
Int	.598	.681	.669	.594	1.000	.623	.612	.343	.376	.519	.566
Qual	.635	.588	.610	.671	.623	1.000	.679	.548	.584	.637	.628
Sch	.645	.553	.559	.620	.612	.679	1.000	.566	.584	.627	.629
Atten	.495	.321	.358	.547	.343	.548	.566	1.000	.764	.547	.551
Beh	.587	.355	.393	.545	.376	.584	.584	.764	1.000	.644	.602
Resp	.763	.525	.562	.592	.519	.637	.627	.547	.644	1.000	.718
Regard	.814	.570	.562	.646	.566	.628	.629	.551	.602	.718	1.000

17410 observations were used in this computation.
313 cases were omitted due to missing values.

11. Higher self-regard

Measurement of higher self-regard and the degree of growth for TEAMS students was attributed by teachers to TEAMS at a mean score of 2.805 (standard deviation = .930). 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 62).

Table 62

Regression: Higher Self-Regard vs. 10 Independents 1992-1999

Regression Summary
Regard vs. 10 Independents

Count	17410
Num. Missing	313
R	.851
R Squared	.724
Adjusted R Squared	.724
RMS Residual	.489

ANOVA Table
Regard vs. 10 Independents

	DF	Sum of Squares	Mean Square	F-Value	P-Value
Regression	10	10931.657	1093.166	4572.135	<.0001
Residual	17399	4159.980	.239		
Total	17409	15091.637			

Regression Coefficients
Regard vs. 10 Independents

	Coefficient	Std. Error	Std. Coeff.	t-Value	P-Value
Intercept	-.021	.016	-.021	-1.271	.2037
Con	.117	.008	.100	14.223	<.0001
Crit	-.113	.008	-.097	-13.449	<.0001
Lang	.151	.007	.146	23.122	<.0001
Int	.037	.007	.033	5.225	<.0001
Qual	.017	.007	.015	2.340	.0193
Sch	.020	.007	.019	2.988	.0028
Atten	.075	.006	.087	13.383	<.0001
Beh	.036	.006	.039	5.621	<.0001
Resp	.116	.007	.117	17.005	<.0001
Conf	.556	.007	.531	75.935	<.0001

Reports by teachers for students' increased self regard were highly significant at the p< .0001 level of confidence with results for measures of improvement in all areas except interest in school and quality of work. Increased interest in school was

significant at the p< .01 level of confidence. With increased critical thinking skills, the negative coefficient of correlation indicates that critical thinking skills occur prior to higher self-regard.

Correlations for higher self-regard are 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 63).

Table 63

Correlation of Higher Self-Regard with 10 Variables 1992-1999

Correlation Matrix

	Regard	Con	Crit	Lang	Int	Qual	Sch	Atten	Beh	Resp	Conf
Regard	1.000	.570	.562	.646	.566	.628	.629	.551	.602	.718	.814
Con	.570	1.000	.790	.609	.681	.588	.553	.321	.355	.525	.590
Crit	.562	.790	1.000	.637	.669	.610	.559	.358	.393	.562	.627
Lang	.646	.609	.637	1.000	.594	.671	.620	.547	.545	.592	.606
Int	.566	.681	.669	.594	1.000	.623	.612	.343	.376	.519	.598
Qual	.628	.588	.610	.671	.623	1.000	.679	.548	.584	.637	.635
Sch	.629	.553	.559	.620	.612	.679	1.000	.566	.584	.627	.645
Atten	.551	.321	.358	.547	.343	.548	.566	1.000	.764	.547	.495
Beh	.602	.355	.393	.545	.376	.584	.584	.764	1.000	.644	.587
Resp	.718	.525	.562	.592	.519	.637	.627	.547	.644	1.000	.763
Conf	.814	.590	.627	.606	.598	.635	.645	.495	.587	.763	1.000

17410 observations were used in this computation.
313 cases were omitted due to missing values.

1992-1999 Disaggregated Student Data

Demographics

Of the 17,723 students observed during 1992 to 1999, 8,973 (50.6 percent) were male and 8,750 (49.4 percent) female. Chapter 1 (Title 1) students numbered 6,201 (35 percent), LEP 2,512 (14.2 percent), gifted 1,859 (10.5 percent), and special education 1,612 (9.1 percent) (see Table 64).

Table 64

Student Demographics 1992-1999

	F/M	Ch1	LEP	Gifted	SpEd
Count	17723	16843	16359	16470	16513
# Missing	0	880	1364	1253	1210
Sum	8973	6201	2512	1859	1612

Student Demographics by Instructional Setting

Significantly, males were highly identified (a 19.4 percent variance compared to the population) for special education. Females were identified for the gifted program (a 7.1 percent variance compared to the population). Table 65 shows the gender mix for each instructional setting and the percent for each.

Table 65

Student Demographics by Instructional Setting 1992-1999

Instructional Setting	Male	Percent	Female	Percent	Total
Gifted	875	47.1	984	52.9	1,859
Special Education	973	60.4	639	39.6	1,612
LEP	1,281	51.0	1,231	49.0	2,512
Title 1/Chapter 1	3,172	51.2	3,029	48.8	6,201
All	8,973	50.6	8,750	49.4	17,723

Title 1/Chapter 1 Students

Of the 6,201 Title 1/Chapter 1 students, 3,172 (51.2 percent) were male and 3,029 (48.8 percent) were female. Mean values reported for all students for each qualitative variable are contained in Table 66. 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.

Table 66

Mean Scores for Qualitative Variables: Title 1/Chapter 1 Students 1992-1999

	Mean	Std. Dev.	Count	Sum	Median	Mode
Con	3.276	.729	537	1759.000	3.000	3.000
Cri	3.170	.748	530	1680.000	3.000	3.000
Lang	2.907	.906	540	1570.000	3.000	3.000
Int	3.296	.721	540	1780.000	3.000	3.000
Qual	3.185	.800	540	1720.000	3.000	3.000
Sch	3.100	.972	522	1618.000	3.000	4.000
Atten	2.505	1.136	546	1368.000	3.000	3.000
Beh	2.724	.999	544	1482.000	3.000	3.000
Resp	2.908	.901	541	1573.000	3.000	3.000
Conf	3.157	.829	529	1670.000	3.000	4.000
Regr	2.996	.941	522	1564.000	3.000	3.000

Correlations for variables for Title 1/Chapter 1 students were significant for all except behavior and attendance, and was highly significant for improved critical thinking skills (see Table 67).

Table 67

Correlation for 1998-99 Title 1/Chapter 1 Students

Correlation Matrix
Inclusion criteria: Criteria 1 from Title 1.svd

	Ch 1	Con	Cri	Lang	Int	Qual	Sch	Atten	Beh	Resp	Conf	Regr
Ch 1	•	•	•	•	•	•	•	•	•	•	•	•
Con	•	1.000	.754	.683	.562	.631	.604	.433	.373	.646	.603	.616
Cri	•	.754	1.000	.643	.661	.723	.528	.522	.425	.674	.631	.576
Lang	•	.683	.643	1.000	.607	.586	.693	.643	.490	.723	.588	.789
Int	•	.562	.661	.607	1.000	.684	.626	.414	.485	.529	.574	.519
Qual	•	.631	.723	.586	.684	1.000	.647	.543	.477	.615	.665	.566
Sch	•	.604	.528	.693	.626	.647	1.000	.588	.509	.588	.543	.684
Atten	•	.433	.522	.643	.414	.543	.588	1.000	.606	.678	.612	.687
Beh	•	.373	.425	.490	.485	.477	.509	.606	1.000	.613	.504	.536
Resp	•	.646	.674	.723	.529	.615	.588	.678	.613	1.000	.711	.682
Conf	•	.603	.631	.588	.574	.665	.543	.612	.504	.711	1.000	.678
Regr	•	.616	.576	.789	.519	.566	.684	.687	.536	.682	.678	1.000

495 observations were used in this computation.
56 cases were omitted due to missing values.
A variable had a variance that was zero or missing.

Limited English Proficient Student (LEP)

Of the 2,512 LEP students, 1,281 (51 percent) were male and 1,231 (49 percent) were female. Mean values reported for all students for each qualitative variable are shown in Table 68. Equating a median score in the range of 2.50 to 3.49 to a scaled response of three, the conclusion is that teachers over the seven years attribute LEP student improvement to the project in all areas except attendance.

Table 68

Mean Scores for Qualitative Variables: LEP Students 1992-1999

Descriptive Statistics
Inclusion criteria: Criteria 1 from LEP.svd

	Mean	Std. Dev.	Count	Sum	Median	Mode
Con	3.292	.720	154	507.000	3.000	•
Cri	2.974	.558	154	458.000	3.000	3.000
Lang	2.716	.689	155	421.000	3.000	3.000
Int	3.135	.663	155	486.000	3.000	3.000
Qual	3.156	.791	154	486.000	3.000	3.000
Sch	3.303	.889	152	502.000	4.000	4.000
Atten	2.331	.985	163	380.000	2.000	2.000
Beh	2.626	.815	163	428.000	2.000	2.000
Resp	2.772	.728	158	438.000	3.000	3.000
Conf	2.938	.733	146	429.000	3.000	3.000
Regr	2.918	.695	147	429.000	3.000	3.000

Correlations for variables for LEP students were strong for improved language skills, improved critical thinking skills, and school interest, and moderate for greater confidence, responsibility, and self-regard (see Table 69).

Table 69

Correlation for LEP Students 1998-1999

Correlation Matrix
Inclusion criteria: Criteria 1 from LEP.svd

	LEP	Con	Cri	Lang	Int	Qual	Sch	Atten	Beh	Resp	Conf	Regr
LEP	•	•	•	•	•	•	•	•	•	•	•	•
Con	•	1.000	.614	.622	.362	.344	.528	-.019	-.171	.487	.496	.467
Cri	•	.614	1.000	.590	.649	.578	.541	.291	.184	.404	.500	.489
Lang	•	.622	.590	1.000	.442	.330	.492	.320	.079	.742	.477	.620
Int	•	.362	.649	.442	1.000	.711	.613	.483	.395	.357	.639	.412
Qual	•	.344	.578	.330	.711	1.000	.643	.407	.404	.295	.705	.511
Sch	•	.528	.541	.492	.613	.643	1.000	.330	.171	.436	.551	.468
Atten	•	-.019	.291	.320	.483	.407	.330	1.000	.573	.427	.457	.463
Beh	•	-.171	.184	.079	.395	.404	.171	.573	1.000	.261	.301	.267
Resp	•	.487	.404	.742	.357	.295	.436	.427	.261	1.000	.488	.625
Conf	•	.496	.500	.477	.639	.705	.551	.457	.301	.488	1.000	.704
Regr	•	.467	.489	.620	.412	.511	.468	.463	.267	.625	.704	1.000

144 observations were used in this computation.
22 cases were omitted due to missing values.
A variable had a variance that was zero or missing.

Gifted Students

Of the 1,859 gifted students, 875 (47.1 percent) were male and 984 (52.9 percent) were female. This is out of proportion to the population (about 7.1 percent more females than the population), and the reverse of the proportion for the current year sample (44.6 percent female).

Mean values reported for all students for each qualitative variable are contained in Table 70. Equating a median score in the range of 2.50 to 3.49 to a scaled response of 3, the conclusion is that TEAMS teachers attribute gifted student improvement in all areas to the project, except attendance.

Correlations for variables for gifted students were highly significant for critical thinking skills improvement and highly significant for all others except attendance and behavior, which would be assumed to be already high (see Table 71)

Table 70

Mean Scores for Qualitative Variables: Gifted Students 1992-1999

Descriptive Statistics
Inclusion criteria: Criteria 1 from Gifted.svd

	Mean	Std. Dev.	Count	Sum	Median	Mode
Con	3.133	.780	166	520.000	3.000	3.000
Cri	3.024	.789	167	505.000	3.000	3.000
Lang	2.783	.917	161	448.000	3.000	2.000
Int	3.257	.861	167	544.000	3.000	4.000
Qual	3.048	.993	166	506.000	3.000	4.000
Sch	3.006	.991	164	493.000	3.000	4.000
Atten	2.436	1.188	163	397.000	2.000	1.000
Beh	2.747	1.080	174	478.000	3.000	4.000
Resp	2.859	1.008	170	486.000	3.000	4.000
Conf	3.019	.987	159	480.000	3.000	4.000
Regr	2.919	.987	160	467.000	3.000	4.000

Table 71

Correlation for 1998-99 Gifted Students

Correlation Matrix
Inclusion criteria: Criteria 1 from Gifted.svd

	Gifted	Con	Cri	Lang	Int	Qual	Sch	Atten	Beh	Resp	Conf	Regr
Gifted	•	•	•	•	•	•	•	•	•	•	•	•
Con	•	1.000	.871	.800	.790	.722	.641	.526	.453	.771	.784	.758
Cri	•	.871	1.000	.736	.842	.733	.675	.505	.480	.661	.684	.626
Lang	•	.800	.736	1.000	.652	.586	.558	.585	.472	.838	.641	.770
Int	•	.790	.842	.652	1.000	.840	.772	.575	.517	.638	.749	.657
Qual	•	.722	.733	.586	.840	1.000	.842	.591	.620	.619	.810	.732
Sch	•	.641	.675	.558	.772	.842	1.000	.691	.674	.573	.671	.640
Atten	•	.526	.505	.585	.575	.591	.691	1.000	.750	.698	.632	.661
Beh	•	.453	.480	.472	.517	.620	.674	.750	1.000	.592	.563	.614
Resp	•	.771	.661	.838	.638	.619	.573	.698	.592	1.000	.755	.849
Conf	•	.784	.684	.641	.749	.810	.671	.632	.563	.755	1.000	.868
Regr	•	.758	.626	.770	.657	.732	.640	.661	.614	.849	.868	1.000

140 observations were used in this computation.
37 cases were omitted due to missing values.
A variable had a variance that was zero or missing.

Special Education Students

Of the 1,612 special education students, 973 (60.4 percent) were male and 639 (39.6 percent) were female. This is highly out of proportion to the population (a 19.4 percent variance for males as compared to the population), as is the proportion for the eight year sample as a whole. Males are being over-identified for special education.

Mean values reported for all students for each qualitative variable are shown in Table 72. Equating a median score in the range of 2.50 to 3.49 to a scaled response of three, the conclusion is that TEAMS teachers attribute special education student improvement in all areas to TEAMS, except attendance and behavior.

Table 72

Mean Scores for Qualitative Variables: Special Education Students 1992-1999

Descriptive Statistics
Inclusion criteria: Criteria 1 from SE.svd

	Mean	Std. Dev.	Count	Sum	Median	Mode
Con	2.902	.860	163	473.000	3.000	3.000
Cri	2.790	.912	162	452.000	3.000	3.000
Lang	2.552	.877	165	421.000	2.000	2.000
Int	3.115	.870	165	514.000	3.000	4.000
Qual	2.758	.986	165	455.000	3.000	2.000
Sch	2.801	.996	161	451.000	3.000	4.000
Atten	1.970	1.126	168	331.000	1.500	1.000
Beh	2.416	1.031	173	418.000	2.000	2.000
Resp	2.509	1.027	169	424.000	2.000	2.000
Conf	2.688	.990	154	414.000	3.000	3.000
Regr	2.615	.984	156	408.000	3.000	2.000

Correlations for variables for special education students were highly significant for critical thinking skills improvement and highly significant for all others except behavior (see Table 73).

Table 73

Correlation for 1998-99 Special Education Students

Correlation Matrix
Inclusion criteria: Criteria 1 from SE.svd

	Ch 1	Con	Cri	Lang	Int	Qual	Sch	Atten	Beh	Resp	Conf	Regr
Ch 1	•	•	•	•	•	•	•	•	•	•	•	•
Con	•	1.000	.856	.732	.640	.694	.561	.579	.462	.715	.669	.601
Cri	•	.856	1.000	.682	.653	.778	.623	.705	.412	.676	.579	.505
Lang	•	.732	.682	1.000	.408	.480	.355	.580	.326	.811	.634	.724
Int	•	.640	.653	.408	1.000	.673	.756	.465	.420	.490	.580	.457
Qual	•	.694	.778	.480	.673	1.000	.821	.664	.520	.579	.622	.568
Sch	•	.561	.623	.355	.756	.821	1.000	.607	.576	.458	.649	.517
Atten	•	.579	.705	.580	.465	.664	.607	1.000	.590	.661	.588	.509
Beh	•	.462	.412	.326	.420	.520	.576	.590	1.000	.442	.592	.522
Resp	•	.715	.676	.811	.490	.579	.458	.661	.442	1.000	.594	.633
Conf	•	.669	.579	.634	.580	.622	.649	.588	.592	.594	1.000	.830
Regr	•	.601	.505	.724	.457	.568	.517	.509	.522	.633	.830	1.000

71 observations were used in this computation.
109 cases were omitted due to missing values.
A variable had a variance that was zero or missing.

Synopsis

Strikingly, the students' instructional setting in the classes taught are more heavily Limited English Proficient than the corresponding percentages of Limited English Proficiency of the schools and districts and less Low Literacy. The students served by the TEAMS Project are more Hispanic than the student bodies of the schools they are in, equal in African American, but less White. The classes being taught are seemingly more suburban and less rural than the character of all the schools in the project (see Table 74).

Table 74

Percentage Comparison of Districts and Classes Taught

Criteria	Schools/ Districts %	Classes %
Urban	40	40
Suburban	30	33
Rural	30	27
White	46	41
African American	33	33
Hispanic	15	21
Limited English Proficient	12	22
Low Literacy	20	9

There is apparently no gender bias in the identification of numbers of students for criteria-based Title 1/Chapter 1 or LEP services. There is, however, a difference in

identification of proportionately more males for special education and more females for the gifted program—programs requiring judgment to identify candidates for testing.

Principals and Technology Coordinators

Location of School

Of the eighty-one principals and technology coordinators responding, eighty answered the question about their school's location. Thirty-two (forty percent) identified their school as urban, while twenty-four (thirty percent) indicated suburban and twenty-four (thirty percent) indicated rural (see Tables 75 and 76).

Table 75

Location of School Chart 1998-1999

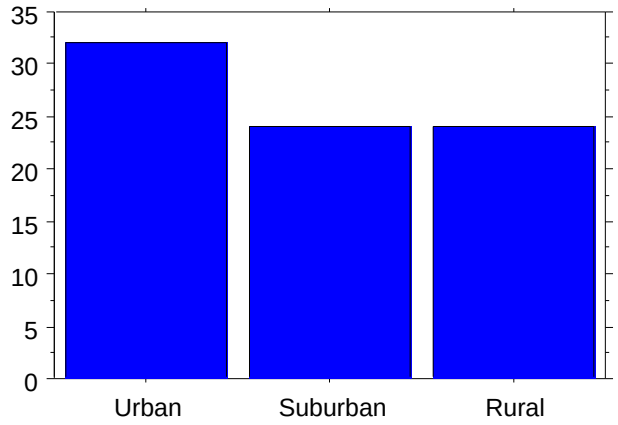

Table 76

Location of School Figures 1998-1999

	Urban	Suburban	Rural
Count	32	24	24

Students Served by TEAMS IMPACT Project

Seventy-eight of the eighty-one principals and technology coordinators responding reported that their schools enrolled 45,333 students. While the mean school size was 581 students, the median size was 553 and the modal value was 400. With a standard deviation of 385.894, sixty-eight percent of the schools fell between 167 and 939 students.

At each school, the number of classrooms served ranges from one to sixteen, with a mean value of three and median and modal values of two. See Table 77.

Table 77

Students Served by TEAMS IMPACT Project 1998-1999

	# of students at school	# classrooms using ...
Mean	581.192	3.193
Std. Dev.	385.894	2.578
Std. Error	43.694	.341
Count	78	57
Minimum	9.000	1.000
Maximum	2470.000	16.000
#Missing	3	24
Sum	45333.000	182.000
Median	553.000	2.000
Mode	400.000	2.000

Schools' Student Social and Economic Sector (SES)

Of the eighty-one principals and technology coordinators responding, sixty-five reported their school's student social and economic sector (SES) data. Of the 30,467 students so reported, 17,425 or fifty-seven percent were of the low SES category, 10,280 or thirty-four percent were of the middle SES category, and 2,762 or nine percent were of the high SES category (see Tables 78 and 79).

Table 78

Student Social and Economic Sector (SES) Chart 1998-1999

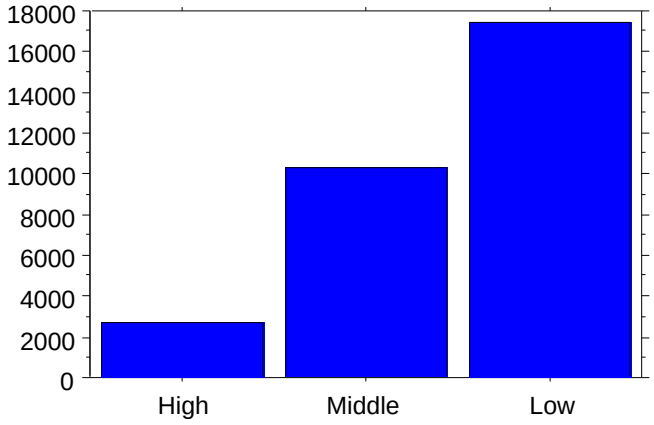

Table 79

Student Social and Economic Sector (SES) Figures 1998-1999

	High	Middle	Low
Sum	2762	10280	17425

School-wide Student Ethnicity

The principals and technology coordinators reported the ethnicity of 39,432 students in their schools. Of these, 18,198 or forty-six percent were white, 12,955 or thirty-three percent were African American, 5,741 or fifteen percent were Hispanic, 1,640 or four percent were Asian, and 858 were American Indian, Pacific Islander, or other (see Tables 80 and 81).

Table 80

School-wide Student Ethnicity Chart 1998-1999

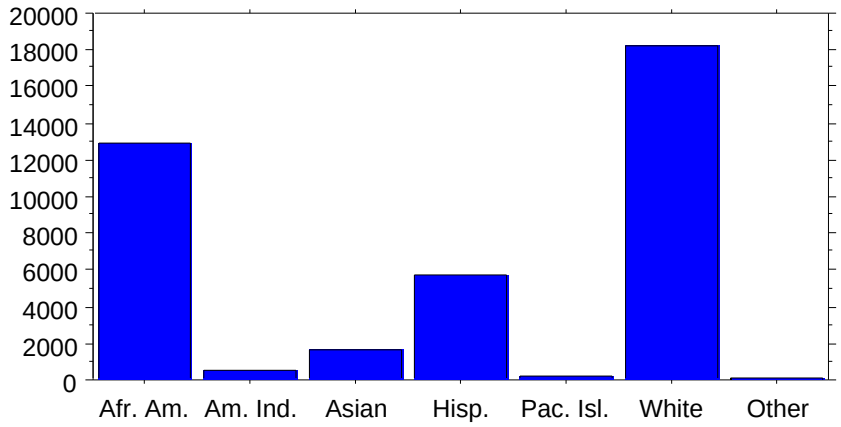

Table 81

School-wide Student Ethnicity Figures 1998-1999

	Afr. Am.	Am. Ind.	Asian	Hisp.	Pac. Isl.	White	Other
Sum	12955	481	1640	5741	247	18198	130

Students' Instructional Setting

Of those responding, 26, 570 were reported in specialized instructional settings. Of these, 12,712 or forty-eight percent were receiving Title 1/Chapter 1 services, 5,434 or twenty percent were categorized as low literacy students, 3,295 or twelve percent were limited English proficient, 2,719 or ten percent were special education or disabled students, and 2,410 or 9 percent were gifted (see Tables 82 and 83).

Table 82

School-wide Student Instructional Setting Chart 1998-1999

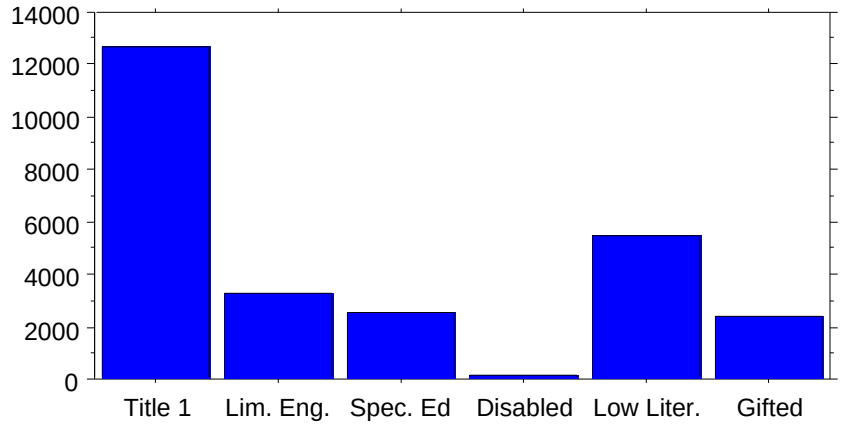

Table 83

School-wide Student Instructional Setting Figures 1998-1999

	Title 1	Lim. Eng.	Spec. Ed	Disabled	Low Liter.	Gifted
Sum	12712	3295	2580	139	5434	2410

Factors Limiting the Use of TEAMS Project IMPACT

Fifty-three, (or sixty-five percent), of the eighty-one principals and technology coordinators reported that time limited the use of TEAMS at their schools. Twenty-four reported training limitations, while eighteen and fourteen reported lack of classroom access and hardware limitations respectively (see Table 84). Traditionally, access to equipment is the primary limiting factor, but this statistic shows the impact of recent programs to improve equipment in the classrooms.

Table 84

Factors Limiting Use of TEAMS Project IMPACT 1998-1999

	Count	#Missing	Sum
Time	53	28	53
Training	24	57	24
Hardware	14	67	14
Classroom Access	18	63	18
Some other	8	73	8

Access to TEAMS Project IMPACT

Principals and technology coordinators reported access to TEAMS Project IMPACT for the current year in Table 85. The largest numbers, fifty-three and fifty, are for tape and cable, while public television stations and the Internet each serve forty-eight. Satellites serve about twenty-five, while ITFS reaches five.

Table 85

Technology Access to TEAMS 1998-1999

Method	Number
Satellite dish at school	25
Satellite reception in classroom	21
Public TV Station	48
Cable	50
ITFS	5
Tape	53
Internet	48

Computers in the Classroom

Principals and technology coordinators also listed the computer equipment in their schools. Thirty-five schools are using Pentium PCs, and fourteen are using 586s. Thirty-four report still using 486s. Thirty report using Mac Power PCs, along with twenty-nine saying they used Mac non-Power PCs.

Twenty-six reported that Apple IIe machines were still in use, while twenty-three reported using other machines (see Table 86).

Table 86

Computers in the Classroom: Kind and Numbers 1998-1999

	Count
PC486	34
# PC486	34
PC586	14
# PC586	21
Pentium	35
# Pentium	34
Apple Iie	26
# Apple Iie	31
Mac non-PPC	29
# Mac non-PPC	28
Mac PPC	30
# Mac PPC	27
Other	23
# Other	16

Other Classroom Technology

Of the eighty-one principals and technology coordinators responding, eighty indicated that they had televisions and VCRs in the classrooms. Fifty-three also had laserdiscs, while sixty-eight had CD-ROMs. Forty-nine had Internet access with twenty-three reportimg access by T1 or ISDN lines. Forty-four said they accessed Internet by modem and forty-four reported telephones in classrooms (see Table 87).

Table 87

Other Classroom Technology 1998-1999

Technology	Number Yes	Number No	Number Missing
Television	80	0	1
VCR	80	0	1
2-way Video Conferencing	5	65	11
If yes, VTEL?	2		
If yes, PictureTel?	0		
If yes, Other?	1		
Laserdisc	53	24	4
CD ROM	68	10	3
Internet Access	49	19	13
If yes, ISDN?	4		
If yes, T1?	19		
If yes, Other?	1		
Firewalls or filters	27	32	22
Electronic mail	57	18	6
Modem	44	27	10
If yes, 28.8?	3		
If yes, 56K?	7		
If yes, Other?	9		
Telephone	44	37	0

TEAMS Project IMPACT Teachers

Location

Ninety-six of the ninety-nine TEAMS Project IMPACT teachers responding indicated the location of their school. Thirty-eight (forty percent) classified their school as urban, while thirty-two (thirty-three percent) were suburban and twenty-six (twenty-seven percent) were rural (see Tables 88 and 89).

Table 88

Teachers Location Chart 1998-1999

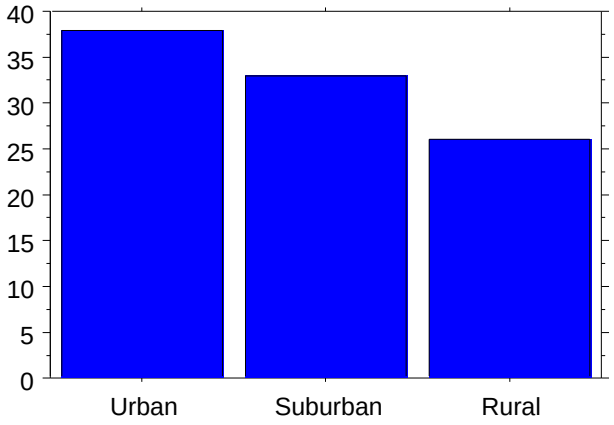

Table 89

Teachers Location Figures 1998-1999

	Urban	Suburban	Rural
Count	38	32	26

Grade Level

Of the ninety-nine teachers responding, eighty-six indicated a grade level taught. Of those, the mean, median, and mode reported was fifth grade. Although there are outliers at the eleventh and first through third grades, the majority of service is to upper elementary grades (4-6) and middle school grades (see Tables 90 and 91).

Table 90

Teachers Grade Level Taught Chart 1998-1999

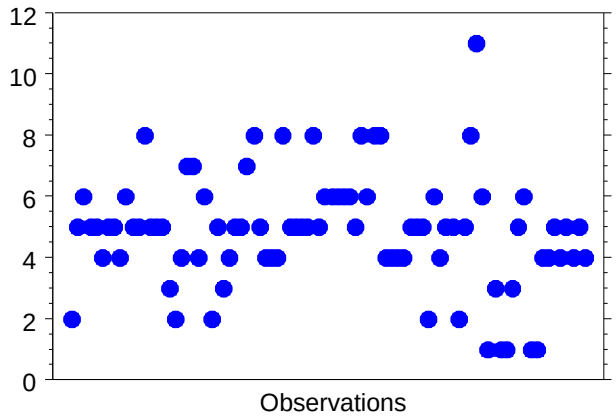

Table 91

Teachers Grade Level Taught Figures 1998-1999

	Grade Lev
Mean	4.849
Std. Dev.	1.833
Std. Error	.198
Count	86
Minimum	1.000
Maximum	11.000
# Missing	13
Median	5.000
Mode	5.000

Students Using TEAMS Project IMPACT

Ninety-one of the ninety-nine teachers reported that they were serving 3,316 students in classes of a mean size of thirty-six students, median value of twenty-eight and mode of thirty-two. The maximum class load was 147 (see Table 92).

Table 92

Students Using TEAMS Project IMPACT 1998-1999

	# in Class
Mean	36.440
Std. Dev.	28.437
Std. Error	2.981
Count	91
Minimum	0.000
Maximum	147.000
# Missing	8
Sum	3316.000
Median	28.000
Mode	32.000

Student SES (Social and Economic Sector)

Teachers reported the social and economic sector (SES) of 3,874 students. Of these, 2,417 (sixty-two percent) were classified as low SES. Middle SES was the classification of 1,125 students (twenty-nine percent), and 332 (nine percent) were considered high SES (see Tables 93 and 94).

Table 93

Student Social Economic Sector Chart 1998-1999

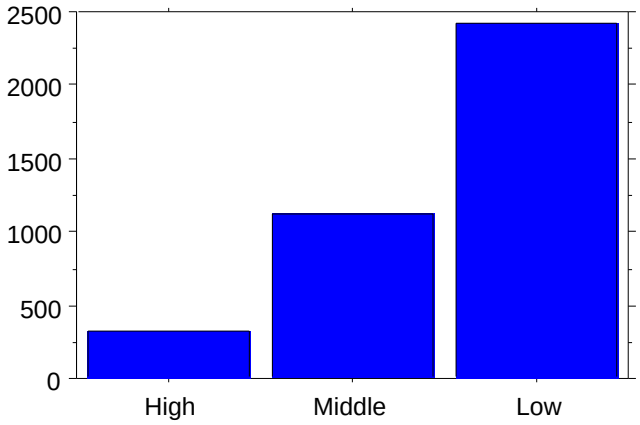

Table 94

Student Social Economic Sector Figures 1998-1999

	High	Middle	Low
Sum	332	1125	2417

Served Students' Ethnicity

The ethnicity of 4,329 students was reported. Of these, 1,759 (forty-one percent) were white, 1,388 (twenty-one percent) were Hispanic. African Americans numbered

938 (thirty-three percent), while Asians were 130 (three percent). American Indians, Pacific Islanders, and other numbered 114 (see Tables 95 and 96).

These numbers and their relationship to each other differ from those reported by principals and technology coordinators for their school-wide populations. However, it should be noted that principals and teachers reporting do not directly correlate as neither group was required to return survey instruments.

Table 95

Served Students' Ethnicity Chart 1998-1999

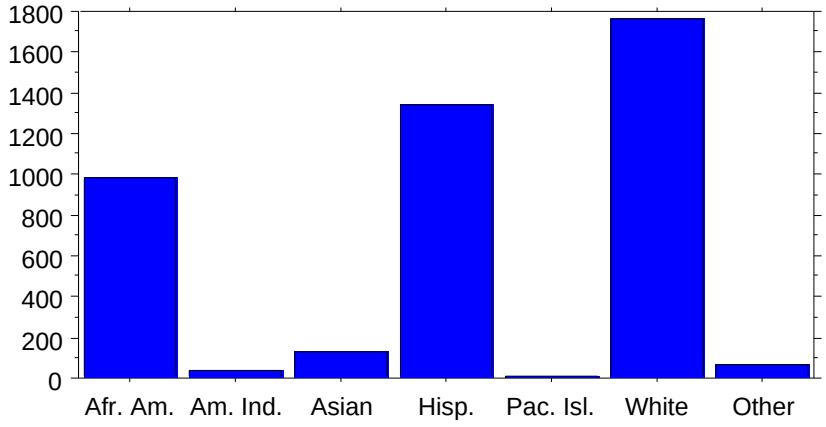

Table 96

Served Students' Ethnicity Figures1998-1999

	Sum
Afr. Am.	988
Am. Ind.	36
Asian	130
Hisp.	1338
Pac. Isl.	13
White	1759
Other	65

Students' Instructional Settings

Of the 3,398 students whose instructional setting was reported, 1,748 or fifty-one percent were Title 1. Another 742 (twenty-two percent) were Limited English Proficient and 312 (nine percent) were classified as Low Literacy. Special Education and Disabled numbered 320 (nine percent), while 276 (eight percent) were Gifted. See Table 97 and98

Table 97

Students' Instructional Settings Chart 1998-1999

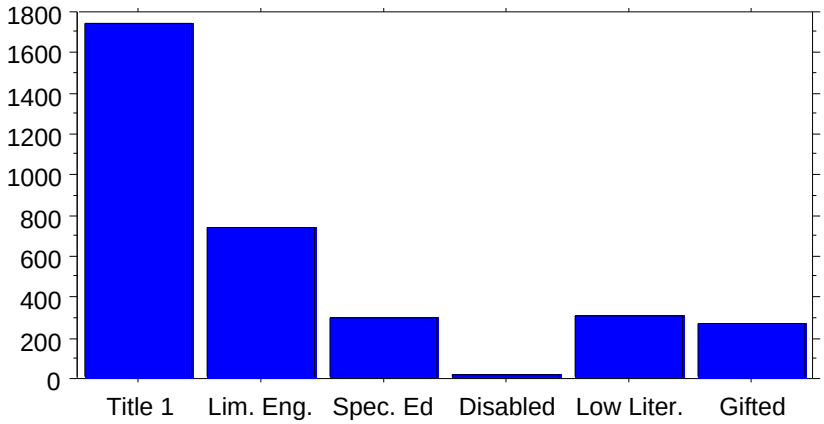

Table 98

Students' Instructional Settings Figures 1998-1999

	Sum
Title 1	1748
Lim. Eng.	742
Spec. Ed	303
Disabled	17
Low Liter.	312
Gifted	276

TEAMS Project IMPACT Modules and Programs Used

Teachers reported that they had used the following programs during the 1998-99 school year. Science and Mathematics appear to be the most popular (see Table 99).

Table 99

Program Modules and Programs Used 1998-1999

Program and Module	Mean Average Programs Used	Count Teachers Using the Programs	Sum Number of Units Used
History/Social Science			
Student as Historian (5 programs)	2	5	8
Student as Media Evaluator (5 programs)	2	2	3
California Here I Come! (5 programs)	1	3	3
Natural Events: Then and Now (4 programs)	2	6	14
Science			
Heat (9 programs)	4	31	133
Chemistry (9 programs)	4	24	103
Earth Processes (9 programs)	4	23	97
Weather (9 programs)	5	26	119
Fast Plants (9 programs)	4	15	56
Mathematics/Algebra			
Primary Algebra (6 programs)	3	10	33
Algebra in My World (6 programs)	3	13	45
Turn on to Algebra (8 programs)	3	5	15
Middle School Algebra (6 programs)	2	8	18
Mathematics/Geometry			
Primary Geometry (6 programs)	3	10	28
Geometry in My World (8 programs)	3	16	54
Turn on to Geometry (8 programs)	4	9	38
Middle School Geometry (6 programs)	3	6	17
Primary Reading Series Grades K-1			
Staff Development (4 programs)	2	9	16
Student Programs (8 programs)	2	7	12
Primary Reading Series Grades 2-3			
Staff Development (4 programs)	2	6	9
Student Programs (8 programs)	2	4	7
Language Arts			
Letters from Rifka (5 programs)	2	7	16
Shiloh (4 programs)	2	4	7

Viewing the Programs

Eighty of the ninety-nine teachers reported how the students viewed the TEAMS programs in the classrooms. Fifty-two viewed video tapes, seven viewed the programs live, and twenty-one used both means depending on the circumstances at school on the day of the program (see Table 100).

Table 100

Viewing the Programs 1998-1999

	Count
Live	7
Video	52
Both	21

Conclusions

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

Appendix A

TEAMS: Project IMPACT

1998-1999

Survey

Instruments

TEAMS Teacher Survey

IMPACT Project 1998-99 Evaluation

Please complete this questionnaire and return it by May 30, 1999 to:

Dr. Carla Lane, TEAMS Evaluator, The Education Coalition, 31 Segovia, San Clemente, CA 92672
Telephone 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 1998-99 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___):

7. How did you watch the programs?
   1. ___Live, interactive 2.___Videotape 3.___Both

TEAMS Student Progress 1998-99

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 Survey
(for Principal or Site Technology Coordinators)
IMPACT Project 1998-99 Evaluation

Please complete this questionnaire and return it by May 30, 1999 to:

Dr. Carla Lane, TEAMS Evaluator, The Education Coalition, 31 Segovia, San Clemente, CA 92672
Telephone 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. __Middle c. __Low socio-economic
3. Number of students in the school who are: a. __African Am b. ___Am Indian c. __Asian
   d. ___Hispanic e. ___Pacific Islander f. ___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
5. What factors limit TEAMS use? a. __Time b. __Training c. __Hardware d.__Classroom Access e. __Other
6. Check the ways that the school had access to TEAMS this year.

TEAMS Access	Yes	No
a. 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. VCR	Yes__ No__
j. Telephone	
k. Computers:	Check all that apply / How many computers 1. 486 __ _____ 2. 586 __ _____ 3. Pentium __ _____ 4. Apple IIe __ _____ 5. Mac Non Power PC __ _____ 6. Mac Power PC __ _____ 7. Other __ _____
l. CD-Rom	Yes __ No __
m. Laserdisc	Yes __ No __
n. Electronic Mail	Yes __ No __
o. Modem	Yes __ No __ Baud rates: 28.8__ 56K__ Other__
p. Network Access	Yes __ No __ If yes: ISDN__ T1__ Other__
q. Two-way Videoconferencing	Yes __ No __ If yes: VTEL__ Picture Tel__ Other__
r. Firewalls/Filters	Yes __ No __

Appendix B

Transcriptions of

TEAMS: Project IMPACT

Evaluation Focus Interviews

1998-1999

David Alexander, Ph.D.
Regional TEAMS Coordinator
ASSET
Phoenix, AZ

Evaluator: What are the problems?

David: The biggest problem is getting them to tell you they have one. While I was down in the office I saw the AP. She was coming out of a room so I walked with her and told her I was just down in Jeanine's room. I asked her what the story was on the satellite. She said it was fixed sometime in February. She said they didn't have anything from the beginning of the year until February. I said, "So it wasn't the storm that knocked it out?" She said well maybe it was one last spring or something but it wasn't this spring. She said in fact they just taped at the school level a staff development that the district bought rights to.

Maryanne warned us last year. She said we will maintain TEAMS and we will maintain TEAMS focus. We will keep the process going but it's going to be a rough year. In order to save Herbert's job we are either going to have to put him back in the classroom or release our classified technician and he's the only one that knows as much as the classified technician so we're going to detail him to do local air networks. I'll assure you that we'll get someone to do it. She's getting scratchy tapes.

Somebody down there doesn't know how to do it right. One of my visits is to go down to the AV room and see what's happening.

I am trying to find technological solutions to what I'm after. I want to figure out a way to make TEAMS instead of a tape resource ASSET's regular schedule. I want it digitized and video on demand. As the state gets more and more networked it will be possible. I'd really like for them to be able to call today or tomorrow and say at 10:45 I'm going to call up Reading Rainbow, lesson 49. We just have it on file server and make it accessible like a CD-ROM. I know the cost of video file servers is very expensive but I know they are coming down.

I figure on any given day if you had two of those you wouldn't have any more than 400 simultaneous down loads. Channel 8 has an agreement with the people who are splitting the digital signal and sending data on the outside of the digital band. It goes directly into your computer. You take your regular Channel 8 TV signal and you put a TV card in you computer. I'm trying to figure out how to get a grant to do maybe 10 districts that are just emerging as major technology type stuff. They could start buying computers and do some kind of partnership where they could put a video card in their computers. We could just broadcast directly to the teacher's desktop.

Evaluator: Would you want to do video on demand?

David: I'd just love to do it.

You're talking about using a significant portion of your budget just in hardware. Channel 8's normal air signal could be picked up without going to a repeater. I have no idea what technology is needed if you have to go a repeater. I'm trying to talk Joe Manning, the technical station manager, into giving me some help on this. I really think video on demand could become a great revenue source for the station. We could do not only ASSET but we could also do professional staff development, business and industry staff development, etc. I think selling people digital passwords would be just wonderful. I think down the road it could become a real revenue source. I'm trying to get him to agree to go after funds for video file servers. I think it is an idea whose time has come in schools. I'd love to produce for science teachers 30 second to three minute videos.

It's almost like the old thing where you bar code video discs except you have a code number. You type it in and it comes up on your screen and the computer digitally sends it to you.

Juliet
Clarksdale Jerome School

Evaluator: What TEAMS programs have you been using?

Juliet: All math. I think it's been four years now. I love it. It's terrific. Our textbook series has very small integrated steps but not many manipulatives or projects. To me it was not lively enough for the students I had. When we hooked into TEAMS it opened up a whole new world for the students. I like the idea of working as a group on the activities. I don't know what else to tell you. It was great for me to see what I considered a top number one teacher. I could watch her and at the same time be a facilitator. It was just great. I have no complaints. I really like TEAMS.

Evaluator: Did that begin to change your teaching style or give you new ideas?

Juliet: I learned a lot. I've wanted to do it for some time. This kind of forced me. It gave an organization plan. I learned how to organize the groups so that each child had a job. I'm one of those people that like to know one, two, three, what we do. This really set it up that way. It gave an outline to follow.

Evaluator: It took you all the way through it.

Juliet: Yes.

Evaluator: Do you feel comfortable now? If the tape were broken, would you go ahead and do the activity?

Juliet: Oh yes that's happened to us quite a few times. Not that the tape broke, but sometimes we didn't get the satellite feed or something like that but it's cool. It is difficult though if I don't have either the tape or the program because the materials are not written to stand alone. They are written to stand with it with the classroom teacher as a facilitator. Sometimes I'd find if I did that I forgot something. About two years ago or a year ago Asset would send me a tape if we missed it or our equipment failed. I would go back and do it at home when I got the tape. I would find I had missed something or missed the main point when I tried to do it just with the printed materials.

Evaluator: With the other content areas, in which you teach, describe the way that you would conduct those classes.

Juliet: I use a lot more group processing now. Before it was more or less listen to the teacher, do the assignment, turn it in. I'm not in that mode anymore.

Evaluator: Across the content you've changed?

Juliet: Exactly, yes.

Evaluator: Did you take a lot of seminars or training?

Juliet: I was first introduced to TEAMS about four years ago at a conference up in Flagstaff. There were two teachers from the school that went. I just happened to land in the math and the other teacher took the science. If I'd gone the other way, you might hear me say we did all science.

Evaluator: Have you considered teaching any of the science?

Juliet: I haven't to this point. We have the entire unit for Fast Plants and I've used parts of it. My background is science so I can pick that up and do it with or without a book. I really like the format that they have for math and the outline that they gave me. It really filled in missing spaces that I had in my preparation. I'm very comfortable with science. Maybe if I start

using it I'll find some other places I can pick up where I'm missing stuff.

Evaluator: Do you normally downlink the programs and use them live?

Juliet: Yes.

Evaluator: Do you have the ability for the children to call in?

Juliet: I sure do. This year we have started using a cell phone in the room. Before I was going to library to phone in because that is where our phone was. This year we actually have a cell phone and we are doing it from our classroom.

Evaluator: Do you get in very often?

Juliet: We did on the first couple of programs. Toward the end I guess more schools got into it or something. We didn't get in on the last few. It seemed like we had a better chance during the first part of each module of having the children on.

Evaluator: Do you have Internet access in your classroom?

Juliet: Yes I do.

Evaluator: Are you using that to connect with the math teacher?

Juliet: No I haven't. I e-mail Jeannie Toshima if I have questions or a problem but I usually do that after the program. We brought up the home page for TEAMS when we were in the library this year. We had a problem in that our server got too busy. I'm not sure what happened but it wouldn't bring it in so we could use it. We got to the home page. We'd get in there and then it would freeze up on us so we didn't really have access in the library, so I didn't try it in my classroom.

Evaluator: Would you try it in your classroom and see if you can get in? It could be that the TEAMS server was down that day.

Juliet: Oh yes, we will try it again. I think the students all know where that is now. They have gone through a few lessons on Internet so they know what a home page is. They know how to look in the list of favorites and find Jeannie Toshima and they know where to find the TEAMS home page. They locate it themselves now.

Evaluator: One of the things that you could do on a day you can't get in on the phone is to have the students send in their data by Internet.

Juliet: Our school just this year adopted an acceptable use policy. Part of that is that they go through the training and then their parents have to give them permission. Without that I can't have them even go into that site. That all came up at the same time. That is why we haven't tried it to this point. I have about five with permission now. That's what stopped us. It would have to me at the keyboard. It's just one of those things that have to be worked out. It's coming but it's slow.

Evaluator: Have you used any of the other materials that Jeannie has on the site?

Juliet: We did two of her projects last year. One was something to do with spinners. This year we have not done any of her projects.

Evaluator: Are there other ones that you would like to see there or is it just that you have so many other things to do?

Juliet: It's not that it's anything that I am missing. It's just finding the time to do it.

Evaluator: Tell me about your experience with getting materials, and tapes. It sounds like your satellite dish is working well.

Juliet: Yes, it seems to be working. It's training new people to handle that satellite dish and how to tune it in. When you changed satellites it took us awhile to find you even though we were getting the instructions. We were getting the mailings.

Evaluator: Do you get all of your paperwork on time?

Juliet: I'd say yes. I don't think I have had any problems with paperwork.

Evaluator: And you are getting the paperwork that is appropriate for the course that you are taking?

Juliet: Yes.

Evaluator: You're not getting a whole bunch of extra materials?

Juliet: I'm getting what I need plus extra. Yes, I'd have to say extra.

Evaluator: Extra for other courses?

Juliet: Yes, other courses. I try to share it with other teachers but I really don't have them on board yet. They sound great.

I've shared some of the reading with them. They've used some of the black line masters but they have not tuned into the program and done a live broadcast.

Evaluator: Have you used either Shiloh or Rifka?

Juliet: No, I have not done any of the programs except math. I have to look closely at the titles that are offered. What we've done here is to designate the pieces of literature to be studied at each grade level. I believe Shiloh is in the fifth grade program. Letters from Rifka I think is also for fifth grade. I have to check and make sure that they fit with the curriculum that we have here. I'm sure it's an excellent program.

Evaluator: Since you have been using the program so long, are there recommendations that you have? Are there things you would like to see TEAMS do differently or change or add?

Juliet: The one thing that we have had occasional problems with is that the program doesn't exactly follow. Sometimes I will have received more materials than I need. I'll end up putting them away. I'll have stacks of paper that we won't ever use. On limited time I want to know what we are going to use and nothing extra.

Evaluator: Is it that they just don't have time to get to that part of the program?

Juliet: I'm not sure what happened. That's happened to us on a couple of occasions on a different broadcast. Either she didn't get to it or it will be slightly off. They'll say there's going to be a call-in at this time and it's changed or she won't open it up to call-ins. Then all of a sudden there will be a clock. It's just little things like that that throw it off. It's not bad and we just go on. I think when I was traveling, when I was coming up to the library, it really bothered me. I'd have to drag all those materials to the library with me and then if we didn't use them I'd have to drag them all back with me. It's not as much of a problem now that I'm in the classroom. I can just put them all back away.

Evaluator: Does it happen every third show, every fourth show?

Juliet: I would say when we first started three years ago it was worse than it is now.

Evaluator: Is the timing better?

Juliet: Oh, I think so.

Evaluator: Is there anything else that needs a little tightening or fixing?

Juliet: Not that I can see.

Evaluator: It sounds like you are happy using the program.

Juliet: Definitely and I keep trying to bring other teachers on board because it is so much fun. It makes math fun.

Evaluator: Do you have any materials within your district that have been adopted that seem to be displacing any of the things you would normally do with TEAMS?

Juliet: Yes, our new math textbook. If I hadn't done TEAMS I would probably have a lot of difficulty with it. It's a lot of problem solving. It came with manipulative kits for the students. Some of the lessons we had already done in TEAMS. I'm drawing a blank on the name of it. I'll put it on the survey. I would say TEAMS prepared me to teach this math but I'm not going to give up TEAMS. It's just too much fun and its kind of relaxing to be a facilitator. It's like having two teachers in the room.

Evaluator: If you were to describe most of the other teachers in your school would you consider them to be facilitators?

Juliet: I'll have to say fifty-fifty.

Evaluator: Would you say the benefits that you saw when you began to use TEAMS would be helpful to other teachers?

Juliet: I think so. The third grade teacher was having problems using the math book. It was difficult and the children didn't understand it. I think if she had done some of the geometry for three-four it would have helped her understand.

Evaluator: Is there a way that you have of sharing some of this information with your principal or is there a cluster group of teachers that are working at that grade level?

Juliet: We have two classes of each grade level.

Evaluator: Has your principal been there for a long time?

Juliet: He's been here about five or six years now.

Evaluator: What sort of interest level does he have in TEAMS? Does he know much about it?

Juliet: Yes, because I bug him about it. Our principal came on board after we did the training in Flagstaff. He hasn't really been in on it. When Jeannie came to our school he was introduced. He's been there but he's got fourteen different jobs he's trying to do at once. I wouldn't say he knows a lot about TEAMS except he knows it's a live broadcast. He knows we phone in. He knows it's interactive. We watch TV. He has watched the program with us. That's been his involvement.

Evaluator: I'm just wondering if it might be appropriate to share with him the change that it makes in teachers, the way it helps them move from being traditional teachers to being facilitators?

Juliet: That's an idea.

Evaluator: Are there other teachers at the school who are using the programs?

Juliet: The other combination three-four class did use the science program, fast plants. The fifth grade used the energy. Those are the ones that I know about. I'm not sure that they used the Shiloh or Letters from Rifka that I shared except for maybe the black line master information. I really don't think they used the program itself.

Evaluator: Do you think the school and the principal would be interested in this? It has to be something that the school wants to do. If you are interested in it David will have more information.

Juliet: I know that when I talk to my principal about being a national site and being interviewed he will want to know just exactly what is involved not only money wise but hour wise, person wise, etc. He'd want all those specifics.

David: Is there much turn over on your staff?

Juliet: No, there is not.

David: That even helps more. You have a relatively stable student population and your staff is stable. You are a unique opportunity. I would be happy to either get on the phone with you and the principal or get Carla and you and I and the principal on the phone and just talk through what we need to think about before school is out. Maybe the faculty and you could think about it and talk about it so that when we come back to you in August you will have had time to consider it. Why don't we set a time, say next week, for a conference time?

Juliet: It would have to be before Friday. I'm taking my class to San Diego.

Dolores Rushing
Wendell Boyd
Anne Massenburg
Raymond Elementary
Washington DC

Dolores: In the meantime, I'm telling the teachers to try and do the programs. Watch them, do something. Before I left we did have an opportunity to start the algebra unit and a number of teachers did the heat unit. Algebra 3-4 came on yesterday for the first time and we did that. Teachers came with their whole classes and we worked together. As you can see, we did that. They seemed to have enjoyed it. They loved it. The problem I have is that these teachers don't seem to do the lessons by themselves.

Evaluator: What do you mean?

Dolores: They would rather come in and do it with me. We work together as a team and that way I know that the lessons get done. We had an opportunity with the primary grades one and two to do a lot of the algebra before I went out and even while I was sick. I was told Anne Massenburg wasn't going to be here.

Anne: I'm not.

Dolores: This is one of the teachers who has been doing the programs. She's a long time TEAMS teacher.

Anne: I will sit in now but I have to leave in a few minutes.

Dolores: Perhaps you can tell Carla how you have enjoyed doing the heat unit.

Anne: I love it.

Dolores: She's also been doing the algebra. She worked with the program last year, so she did a lot.

Anne: It was very helpful, especially the math with the patterns and the geometry.

Evaluator: Did you see a difference with their grades?

Anne: I think their math scores were pretty good.

Evaluator: A raise over the year before?

Anne: I believe so, for the fourth grade going into fifth grade.

Evaluator: Maybe one of the things we could do, Wendell, is pull that class.

Wendell: That's what Stan was saying he wants to do. He wants to look at the schools that are participating in TEAMS, especially the math, and look at their test scores after different years. He feels that after they were participating in the program there should be some noticeable change. That's one of the things that he has spoken about to the content area person. He's also shared the same information with the superintendent. He was most impressed with what he saw in Charlotte. Since he came back he's been singing TEAMS to all the assistant superintendents. I'm supposed to be doing a presentation to the four of them relatively soon. They have put me on the agenda. Hopefully we will be able to show some of the correlations between TEAMS math and reading.

Dolores: If they gave science those science scores would zoom. Mrs. Oliver has been doing a lot of the science. Mrs. L. Brown is another teacher. She does it by herself but yesterday she came in here. She said, "Wow, we're going to continue."

Anne: I'll see you later.

Dolores: Okay. Mrs. L. Brown is another teacher who teaches third grade who you may want. She talked with you last year. She's been able to adapt the math and the science down to her students' grade levels. Judy Fields has also done the science and math. Marilyn Morgan did heat unit for the first time this year and Mrs. Peggy Manley. She said she can't wait until they get to the next unit. Mrs. Manley is another fourth grade teacher. Our math scores were up. I think a lot of it has to do with TEAMS simply because last year when the second graders did the geometry unit the teacher stated that their students did very well. Mrs. Budds and Mrs. Jeter were the two teachers who did the geometry unit last year, who loved it, and they are saying they can't wait to get to the next unit. There are some brand new teachers in the building. Mr. Holloway, Mrs. Mack and Miss Corsillo had the opportunity to do the primary algebra for grades one and two. They were very impressed. They came and they were brand new so they really didn't understand a lot about TEAMS. They came in with me and watched the studio teacher and then we stopped the tape. We tape the lessons. We stop the tape and do the activities. The teachers were very impressed because of the terms they had never used and things they had never thought about. They were very enthused. I've talked with Mr. Williams about having Mr. Boyd come in and talk with all of the staff members. Oh, Miss Phyllis Lewis, another new teacher, also has had an opportunity to work with it. What

I've been doing, especially if they are brand new teachers to the building or to the program, is pulling them in and working with them. Unfortunately we didn't get much of the chemistry because I was out. We got the heat unit in. They love the program. I just need to be able to get them to do it whether I'm here of not.

Evaluator: That will come. As part of being a model school for TEAMS, what we will be looking at is your experience in drawing new teachers into the program. What does it take? What do they do the first year? That's what you are explaining now. By next year they may feel more comfortable and feel like they can do it in their own classroom. That's the pattern that we have seen over the years with TEAMS. They start out and they are feeling very uncomfortable because it's an area that they have virtually no experience in. The first year they are feeling like they need as much help as they can get. The second year they're feeling more comfortable and usually they have become full facilitators by the third year.

Dolores: Some of them by the second year still haven't felt comfortable. It's because perhaps I enjoy it so much that when I get with a class I really get in there. Mrs. Oliver and Mrs. L. Brown usually take pictures of their class doing the activities.

Evaluator: We should include those in the case study.

Dolores: Yes. It's unbelievable. When I got back here on Wednesday the first thing the students asked was if we were going to have TEAMS. They've learned so much science and so many different ways of doing math. I had a brand new teacher, Mrs. Turley. She taught third grade. Her class worked with the algebra yesterday and they did this. She's brand new to teaching but she worked with the students and they worked backwards to try to figure out the strategies. We talked about strategies and the students were just so excited. I enjoy watching them being excited. Then I told them that they have to write in the journal to make sure you've learned something. I asked them what they wanted to write about. With the upper grades they have a science journal. Every time they came in for heat, they had to keep all that information from TEAMS in their science journal. They've been doing that. I don't know if you want to talk with any new teachers that have been doing it like Mrs. Manley.

Evaluator: It would be great if we could.

Dolores: I know they have classes. I can't walk the stairs a lot but maybe I could find a student to go and ask her if she would be

willing to come in and talk about the experiments she's done with TEAMS.

Evaluator: Do you have access to Internet?

Dolores: The building is wired. They came out, I understand, to turn the Internet on. I was out. Somehow they blew out the cable so the teacher said they missed a couple of the programs. Mrs. Budds told me she has Internet in her room and there is Internet in Mrs. Brown's room. Right now the Internet is not working in any of the other classrooms but the whole building has been wired.

Wendell: They were supposed to be turning it on. I'm not really sure what the situation is. Mr. Williams, when he becomes available, will let you know. He's had all the classrooms wired and I'm not sure how many computers he has purchased but he said every classroom was going to have an Internet ready computer via T1. If they don't have it now the plans are in place. Our technician was out here to turn it on when the little accident happened. They blew the amplifier that distributes the video signal. That has been repaired now. The main problem is electrical upgrades. He's going to have to talk to the teachers about plugging in multiple appliances at the same time. They are going to have to unplug something in order to something

else and under no circumstances can they use space heaters. We had a long conversation about that. When he has his next faculty meeting he's going to speak with them about how to proceed until the electrical upgrades can be made. There is a plan in place for an upgrade but he's not sure when that is going to take place but they will have access to the Internet. They just have to be careful so they don't overload the circuits.

Evaluator: How old is this building?

Dolores: That second part is something that was added on.

Wendell: How old is the initial part?

Dolores: It's probably over 100 years old.

Wendell: It's not as old as Sumner is. Sumner is the oldest building in the city.

Dolores: Sumner has been upgraded.

Wendell: I know but I'm talking about age wise, it's 1800's. I don't know if this one is that old. This one is probably early 1900's.

Dolores: I don't know. I really don't. This building has one bathroom for all the students to use.

Wendell: That's all they had back in the old days.

Dolores: Last year I didn't have a room or television or cable so I ended up going into the classrooms when a teacher said they needed help to make sure they had materials and the layout. I think that little box by the doorway is the Internet box. There is one in every classroom. Every teacher has a television and cable access. What happened when they worked on the new building, we call it new building and old building, is that the people lost cable. I don't know what the cable people did but they messed up. I had cable. That's another reason they brought the students down here. They stayed here to work with the studio teacher and the students interacted. Mrs. Oliver has even had to come down here because her television was not working. The grade level chair was taping the reading lessons for kindergarten. This is new for all the kindergartens. They said they like the lessons but they have not had a chance, because of all the paperwork, to really do the lessons. They do have some of them on tape, which means that they can start. We wanted out kindergartners involved with the reading. It's an excellent reading program. I had an opportunity to watch it.

Mrs. Anderson said that she really wanted to do it because it seemed to be an excellent program.

Evaluator: Are any teachers using Shiloh or Rifka?

Dolores: Miss Massenburg was trying to use Rifka. She wasn't too impressed. Miss Massenburg and Mrs. Oliver were also doing the lesson with the historian. They did the timeline. They liked that.

Wendell: I found here in the district that most of the people are using Letters from Rifka in sixth and seventh grade. The reading level of the students in grades four and five doesn't make either of those novels conducive for their full participation the way the program is designed. The teachers that are seemingly enjoying it the most are the middle school teachers. They only go to grade five here. They used to go to grade sixth but they moved the sixth graders to the middle school. We are trying now to get the middle school that this school feeds into to become a TEAMS participant. Just last night I talked with the science teacher who is working with sixth and seventh grade. She is very new to the system and she was not familiar with TEAMS at all.

Dolores: Those are the engineers that I have coming in to work with the students. I have even had them watch some of the programs. These are engineers that are taking off from their jobs to come work with our students. One of the engineers comes down from California. He's a systems engineer and owns his own business. He came down to show the students how to work on the computer and with a laptop. There's another man who lives in the area that came another year and showed the students how to break down a computer. He explained everything to them and their task was to put it back together and get it up and running. The school is excited but I think that everyone needs to be able to do the programs without me. Miss Morgan is one of the ESL teachers. The ESL students really like TEAMS. Mr. Williams has been trying to move a satellite dish over here so that we could do the programs live but he said we ran into some problems. It's costing more money. He was trying to explain it to me. I'm not sure that I understood everything.

Wendell: If they are going to digitize they can get a small fixed dish. They are no more than three or four hundred dollars. We have to wait until they go that route. If they are going to digitize then a lot of schools could afford to buy a three or four hundred-dollar satellite. It may even be less than that.

Dolores: Excuse me, there is a new teacher Monica Mack. She was bringing her class down for a lesson. Maybe you could talk with her. She has had an opportunity to do a couple of the lessons.

Mr. Boyd is our director over TEAMS and this is Dr. Carla Lane.

Evaluator: Is this your class?

Monica: Part of them.

Dolores: Miss Mack had an opportunity to do the algebra. Maybe she and the students can tell you about that.

Monica: We did “How many are in the pool and how many are hiding”.

Evaluator: Is that the first TEAMS program that you have used?

Monica: Yes.

Evaluator: Are you new to the school?

Monica: Yes.

Evaluator: Have these children ever had TEAMS before?

Dolores: No, none of these. This is the first time.

Evaluator: May I interview them? (permission granted)

Dolores: Do you remember doing "How many are in the pool and how many are hiding"? Can you tell Dr. Lane what you did?

Evaluator: Tell me about how you used the spinner.

Sharday: We spinned it. When it spins, if it lands on a number then you have to spin the other thing. Then it lands on a plus sign or an equal sign or a takeaway sign. If it's on the takeaway sign you take away some people at the pool. We hide them and the people guess how many.

Student: When you hide them you have to guess how many are in there. You have to take one cup off and then you have to count them. You have to guess how many are in the other one.

Evaluator: Tell me what you thought about it. Did you use the spinner?

Fredis: Yes.

Evaluator: What do you remember? What did you do? Do you remember using the spinner, William?

William: Yes. We spinned it and then we spinned the other one.

Evaluator: What grade are you in?

Students: Second.

Fredis: We wrote answers down.

Evaluator: How many teachers have are involved now? It sounds like ten or fifteen?

Dolores: On the first grade level, Miss Corsillo, Miss Lewis, Miss Wilkins, Miss Scott and Dee Johnson. That's five. That's all of the first grade teachers and they are involved but they are new. They are new to the program so that's why I have to bring them down here. All four of the second grade teachers are involved. There's Mrs. Fields who has worked with TEAMS since last year who has done science and math. She did one of the math lessons yesterday. Could you tell Miss Lane and Mr. Boyd how you feel about working with TEAMS and what it has done for your class?

Mrs. Fields: It certainly helps the children with the entire order of thinking skills. It kind of makes them stretch out and perhaps do things that we ordinarily wouldn't do in the classroom. Because it is so hands-on it is exciting for the children.

Evaluator: How long have you used it?

Mrs. Fields: I've used it a good two years.

Evaluator: What are the programs that you normally use?

Mrs. Fields: The first year we did the chemistry. This year we are doing the algebra. Like I said, the children really enjoy it. I enjoy it. It's kind of fast paced but I think it's a very useful and very helpful program for them.

Evaluator: Are they adjusting to the pace?

Mrs. Fields: Some are and some are dragging.

Evaluator: How do you help them compensate for the ones that aren't working as fast?

Mrs. Fields: I have to take them aside at another time and help them understand the skill and the objective.

Evaluator: Do you work it through with them or do you replay the tape?

Mrs. Fields: I mostly work it through because the tape is kind of fast.

Evaluator: By the time you do that do you feel that they are then up with the rest of the students?

Mrs. Fields: For the most part, yes.

Evaluator: Do you think that there is something TEAMS should do to help that. What could TEAMS do that would make it so that you don't have to come back?

Mrs. Fields: For the children that are right on target there's not too much there but for the slower students maybe there needs to be some additional instruction. Maybe a slower pace would be helpful.

Evaluator: Who is the instructor for this program?

Mrs. Fields: It's Jeannie Takashima. She visited us last year.

Evaluator: Do you have e-mail?

Mrs. Fields: I did. I don't now.

Evaluator: Were you part of the blowup?

Mrs. Fields: Yes. We understand that we will be on line in a couple of weeks.

Evaluator: If you are able to keep a journal until you get e-mail then you could fax those things to me and let me know how you think the students are doing. This is a model school and the programs you are using are brand new. The feedback to Jeannie Takashima would be very helpful. Then when you get e-mail you could start e-mailing her and you could also e-mail me. What we are looking at is the implementation of the programs at the site, at the school and how you and the students react to it. What do you have to do that's additional? That's why I'm asking you what is it that TEAMS could do so that you don't have to do more. The program is never everything but it sounds like some of the students have to do more. We need to see if we find that in all of the model schools. There will be about ten model schools across the United States and at each one of those schools we will be looking at the adoption procedure, implementation, the installation and we will be looking at students' test scores. We'll be looking at how you feel

and if there are any changes that you see in your own teaching methods and what you are doing as a result of having watched the programs and so forth. To have you let us know what you think should happen would be really helpful. How many students do you have in your classes?

Mrs. Fields: Right now I have 21 students.

Dolores: I'm glad you came down. Is there any way you can send someone to ask Mrs. Manley if she can come down and talk with the evaluator from TEAMS? All of the first grade teachers are trying to get involved and all the second grade teachers. Mr. Holliway is new and he was real excited. He's new to teaching and new to the building. The second grade teachers started with the geometry last year and they really liked it. The third grade teachers include Mrs. L. Brown who does it by herself. She's an old hat. She can do it. Mrs. Fields is third grade. Mrs. M. Johnson was brand new to the program so she comes in and brings her class. Then they go back and follow the materials. She likes it. Mrs. Lucendan has not worked with the program this year because of the TANNIF program. She says she's in the lab with her students.

Wendell: Was she the coordinator of that program? Who was the coordinator here over the summer?

Dolores: It wasn't anyone on staff. They've been running into some problems. They have to be in there 30 minutes every day. Some of them aren't too happy about it. Mrs. Lucendan worked with TEAMS in the past.

Wendell: What is the program called?

Dolores: TANNIF. It has something to do with boosting the reading skills and helping with welfare recipients.

Wendell: I though they called it Auto Skills. That's what I've heard.

Dolores: They've been calling it TANNIF. I don't know the man but they were supposed to be training people because they have the Internet accessibility. I want to just be able to go into the TEAMS home page. That's what I talked to the engineers today about. They are trying to get more computers in here so that we can have it.

Wendell: Who controls the lab? Who monitors the lab?

Dolores: Teachers just know that they have to go in with the students.

Wendell: They haven't really had the training, have they?

Dolores: They sent them for some training. I know that our third graders go in and they each have 30 minutes so the teachers are running them back and forth. Some of them are saying that they would like to be doing TEAMS, watching TEAMS at the time they are in there so they are divided. We send the programs to those who usually do TEAMS. Mrs. Ludendan usually does TEAMS and has done it with her class by herself. She hasn't done it this year even though she had planned to. She said this, TANNIF, is keeping her so busy. I think that they have run into some problems. I know the reading teacher has been going in and helping them out. At the fourth grade level we have all but one-fourth-grade teacher and she's brand new. It will be Mr. Carliss' first time. It was Miss Manley's first time. Miss Massenburg is the only one that has done TEAMS in her classroom by herself. Mrs. Wright is brand new to the building and brand new to TEAMS so I said I would be bringing her in and doing the algebra module with her. Mr. Carliss is supposed to come today and we are going to do the algebra. I taped it. If I'm here I can get things taped. The problem seems to be that the teachers seem to want to do it with me. The only time they do it is if they do it with me. It's a lot of work getting the paperwork run off. I give it to the grade level chair.

Dolores: We have had a couple of the teachers that work with TEAMS come in and talk with us. I tried to get Miss Manley because this is her first year. As I was telling Dr. Lane, eventually the teachers, and Mr. Williams knows, are supposed to be able to do this in their classrooms. That's why he has put a TV in every classroom and cable is in every classroom. For some of them because they don't understand, I get them started. I want to get those new people started. They truly do need the help and assistance to make sure they have the materials that they need.

Evaluator: Is that because they haven't had any workshops in TEAMS?

Dolores: Right.

Evaluator: It's appropriate that you do this. Last year when we talked and you were so kind as to become a model school, one of the big advantages is that the teachers use this as professional development. With them coming down, the students watching the program and Delores helping the teacher what is happening at the same time is that the teacher is getting professional development. It is very much a two for one. During the first year you might expect that to continue. Then next year

and maybe by the end of this year you should definitely start encouraging them to come down and try it by themselves. Otherwise they are going to be dependent on you to do it forever and ever.

Dolores: Mr. Williams (the principal) said that.

Mr. Williams: Are there any funds or resources that we can tap into for TEAMS?

Evaluator: I don't know how much will be there but the regional coordinators, Wendell's counterparts in other partnerships, felt that they wanted some incentives in order to be the model schools.

Mr. Williams: I think we have one. We had a school that closed and they had the dish as well as a receiver. I got an estimate on how much it would be to move that dish here.

It was $800 to move and $800 plus to install it. The gentleman that I was talking to said that it would be more advantageous to just buy a smaller dish rather than have that one moved. That's when we just stopped. I'm waiting for a call from the principal to send my custodian over to get that receiver out of there. That's where we are with that.

Evaluator: Is that a C and a KU band receiver?

Mr. Williams: I don't know but they had TEAMS over there so I think it's probably both.

Dolores: I have it in the book or Wendell would have it. Maybe we can have Wendell contact him.

Well, I've talked to Mr. Williams. If he could get that dish that would be great. I also mentioned something about the cost of making copies. Mr. Williams, there are a lot of papers that the students need. It's a lot of wear and tear on that Xerox machine and they have to use that machine for all of the office work as well. Every time we ask for copies for TEAMS they get it done but it is a big burden.

Evaluator: Do you get it far enough ahead of time where you could sent it out?

Mr. Williams: Sure. You have a choice. Either you build in the cost of that reproduction or we have a copier just for TEAMS.

Evaluator: Is there a Kinko's close by?

Mr. Williams: Yes, on Missouri Avenue.

Dolores: There is? Who would go up there and do all that running?

Mr. Williams: That's another phase.

Dolores: We are getting ready to do chemistry. I gave it to Dr. Jackson one morning and she had it right back to me but that's a lot of wear and tear. We have teachers at every grade level participating in TEAMS. Well, all of the math and science. Kindergarten and first grade are trying the reading. The fourth grade teachers, Miss Massenburg and Miss Oliver are trying the historian program. One of the things you wanted was people in the school doing something in every program.

Evaluator: The idea was to use every program that fit the grade levels and use at least one. You are using multiples. It's fantastic.

Dolores: Thank you.

Wendell: What I'd like to do if possible is to come over and do a presentation to the whole faculty since the whole faculty is trying to use the program. I would just give them a good old down home heart to heart talk because the way the programs are designed is to support the classroom teachers. We would like to

see them attempt to work collaboratively with the studio facilitator.

Mr. Williams: Let me look at my calendar. I would prefer if we could do it during one of my after-school staff meetings.

Wendell: That's fine.

Mr. Williams: One of the problems that we are running into is the fact that all of the new technology, computers and TVs in each classroom are more than our electrical system was set up for. In most of the classrooms the outlets are all on one wall. It's been about five years since I put a work request in to have the outlets and everything upgraded. Because of the constraints on the budget they won't even look at that. We're constantly saying let's infuse technology but the first step is just getting the outlets. That's what is causing a lot of problems. Then you have the fire code regulations that say you can't have this extension cord here or this surge protector here so it makes it kind of difficult.

Wendell: Unfortunately that's a big problem in all of these schools. Only about eleven schools have had electrical upgrades and the rest of the hundred and thirty plus have not.

Evaluator: How much would the electrical upgrade for this school

cost?

Mr. Williams: A lot. I really don't know.

Evaluator: How many rooms do you have?

Mr. Williams: Twenty-eight classrooms.

Evaluator: That's a substantial question about implementation.

Wendell: How many computers are up and running on the Internet now?

Male: Just two, Miss Brown and Miss Buggs. You know how long that has taken. I do have a gentleman now. I talked about the hubs. They're coming in to get all of the second and third grade teachers. All of the rooms are wired for Internet. I just worked out a deal with him the day before yesterday. He's going to be coming in on Monday or Tuesday for all of the second and third grade teachers. Each one them has four computers and one printer. He's going to be connecting all of those in through the hubs.

Evaluator: Will each of those computers have Internet?

Male: Yes.

Evaluator: Delores, when is your computer going to be connected?

Dolores: Miss Bettis and I were hoping to get some more in here so our students could have Internet.

Wendell: If the juice is turned on what is the problem? Is it that you just don't have computers in the other classroom?

Male: What do you mean?

Wendell: For instance, here, she has an outlet here.

Male: Yes. This room is wired.

Wendell: What I'm saying is she doesn't have a computer. That's the problem.

Male: Yes. Right now we probably have 35 or so 486 IBMs. I'm waiting, through Miss Bettis, to have engineers come in and look at these computers to see if they are working. If they aren't we need to see what they need. That's what I'm waiting for before we can set up. There's no point for me to say I got the computer donated, set it up in a classroom and find out it doesn't

work. I have an additional 25 supposedly coming next week.

Wendell: You're going to need Ethernet cards for all of them. Let them know up front that you will need Ethernet cards. Most of them come clean so you will probably need some software. They're stripped.

Evaluator: What we would like to be able to do is have instructors interact with the distance learning instructor, especially if you are going to continue to have classes come in here so you can help them.

Mr. Williams: It might be very helpful if you could get a list of the programs and when they are to Dr. Jackson in the mornings before I do my announcements. When you do that it can become part of their daily plan.

Dolores: I've been telling them but because I haven't been able to walk and run back and forth you know what happens. I send notes that say look at your calendar. Your lesson is coming on today. Watch your lesson.

Dolores: We are all set up with the science and they do so many activities. The third and fourth grade lessons are 45 minutes.

The primaries are 30 minutes. What I'm finding is that once we get it on videotape some kids don't understand. They had a ball doing it but I tell the teacher "You have got to go back over it" because they have all kinds of learners in their classroom. They do need to go back over it. That first lesson drove us crazy. First you use the spinners, then we used the cups and then we used the balance beam. There was no way possible in 30 minutes that we got to all three of those lessons.

Wendell: That's the advantage of doing it on tape. You can start and stop. You only do what your students can comprehend at that time. You don't try and do the whole 30 minute lesson. You just stop it and you do what you can that day.

Dolores: That's what I tell the teachers. What I need to do is make sure that the teachers have the materials. Some of the materials for the third and fourth grade algebra units aren't there. They don't have geo blocks. I know they don't have that because that's something that we just haven't ordered. I have my own personal set of geo blocks because I ordered them when I was at the math conference. They need geo blocks and there are some things that they don't have that are in the algebra unit that they need.

Wendell: We just have to order them. Right now the money is

there. We'll make sure that they have those. I may have one math kit over there. I will look and see.

Dolores: We've been sharing the things that I have. I knew as I looked through the algebra unit that there were some things that they didn't have.

Dolores: We talked yesterday. I said we could always fax. We may have to go to Mr. Williams' office but we can always fax.

Mr. Williams: I think what Wendell suggested earlier is the most critical. That is meeting with the teachers and getting them to understand that TEAMS is not something that is isolation from the curriculum that they are already doing. I think that is what is happening. They don't know how it fits. I think once we do that we will see a greater participation.

Wendell: I have approval for long distance faxing. If there are some documents that your students really want to fax then I can fax them.

Mr. Williams: I thought you were going to say that you were going to get approval for a long distance fax line for me.

Wendell: You can fax it to me and I can turn around and fax it out.

Mr. Williams: I do want to thank you. Keep us apprised and keep us on top. We'll do what we can.

Evaluator: Do you have e-mail?

Mr. Williams: Yes. They just hooked Internet up to an old computer, which I don't have a mouse or printer for yet. They just did that last week.

Dolores: I have e-mail at home. dm@hotmail.com.

Wendell: That was a problem. The people at MIS did not let people know in the administration know that they had e-mail available to them. It was a part of our internal e-mail that they could use external to our system. It wasn't until they merged those of us in instructional technology with the MIS that I found out. I didn't have e-mail either. My e-mail was through TEAMS. I started working with principals as I went to schools. At almost every school I went to the principals were not aware that they could send mail outside the system. I sat there and showed them how to do it. We have one server that can go external to the system and one server that's internal. You have to know which server to go to and no one ever told these administrators that. Now most of them have Internet so they have Netscape.

Evaluator: Your job then is first getting them involved in TEAMS, which it sounds like you've done. Now you're running them through everything, helping them understand how to use the program. The next thing is to start encouraging them to use it in the classroom. Make sure they've got the box. What you might do is go up and just be with them for the first five minutes.

Dolores: That is what I had hoped to do. Since I have been ill I have not been able to go up and down the stairs. In fact I'm hoping that I don't have to go out on disability. That's another thing Mr. Williams and I talked about. We're waiting. Once I get the hearing aid, maybe that will help but there is no hearing in this ear at all. I was telling Wendell. They might put a microphone to my ear. Anyone that talked to my left ear, it would transmit it to my right ear.

Evaluator: It has to be quite an adjustment.

Dolores: It is. The medication that I'm on is helping me with the vertigo. It's helping me stay up. I'm not falling down like I was before but I don't have the energy I had before. The teachers keep saying they need me. I know they need me.

Evaluator: Wendell, is there a chance of doing an in-service for the

faculty ? Are all their in-service days planned?

Wendell: That was what he was saying. The days that are left have been devoted to the standards specialists. In most of the schools that is the case so it's not really possible.

Evaluator: Have they watched the development tapes that go with each subject?

Dolores: We recorded staff development. I sent it around and said please watch the staff development. Gina watched it. Most of them did not to be honest with you.

Evaluator: Maybe it's time for you to say, "look, I can't do everything".

Dolores: Mr. Williams has told me that. While I was home sick in bed I was calling here every day to remind them that staff development was coming on or lesson number so and so is coming on. I was calling.

Wendell: We have to get more of a committed buy in from them. Let them know these are the procedures. These are the steps. This is what you must do. You are the only one who's spoon-feeding the people that way. Having started off that way it is

going to be difficult to wean them away.

Dolores: They have to make sure they have the materials, too.

Wendell: I understand. That's what the site coordinators do is make sure the materials are there but they get the materials in the classroom.

Evaluator: The idea is to keep you from having to go on disability, to be able to keep you here. Of the teachers who are involved, could you set up a hierarchy and let Mr. Williams implement it. You're the lead teacher on this but if there was a second person, that person could go out.

Dolores: Laverne Brown would be good. She's a third grade teacher and she's been trying to support me.

Evaluator: You've got so many teachers involved at so many grade levels that the next thing would be to pick a teacher for each level.

Dolores: I've done that. I gave it to the grade level chair. I gave each grade level chair the responsibility of taping the lessons for the grade level. Well, if the grade level chair forgets what do you do? Miss Massenburg has usually been trying to tape them.

Wendell: That's why we need to bring in the Library Media person. Isn't there a cable drop in the library? That's where the first one was.

Dolores: There should be one in there.

Wendell: In order to get the support of the staff in the building you need to bring her in.

Dolores: If the grade level chairs would do what you asked it wouldn't be necessary. We bought the tapes ahead of time. We signed the tapes out. I told them way ahead of time "let me know what you need". I was running around trying to give them what they needed. I set everything up that they needed.

Evaluator: Is there any reason that they can't just watch the programs when they are broadcast?

Dolores: No, some may be out at special things but I said stick the tape in, leave it on. I stick a tape in just to make sure but when I have another class like yesterday I couldn't do that. I was working with my class.

Evaluator: Someone else in the building could have. That's the

whole thing. It's a collaborative effort.

Dolores: Mr. Williams said that they have depended on me too much. They are used to me doing it. I do it because I love it. I love TEAMS. I wish I could get them as motivated as I am.

Wendell: We have to get everybody else to buy into it to a certain degree. If they look at it from the perspective that I'm in second-third grade and I'm doing the reading there are only eight programs. They are spread out between February and May and that is all they have to be responsible for. We're going to break it down like that when we do our presentation and let them know what their responsibilities and commitments are. We'll let know the procedures where people have been successful with what they have to do. We are going to try to bring the Library Media person in just to help facilitate making sure that there is a copy of every program in the library so that they can be available on demand if someone misses it. That's all that has to be done. It's very simple. I come in every Monday and I set my VCR for the entire week.

G'Tanya Small
Coordinator
Boston, MA

Evaluator: We're talking about tracking the 24 students Richie has this year into their next year which means that they will go into a different middle school. What do you think we can do to follow them?

G'Tanya: Basically it would be just tracking them through some kind of number that they have centrally. We have an evaluation department. I imagine you could probably get the scores from Mary Ellen Donahue. She does the evaluations and assessments. I really don't see a problem with it.

Evaluator: Is there a test that is done every year on these students?

G'Tanya: I'm not sure if they are doing Curriculum Reference anymore because of the MCAT stuff and the Stanford 9. I know there was a Curriculum Reference test that they used to give. I'm not sure if they are doing that anymore. What we could do is find out. I really don't see a problem. It's just a matter of getting it from Mary Ellen.

Evaluator: Did Richie have the same students last year?

G'Tanya: Yes. With the looping it's possible. Looping is when the teacher changes grade levels with the students. It's usually done for two years.

What they find is that when the students come back from summer vacation the teacher knows where they left off. It's not like a student going into a whole different environment with the new teacher having to test them to see where they're at. They work together as a group better.

Evaluator: We could pull last year's scores and the year before when they didn't have TEAMS.

G'Tanya: They might have had TEAMS. When did he say Susan started? I could check with them and find out which students have been there for the three years and those are the students we could look at.

Evaluator: What we could do then is compare the same set of children at the same school taking TEAMS and compare their score with the general population. It's called a student-t. It's not a very complicated statistic. Maybe we could set up an audio conference with Mary Ellen. She'll know what her statistical base is and what will take too much of her time and what doesn't. It's probably electronically based.

G'Tanya: I'm sure it is. We're working on some stuff with her department. There's a grant. We got an IBM grant and I know they are doing something around portfolio. It might even be able to fold into that. I'm not sure. I could check it back at the office. I'm trying to think who's heading up their project in our office. It might be Mary.

Evaluator: How are you and Kathy working together?

G'Tanya: Basically Kathy will say I'll handle this or I'll take that such as the link. We are supposed to get the home pages linked so that TEAMS shows up on it. I talked to Ian about it and he said it was fine but it would not be off our main page. We have to put it on our curriculum page. We have two people in our office that are working on the curriculum page. Mary kind of oversees the curriculum page. I talked to Mary and Kathy took that over. Just before we came out to Charlotte I asked her if we were all set with that. I'm sure it's not going to be a problem. I think Mary had made some contacts with Los Angeles to figure out how to do it. I'm not sure if it is done yet. She basically helps out with TEAMS. Sometimes she's my conscience. She usually takes some project on. She was the one who pushed through the books on the list with Martha Gillis who is in charge of reading. Shiloh was already on there but Rifka wasn't.

Evaluator: If we could that, it would give us a way of looking at things to do the national case study. We'll do one write-up on the school this year and whatever Richie has been able to accomplish and work with the other teachers to do audio conferences with them. That way I won't have to come back again. We can start doing e-mail with them, audio conferences with them after they have been using the programs and then I can start e-mailing and working with the students also.

Richard Scolanti
G'Tanya Small
Boston, MA

Richard: I'm Richard Scolanti. I teach fifth grade.

Evaluator: How long have you been using TEAMS?

Richard: I've used TEAMS for four or five years. I use all the programs now, science, social studies, language arts and math, depending on which ones fit into our curriculum.

Evaluator: Is this your usual class?

Richard: It's self-contained now so I have them all day.

Evaluator: You're using all these programs with these children?

Richard: If they fit, yes.

Evaluator: How do you determine whether or not they fit?

Richard: If they meet the needs that our curriculum standards have. We have standards now that we have to meet. Most of them fit one way or another. The chemistry now, all the topics

don't fit but we did the heat one so they get used to it. Chemistry is a fifth grade topic we cover so we will do that one.

Evaluator: Do you use the entire module?

Richard: All the time.

Evaluator: Would you use parts of it or do you use the whole module?

Richard: I do them live when I can. I'm using it the way TEAMS set it up to be. Today we'll do the tape because they will miss the chemistry class today but we try to do them live as much as we can.

Evaluator: What do you see as a difference in the students?

Richard: They love it. They do better. They write more. We do the 45-minute show and then they have to write. It takes them about a half an hour. With math we are just to begin the first one. It started yesterday. That we are going to do live but we will watch the first one on tape because it doesn't fit in our schedule yet. They really do well in math. It's all manipulatives which is what I teach so it really enforces what I do. All I have to do is change the scope and sequence of the book, which

doesn't really matter. They love social studies. The second one, Media Evaluator, they aren't into. It's the first time I've done it. The first one was historian. It fit right in with everything and goes right into the book Rifka which is on our list to read. So it all matches up great.

Evaluator: Have you used Rifka in the classroom?

Richard: Last year.

Evaluator: What did you think?

Richard: I loved it. The first time I did language arts I loved it. We sent everything in. I think the second day they had the book they finished it. They read right ahead. They just didn't stop.

Evaluator: Have you used Shiloh?

Richard: I did it myself before it was offered so I haven't done one. That I think is a fourth grade book, right?

Evaluator: Yes.

Richard: Rifka has been put on fifth, but I'll do it. Both of them are by tape this year. I know Rifka was by tape so I didn't do it when it was broadcast. We have the tapes and the books here.

Evaluator: Will you go through each class and tell me what you see as changes in the learning impact that you can attribute to TEAMS?

Richard: Language arts, Rifka, which was the first. It helped me because I used to teach books sort of straight. Read, question, and come up with a few cute ideas and so forth. The program just with the worksheets helped me. The first worksheet plus all the follow up activities. The tie-ins we could do with the Web site that put us on Ellis Island right away. It worked into this huge thing exploring our families, which related to historian.

In Boston we are just introducing a new way to teach science and chemistry happens to follow our standards exactly so it is taking a big workload off of me. It is also reinforcing what I do from the Boston science kit. It follows exactly. We do the program and then we can go back to that kit and do a similar experiment plus you have Gary on TV doing it perfectly the first time. That's probably the best thing of all. You have a perfectly scripted show every time.

I didn't do too much math last year because we got a brand new series and it's one of the first times I've used a book in math in a long time. It conflicted with my schedule last year.

Evaluator: What about this year?

Richard: I thought yesterday's show was at twelve. It was at one, so it conflicted with the schedule but we'll change it. It's a new one. It's one of the algebra series that is new for the year. I know when we did math regularly, when it fit, which might have been three years ago the students in this school weren't used to manipulatives at all. It was really great to have someone else explaining while I could run around. It was just a nice introduction to manipulatives that I probably wouldn't think of that way at fifth grade.

I use lower levels, too, like this show that started yesterday is designed for third and fourth grades. We're going to use that because it's a new concept to them. It's not going to hurt them. Their favorite is chemistry because they are not used to the experiments. My favorite was historian and geography. Geography is not offered this year. Everything just fit so nicely last year. Historian ended and Rifka started the next day. You really stayed with the programs.

Evaluator: You have the TV hooked up here in the room. How many of the computers have Internet access?

Richard: Now there are three. There were four but they put the printer on so we lost one connection. I also have one on my desk that's dial up.

Evaluator: Do you let the students use your computer?

Richard: They haven't used that one yet because you have to dial up. With the way the phone works in our building if someone picks up a phone the line is down. We're having a problem with the phone system that was put in our school.

Evaluator: Is this a T-1 line? ISDN?

G'Tanya: ISDN.

Evaluator: Tell me how you have them use it?

Richard: They have been on the TEAMS site. They were on all the sites for Ellis Island. I use it myself. We e-mail back and forth. I have a cousin in New Orleans. They faxed Angie. We've been taking pictures with a digital camera and sending them.

We don't have much in this classroom, right? When I was in California they were going through all the different levels. I was thinking, which level can I say I'm at? The lessons carry into everything and the writing is just incredible.

Evaluator: Have you changed the way you teach as a result of the role modeling?

Richard: Not really. I was always a hands-on teacher. When I first got involved it was probably the best thing I ever saw because I had everything I needed to be the kind of teacher I wanted to be. The material was there that I needed. Now it gives me a lot of free time for things that are covered by the modules. They are planned. If they meet what I have to teach I can just depend on it and do the follow-up lessons. I saves me all the introductory things, especially chemistry.

Evaluator: What is your background?

Richard: Elementary. I was K through eight so just general. I went to a teachers college, Boston State College. We took courses in every subject. We did science at the elementary level and I've taken as much as I can offered by our science department. That's mostly life science that they offer.

I have a Masters in Instructional Technology. Boston ran the program but it's through Pittsburgh State. I finished in 1994.

I waited forever to get my Masters. I had 120 credits beyond my bachelors but there was nothing I ever wanted it for.

Evaluator: How do you two work together?

Richard: I met you at E-Mat. You were teaching still. E-Mat was a math program the city began.

G'Tanya: It was a math and science based grant program.

Richard: G'Tanya was a participant with me. We were the first year. That was a long time ago.

Evaluator: How did you get involved in TEAMS G'Tanya?

Richard: I hounded you. You got your new job and I hounded you because we were a small school. Then there was an application. Then we got picked.

G'Tanya: Okay, right.

Evaluator: It's been eight years?

G'Tanya: I can't remember how long.

Richard: I'm trying to think back through Jeannie's hairstyles. It's either four or five years. I'm trying to think who the class was and I didn't do many when I first began. I did science and math but language was new. I only did the ones for my grade level until I caught on to it. I used to run up and down these isles. Teachers here who want to start and do it, I recommend they do it by tape until they get used to it. The resource room teacher Cherrita Hansel is going to come in with her math group for the algebra one.

She came up yesterday and that's when it was a one o'clock show and not a twelve o'clock show. Everything is usually twelve o'clock. We are going to do it live but I have yesterday's on tape so really going to watch it to see how it goes. I saw the first 15 and the last 15 and it didn't seem to move too fast. Sometimes those "your times fly. Unless you are really comfortable, for someone just beginning, tape might be the way to go.

Actually these students have lost interest in phoning. They would rather e-mail. They'd rather get to the fax machine. This summer we talked about it. These students don't want to call. It takes away too much time from what they are doing to get through on the line. We never get through. I always have

that problem. We went through it once only so that Angie would know we were out there. The second time they didn't even want to call in. They like doing what they are doing.

Evaluator: Instead of calling during the classes they are e-mailing after the class?

Richard: We'll get some pictures of what they are doing and I'll have them write for homework, then they have to type it, then we fax it a couple of days later so it's ready for another show.

Evaluator: Has Angie picked up on what you're doing and talked about it on the next show?

Richard: Last year our stuff was on all the time. There's something about the release forms this year. They need release forms to show children in pictures so nothing has been on. I sent Gary a bunch of pictures but we don't have the release forms yet. Angie's first show was historian and she has pictures but I think it's the same situation. For media evaluator there's not much to send other than written work and they haven't. I like to go over and over it before they send that through.

Evaluator: The basis being that students learn how to construct media?

Richard: Yes and to evaluate it, learn what to look for and be a critic. We do a TV show in here. Boston produces three. We are over there regularly. They've all been in a studio and seen how the equipment operates and all been participants. I think there are only two that haven't been over. We've been doing that longer than I've been doing TEAMS. Monday's show showed them what a studio was like. They were able to say, yes, we know that, we know that and that, so I think they bring that to the media show.

Evaluator: There is a transition.

Richard: Yes, they actually could recognize some of the things they showed there. One of the students said, "Look how big that room looks. It's not." They actually can picture how big the studio is out in Los Angeles because ours looks huge. It's about a quarter of the room when you get in there so now they realize that everybody's cramped up there, too.

Evaluator: What do you need to help you more, then?

Richard: I could use more Internet connections.

G'Tanya: You are in phase three or four for the electrical upgrade? It's not going to happen next year.

Richard: Yes.

G'Tanya: It's probably going to happen, maybe two years from now.

Richard: I could have gotten more Internet connections if I changed my classroom. Our computer lab, which was made into a classroom, has 20 connections. I would have given up cable to go over there and the phone lines. So what do I need you ask? What I'd like is to be able to do is broadcast a TEAMS show from here or take two students out there. Last year, Angie and I talked about this. Angie or anybody could come here and see if our studio was good enough for somebody to broadcast with these students here.

She would love to come. The other thing Angie and I talked about was getting one of those little CU/See-me cameras. We tried to order it here and the order came back saying they don't make them for MAC anymore.

I know it's Connectix and you know and that's only a $99 purchase. I'm not sure if media was live or not. Geography was the one that we really did great work on and that's the first time I saw her use the camera with the classroom out there. When I

met her this summer I told her that would be great if we could do it. We ordered two for this school.

I'd love to see these students on a show like that. They used to go crazy last year because I would put their pictures on all the time on whatever they sent. Media evaluator is new to me and new to the students. It was after Historian.

Evaluator: Did you go tothe media literacy sites?

Richard: No, we haven't even used that one for media.

Evaluator: I think you will find ways to make that an exciting show. You like the production aspects of it, you've seen it, the students are used to it. You've got shows and constructing media is the idea of children learning about that. They become much more self-directed in being able to construct materials. Everything that they see is media. It makes them better writers. You can do the scripting with it. You can help them visually. There are a lot of hands-on activities that go along with it. You can tie it into so many things that help them understand it. There is so much career growth in it. If they start out early and they are really good at it and they like it then there is a career path that opens up. Tell me about the other teachers who are getting involved with this.

Richard: Susan has been doing it now since she moved back here. Susan was third grade. She used to come up in my classroom. Now she's next door. Cherrita will be new this year. I don't know what happened to the language program that she had.

G'Tanya: It didn't take off.

Richard: The problem is that I am the only one with cable to be able to do it live so I've convinced people to do tapes.

Evaluator: Do you tape them or are you providing them?

Richard: The tapes are at our media center. We can get them. It's just people now seem to be lost. This is our third year of our new curricula. Sometimes they say I'm taking on something else. I think everybody is going to try at least one program this year. Cherrita, I was surprised, wanted to try it live. She's going to bring the children in here. It will just be six extra students with my room. I think almost everybody is going to do it. Most people can't fit it into their schedule. Most people are going to try one by tape and it will probably be math.

Evaluator: Is that a program or the module?

Richard: It's the whole module. Of the math they are all going to do algebra. Then they can do geometry after that once they see how it goes. A lot of people here aren't used to manipulatives. It's a veteran staff.

G'Tanya: I think they changed the focus. Last year we were introducing algebra across the system. I remember I kept saying Algebra's the buzzword. I was really glad to see that TEAMS added the algebra. A former coworker in technology has moved on to be the senior coordinator for the math program. She's in charge of math across the city. She has been really instrumental in pushing TEAMS and recommending it to people. I've picked up a few new names with this new connection that we have so hopefully there will be more teachers using the math.

I would say overall that there are more teachers using the science. The thing is with the science right now, the budget is not in place. Hopefully the budget will be in place before the holiday. I'm hoping for next week because if I send out the guides the first thing they are going to ask me is where is the kit. Once the budget is in place then I send out the letters saying that the tapes are available. If you want to do chemistry, we've ordered the kits, here's your guide. You can go to it. They probably aren't going to be able to do the chemistry or the heat live.

Richard: The only one I've never done is Fast Plants because that always fell during our April vacation. Last year it was on a different schedule and our plants didn't grow. That's the only module I haven't done. Other than that, I think I've done every one for fourth and fifth grades or some parts of it.

Evaluator: This school is going to be the model school.

Richard: We have the same staff as last year. I think we have one new teacher. Last year they saw me running off all this stuff. During the show I might be running down to get something. I think people were overwhelmed. They thought I had to do all this extra stuff. Now they are starting to see that it's not extra stuff. It's what we need. This chemistry, which is fifth grade, saves me planning anything. It's the introductory lesson. Then you have all the other stuff you can do. With the math, they didn't want to do it live, but I think when they hear you can use the phone it will make them more comfortable. You walk in here and they get amazed sometimes. How can you everybody doing computers, somebody be on the phone, etc. You don't have to do any of that. Watch the show. Stop it. Do what's done. We'll know because we are going to have someone who's never experienced it do it live.

Evaluator: A while ago you mentioned the kindergarten program that didn't take off. I would love to know why it didn't work?

G'Tanya: The first year when they introduced it I came over and I think it might have something to do with the equipment. I think that's basically why.

Richard: I think when it started there was a delay in either books or tapes or something.

G'Tanya: I think one group of books didn't come in. There was one company that we called and called.

Richard: I think Ann Childs did it though.

G'Tanya: I don't think anybody did.

Evaluator: The building is small. How many students are in this building?

Richard: 206. We're pretty maxed out.

Richard: It's size and how the classrooms are designated. We have an LD class and there are only twelve students in it. That's a classroom. Other than that we can have 28. It has to do with

which children can come to this school. I have 24 and that's pretty normal. Susan only has 15. That's pretty typical of ADC.

Evaluator: Do the other teachers have access to e-mail?

Richard: They will, but not yet. There are only certain rooms that are wired right now. We don't have accounts set up yet.

Evaluator: We will use e-mail for communications with the school. The teachers can e-mail me notes about successes, problems or glitches.

G'Tanya: If I put cable in here, I want a commitment from the teachers that they are going to do a module.

Richard: I'm positive, because I gave a big speech, they are going to do it by tape. They guaranteed they would do it by tape. I told them that either my students or I would go to help them the whole time.

G'Tanya: TVs and carts would be good. There's a cable line in here. It's just a matter of pulling extensions. I'll look into it. I'm not sure what is going to happen.

Richard: Am I going to get more connections?

G'Tanya: No, you are not going to get more connections. That is something I can't do anything about. Internet people are going to have to go to each other's rooms. There's no way they are going to pull extra stuff in here. I'll talk to Ian but I doubt it.

Our cable provider is Cablevision. They haven't offered cable modems yet. We have two schools that got cable instead of Bell Atlantic.

It was Internet access through cable at one school. The other school was going to do the same thing. It was the Gore thing. Bell Atlantic got slighted when he came. They put Cablevision up there like Cablevision had done it. Mayor Rafferty was in tears.

Richard: I actually don't need more connections.

G'Tanya: You can't get them. You can only get enough for four in a classroom.

I panic when I see continual billings from Cablevision. I don't know how they put that system in there but every month I get a bill. You can't have ongoing charges.

Evaluator: How do they get around telephone systems?

G'Tanya: I'm talking about for a grant. You can't have ongoing charges. Ongoing charges are a no-no. Court Street pays for everything. That's why they put in the Centrex system.

The cable hookup that we got is cable that is free. For everybody to have cable is free. Then I have to pay to pull the extensions. Hopefully it won't be that much to pull the extensions to the classrooms that need it.

Evaluator: You have my e-mail address. Send me a message and let's start figuring out what's going on. It doesn't have to be every day.

G'Tanya: I'm just a little concerned about the infrastructure problems and how they are going to be taken care of. I'm also a little concerned about the promise that everybody here is going to do it. I feel that if we can just get someone to cover each of the programs no matter who it is.

Richard: Every program's grade level will be covered.

G'Tanya: Will the Kindergarten also be covered?

Richard: Yes, it's covered. It's K-1-2 so it's covered. Every program is covered even if every grade wasn't represented. Even the new algebra is K-1-2, right?

G'Tanya: The language is K-1-2. The math doesn't go down to Kindergarten.

Richard: The thing is that they will do it as long as there is something there to help them the first time.

Evaluator: We need to look at the change in students. There are a lot of performance based activities in the TEAMS materials. Do you ever use those?

Richard: No.

Evaluator: Would you look at those and see if they are appropriate?

Richard: Chemistry is almost over. I'll do that one.

Evaluator: Did you get much money from the Diocese?

Alice: No, it all fell through. So they reorganized the committee and the whole thing is lined out with people that are coming in from different parts of the Diocese and their all working together. They've actually organized with by-laws and the whole thing to have these committees set up. One is to actually look at the technology needed and the overall plan that would serve the Diocese. We sent ours in. Ours is a $250,000 plan. It's a good one. Of course there are others. They have another team that's organizing fund raising. One is in charge of finance and one is in charge of technology. So, that's what they are doing.

I've got the satellite hooked in to two rooms over there and the third room is being attached as soon as the fellow gets here with the wiring some time this week.

Evaluator: The last time I was here the satellite was broken.

Alice: The satellite has been fixed. Our concern is the satellite that is going to be needed in the year 2000 for the digital. I wrote to somebody who has helped me before and he did send

$10,000 so I'm trying to put in a little piece here and a little piece there and that's what we're getting the satellite hooked up with. $10,000 is a nice chunk of money but when you're talking about what we're talking it doesn't go very far.

We're trying to work with the E-rate discounts so that the $10,000 could maybe go as far as $15,000. I think we have been approved but we haven't received a check from them. We've talked to the people on the phone and they said that what I had sent in for would be at least 50 percent return. So we're still waiting on that.

We're trying to get everyone equipped with at least one computer and with at least phone line, one TV and one hookup so we can do like Brian's doing in that room. Of course, we still have this one all hooked up. The one thing that really fascinates me is that we tell people about this and they say, "Oh that's nice." They don't get it. I've even written it out in length and handed to people and I guess it seems too simple in a way.

Plus teacher training. That's the key right there. Thanks to Brian, got his feet wet and he's been able to show the rest. We literally drug him in.

Brian: Here's all this stuff I have to do and then she's coming in with more stuff for me to do on top of that and how are you going to get it done. It ties in so nicely with the textbook. Those chapters in the textbook you don't even have to do. It's handled

so thoroughly. We don't have the state guidelines, we have Diocese. It's great. I'm doing it live all the time, social studies and science. Every program is live for the fifth and sixth graders. We have other teachers using it. They're doing it with the tape version. I think that's the start that we need. They need to see how good it is and how we interact and how it works. Hopefully, next year we'll take that extra step and start doing it live.

Evaluator: You feel that the grade level is appropriate for those students?

Brian: The weather, it's been on since the past three or four years and these seventh graders have already seen it the last two years. I think it's great. The fifth that struggled with it last year, I can see the sixth graders just catching on really quick now. We had an electric assembly about electrical safety and the uses of electricity and being safe with it, the person came from the electric company, and we watched the electrical energy program on the science teams.

Every question he asked, they knew. Our students just gave him the answer. He told me right afterwards, "I can tell these people had been involved or trained with something involving electricity." He just knew. He was just so impressed with that. It's a great program as far as I'm concerned. I just hope we can get satellite going next year. I'm really into it now,

and we're trying to get the other teachers and then they're going digital. I can understand why they want to do that, but it's just an extra burden on small schools to try and keep up.

Brian: Mike Flynn is working with us. We haven't really sat down to talk to him yet. He said at the meeting, we went to Oak Grove a couple weeks ago, that he'd work with us, that he'll see what he can do with us. Because we're private and he's got money for public laws.

Evaluator: What have you got?

Brian: I've got one computer, I've got Internet access, and I have the cable hookup with the satellite. All I do is hit a switch in the back of the TV and I can pick up the satellite in my classroom. What works great for me is that I bring the class in here, because we're so close anyway, and my students call in. I counted them today and 29 students called in since the first of school. In fact, don't quote me on this, but I think we're the only school from Missouri that called in this year.

What works great for me, is I can put the TV screen in there and turn the volume down, because when they are talking on the phone, they can see the studio teacher when they are talking on the phone. There was a student discussion group and our students wrote in and gave their suggestions on how a

rhinoceros got stuck in a rock. Over the Internet it was accepted. The next day he came on and he went to the student discussion groups and he beamed up Loren and Daniel's responses and he even read it on the TV and even showed the computer screen. It was right there and the student's eyes just about bugged right out of their head. At the end of the day I said, "I don't know if you realize this or not, but anyone who had that satellite pick-up, it was all over the world. Not just here in Missouri, but all over the world. What you put on the Internet goes all across the world." I think they are starting to realize that now. It builds up so much enthusiasm and the enthusiasm of the hands-on learning that they get with it. It's everything you need right there.

We're using the Internet. They know how to access it. There are discussion groups on the Internet, and I think they're using just about everything they can use.

Evaluator: What are you doing with social studies?

Brian: Social studies? I've done it all. 'California, here we come' were doing right now. We did 'Student as an historian' and we're going to do 'Natural Events', I think there are like four programs in social studies this year. My plans are to do them all.

Evaluator: Have you used any of the reading courses?

Brian: Yeah, we're trying to get the reading to the lower grades. Kindergarten did it taped yesterday. Hopefully, that will be our thing next year. We'll get them more involved with it next year. I do know our language arts teacher over here… Rifka and Shilo, Shilo she's planning on doing live. Rifka we had taped, there was this something going on so she couldn't do it in that time period but it is on tape, but she is planning on still doing the Rifka tape and doing Shilo live. Algebra and geometry is going on right now. She's doing it by tape. I think that will be the biggest thing, if they can get it right in there classroom without coming over here to watch it.

The other day, it was the fourth program on 'California, here I come', which was on coastal base. Geography of California', I had my class over here watching it and the fourth grade teacher was in her classroom. So, we had two classrooms watching the live program. She didn't have the phone access, but I had the phone access. I had a student call in, Melissa called in, and the third and fourth graders over there said, "Is she doing that live, is she doing that right now?" Yeah, this is not taped, this is live television. I don't think, at that level, they can fathom talking on a television program.

Evaluator: How did the children and the teacher react to the algebra for the first grade?

Brian: She just watched it that one time last week and she did it taped, so, I got the tapes for here and the work material for her but I have not talked to her.

Alice: I have been knee deep in that self-study and today is the last day. We're finishing up tonight.

Evaluator: How many teachers are using all the programs, Brian?

Brian: I'm doing it live and the next teacher that does it most in this school is our math teacher. She's doing the algebra and geometry but she's doing it on tape. I would say, not yet, but by the end of the year the third teacher that would use it the most would be our language arts teacher. She'll be doing the Rifka and the Shilo. We're just trying to get them to use it over there for the younger ones. The math and the upper grades are going strong taped wise. The little ones have just seen one program, taped.

(Enter the fifth and sixth graders.)

Brian: Fifth and sixth graders, today we have Dr. Carla Lane here. She may have some questions for you about TEAMS.

Evaluator: I understand that you have been calling in to TEAMS. What's it like when you get on the phone?

Students: It's fun. It's nervous. It's embarrassing. Because you know that everybody's around you in the whole world. They're going to be listening to you and you might mess up on a word. Then it's going to be funny.

Evaluator: Did you get your call in? Would you do it again?

Student: Yeah. It was scary. Yeah, I would do it again. It's fun but it scary. It's weird.

Student: It's fun and when you do it the first time, it's nervous. But once you get doing it little bit, it gets funnier and funnier every time.

Evaluator: How many times have you called in?

Students: About three.

About five.

Evaluator: When you call in, do you also listen to what the other students are saying?

Student: Yeah. We watch them on TV while we listen to them on the phone and while Gary talks.

Student: Yeah, when you first do it you kind of get nervous and hope you don't slip up. The second time you do it, you relax and have fun.

Student: It's nervous at first. And then once you do it you get used to it and it's fun and it's cool to see what he thinks, what his reactions are to what you think.

Evaluator: What was his reaction to what you said?

Student: Usually he agrees. If he doesn't agree with you, he just kind of cuts you off. Usually he agrees.

Evaluator: Which ones are you taking right now? Science?

Students: Science and weather, and social studies…

Evaluator: Why do you like that it so much?

Students: Because we learn more stuff about old times and you get to do hands on experiments and stuff. You learn more about California and the regions. You learn more about California's

history, about the Gold Rush. When you do these projects, you can do hands on experiments and actually find out the results rather than watch them on TV. You get different results and you get to compare them.

Students: It's really neat. During the tape… things like dripping wax, you get to do it in your own class. Sometimes, you can't believe that happened.

(Class leaves.)

Evaluator: You've been a math teacher for a long time. What do you think about the new methods? Are those ones that you were using anyway?

Mary: We just stick right with the book. But I like these programs because Jenny moves right along and it's a little more difficult each time. As far as math, if teachers are afraid that it won't fit in with what they are teaching, it fits in anywhere. It really does. We got into the algebra part, it fit in with what the seventh graders are doing, are for the eighth graders, it's pretty much review. But in fourth grade, it fit in beautifully with them. We used 'Functions' and then Jenny explained how to work backward with this birthday present, unwrapping a birthday present. That was so beneficial for them.

Evaluator: Thank you so much Mary. Tell the students to start writing. If you keep journals, that's a good way to start.

Mary: Brian's into it more that the rest of us because his classes come second to mine.

(Mary leaves)

Evaluator: How many teachers do you have involved now?

Alice: Eight of the ten at the school.

Sue Mayo
Bloomfield, MO

Evaluator: Tell me something about who' is using TEAMS.

Sue: This year, I had a sixth grade teacher and I really would like to get her involved because she teaches both science and math. She used a little bit of the electricity and I had a problem with one of the tapes and I think she got discouraged and didn't finish using it.

Then I purchased the chemistry for her to use I don't think she has used that at this point. We're using weather in the fifth grade right now and I have an aid who is our superintendent's wife in the EMH program in the high school and she expressed an interest in using that with her EMH students. These are high school students but she's starting a program teaching map reading and weather and this kind of thing so I mentioned I was taping this now and wanted her to take a look at it. So, we may even use it in that program.

Evaluator: A lot of special ed programs use it. They have had wonderful success with it because it so hands on the kids relate to it.

Sue: Then I have an English teacher who is planning to use Rifka. I'm not sure if that's 7th or 8th grade that she plans to use it with. Then, Shilo is going to be used by two 4th grade teachers. They already have materials that they have used in the past and they have the tape from past years.

I used the TEAMS site for all classes. Especially the language arts when students are doing research for literature or poetry. We use that in the high schooling. But they have an excellent website; it's just really good.

Evaluator: Are all these teachers using it this year?

Sue: Yes. Mike had set a meeting in Farmington and then canceled it. I had talked a new teacher into going and I have given her the orientation program to view and she's second grade level, I believe. I'm trying to get her interested in using the reading part or some of the math parts. I think she would be good person to get involved for the coming year.

Evaluator: The teachers who have used math for the little children…

Sue: They just love it. I think that I just need to sit down and take home some of those and learn from the things that they are mastering in the math. (Laughter)

Evaluator: What about Social Studies?

Sue: Okay, we haven't done much in the Social Studies area. I had started to use where they do genealogy. I had started to use that with my 7th graders and I may use it before the end of the year. I am a little bit hesitant because I have so many that would have problems tracing their ancestry because they come from broken homes or something and I'm not sure how touchy a situation that would be, but I may use that before the end of the year.

Evaluator: It hasn't been a problem for the children who have used it.

Enter Sheila Perry, the principal.

Evaluator: I'm so glad you came over. Have you talked with Mike about being an evaluation IMPACT site for TEAMS?

Sue: No, I talked to Mike. He called Wednesday and he was up here, I guess a couple weeks ago. I know what TEAMS is and everything, I wasn't too sure about what he was expanding in to, what else he wanted to do. What would our resources be? What would we need to provide?

Evaluator: The things that you do to be an IMPACT site is to have all the teachers that you mentioned using the programs. The programs need to be used a way where you use the entire the program.

Sue: So, how many teachers are we going to target this year?

Evaluator: It's really up you. I would like to have about eight to ten if there are that many interested spread throughout all the grade levels.

Sue: But this after school grant, if I get it, I'm going to hire six teachers to come in from one to seven. They could go in and relieve the teachers and they could be trained in TEAMS and they can do that in class. I mean we've got it.

Evaluator: You've got all the teachers and materials, if there are other things that you need, Mike may be able to help.

Evaluator: Do the children normally call in here?

Sue: They haven't because we haven't done it live lately. When we first started the program, I had a teacher who was just great. She had students in this little cubbyhole right back here. So, I just took the TV back, it was on a long cord, and she saw it

live. The children really enjoyed it because they got to participate in so many ways. She faxed things and she let them call and it was the most successful in any that we've done because it was live. I had a math teacher doing it at the same time. They were using the same program in fact, and I could switch her on in the classroom and so she could see it.

Another problem that we run into is with the scheduling that's during the elementary lunchtime. In the middle school it works out pretty well, but with the elementary, that's there lunch period.

Evaluator: Can they switch every once in a while?

Sue: We have three different sessions. We have elementary, middle school, and high school going at three different times. It's pretty hard to adjust those.

Evaluator: When the children are watching the program on tape, do they see it the same day or is it the next day or what?

Sue: It depends, on the teacher and when she wants to use it.

Evaluator: As an IMPACT site, we prefer that if you tape it today, the students see it tomorrow at the latest. If you taped it this morning and they watched it this afternoon, then they could still

email and respond in the same time frame that all the other students across the United States.

How many children are in this school?

Sue: We have about 750 children K-12. Probably about 500 in the elementary and middle school. We have about 53-54 teachers total.

Nathaniel Alexander Elementary

Charlette-Mecklenberg, NC

Tony Iannone Grades 4/5, Judith Kobishaw Grades 2/3, Stephanie Annis Grades 2/3, Pam Stamper Grades K/1, Ingra Chenowith Grade 2 , Margaret Parker Grade 4, Kathy Fox Morris Grade 5, Lea Grade 4, Jenny Buehl Grade 5

Evaluator: We've got math, science and language arts. We still don't have social studies or Fast Plants.

Kathy: I've used it. That's not until the spring but I'd like to use it again.

Tony: I tried to explain to my students after the demonstration that a lot of the things that we did in reality would have taken a whole class period to go through and process. We tried to collectively rush that along and be satisfied with the effort that was being made.

Evaluator: The model then is to use as many of the projects as possible. You would use all of the algebra modules or all of the science modules.

Judy: In terms of the mathematics there is only one module per grade level span. If you are doing algebra there is one algebra for grades one and two, one for grades three and four, and one for grades five and six. There is not a series of algebra modules like there is for science. For science there are five modules in the science content area.

Judith: Is this something that we would be using in the year 2000 if it were adopted?

Brent: They might do a system wide adoption but it depends on what kind of information we get back.

Evaluator: What we are trying to do by setting this school up as a model school is to use everything according to the way it can be used most effectively. It would be the best adoption of the programs according to the instructional design

Teacher: How does that affect us modifying a module to use at a lower grade level? Does that make it invalid for your purposes?

Evaluator: No, so long as you use the entire module. We'd want to know what you changed and why. That would become a model for other teachers to use.

Judy: At your grade level, in your district curriculum, are you required to teach chemistry?

Teacher: No. It was an enrichment entity.

Judy: That's important. It's important for us to know that you are doing this and you are modifying the model because you want to use it as enrichment module with your students.

Evaluator: That's good to know so long as you are sticking with it the way it is and changing it so that it's appropriate for grade level.

Tony: Is weather a completed unit?

Brent: It's coming up in the winter. It's in January.

Evaluator: We're going to have to split up soon so let me just quickly go through this. I just wanted this to be an introduction. The cover letter is from Don Lake, the senior project director. He explains why we are trying to set special places where we are going to do indepth evaluations of TEAMS. The next two pages are the criteria that were set to use TEAMS as a model site.

Teacher: Do we have arrangements to get copies. We can't make copies. Every teacher will need 25 copies. Is this something that has been taken care of?

Tony: If we are going to go through me, those of you who are doing a particular module should let me know what you need and I will let Brent know.

Teacher: Can we just give you a count of our students so that you can have all the necessary copies made?

Evaluator: We are probably going to have to do another planning meeting once you get into things and we'll go through this Do you have phones in your rooms?

Tony: Yes, we have them but there is only one line that we dial out on. We have to send students to the office if we are interested in having that kind of interaction.

Evaluator: That's not an appropriate interaction for the evaluation as the students aren't seeing the video. If you can't use phones, could you use e-mail?

Tony: You would rather use the e-mail?

Evaluator: It guarantees that the children get through.

Judi: The other thing that I would like to mention is that you can also get work to the distance learning instructors to be used on the air if you fax. That's immediately shown on the air. Your students have some immediate acknowledgment.

Tony: They love that. They love when their e-mail is shown.

Evaluator: Do you all have computers with Internet access? That's a standard within the school? That's great. As for technology staff development, TEAMS does sessions that you will have. You can tape them and look at them.

Judi: It's one thing to have these things but it is another thing to use them. You may have all the equipment in your room but if you are only using the TV you are only at a level one. The teacher next door that used everything she has may be at a level three.

Pam: I have a quick question about something you said earlier. You want us to just stick with the TEAMS program. I was just going to use the algebra in first grade. I'm wondering should I change and do something different? We have to cover the objectives in our curriculum.

Evaluator: We understand that.

Pam: That's acceptable then because algebra is only a small section of the math.

Tony: I think what they mean is that just use all the algebra for what you want to do to address algebra. That way when she gives you the survey you can make an accurate assessment of the impact TEAMS had.

Pam: That will be easy because there's not too much algebra in other programs.

Judi: That's exactly right, especially in primary so it's bringing something to you that there is not a lot of out there.

Tony: I'll wait for you to get back home and I'll e-mail you with both of my addresses.

Evaluator: One of the things we are thinking about doing this year, particularly for the model schools, is to put the surveys online.

Tony: That would be good. Less paper.

Judi: There may be a possibility that you could access that survey through the TEAMS home site.

Nancy Hicks, Principal
Nathaniel Alexander Elementary
North Carolina

Nancy: We do a lot of group research. For K-4 we go ahead and do the regular schedule. For media classes, fifth grade is the last year we really have with them, so we really try to push the research so we flex the fifth grade schedule. They only come in when the teacher has collaborated with the media specialist to do some sort of research based project that's connected with the learning that has gone on in the classroom. The expectation is that by the time the children leave here at the end of fifth grade they do sort of a mini senior exit essay.

They actually have to research a question that they have that is related to the curriculum. The have to utilize no less that four technology sources and present it orally as well as technologically. They save it on a disc and it becomes part of a portfolio that then follows the student throughout Governor's Village and then they have to do a grander version of it before they graduate their senior year. We are across from the Hub Room, which is the sort of the heart and soul of the computer network. It actually has five servers. This is the in grade communications system that we utilize from the company ETR. They are based in New York however the support has been tremendous. They have some folks in Raleigh and a lot of dial

up support. Most of the problems we have can pretty much be addressed through dial up. Basically when we opened this school we had the advantage of having a fiber network with a lot of capability for all sorts of technology. Even with the computers that we are using we had tremendously underutilized cable capability so we decided to see what we could get in terms of a multi-media retrieval system that would accomplish a couple of things.

I felt strongly that, in my experience in a classroom as well as an administrator, when teachers have to go and chase down a VCR and find a tape that works for them, that matches the curriculum, it doesn't happen except for the four or five technically advanced teachers who are willing to go that extra mile to bring that into the classroom.

I really felt that it was very important to be able to bring multi-media into the classroom in a seamless way that didn't require all that configuring and chasing down and hooking up of cables. The other issue was the investment of technology, realizing that VCRs, laser discs and CDs, that technology is going to change so quickly. With the unique advantage of opening a school I wanted to make the best use of those dollars that we had. Rather than get 49 TVs on carts and 49 VCRs that had the potential to become obsolete in ten years we had the opportunity to go to the media retrieval system like this where you've got five VCRs, two laser disc players and one CDI.

If that technology changes I've got a minimal investment to upgrade this and again be able to get that transmitted to classrooms. That was my rationale for looking for something like this. It's got software that's loaded in every classroom. It's very, very user friendly and Ilene can speak to that. She can demonstrate that.

Basically the teacher goes to one of the computers in her classroom. She says I'm doing weather, I'm a third or fourth grade teacher, and I want to see what's available in multi-media. All of the media resources we have that can be loaded here can be searched through a search engine. She inputs the topic and it brings up anything that is grade or subject appropriate. She may select a couple of titles; previews a little annotated description of it to see if it is truly appropriate for her students.

If she wants to she can check it out and take it home to preview. For the most part the resources stay here. When people want them they're here.

She selects a title or two even and says I want to see this next Tuesday and I want to see in conjunction with my integrated studies. She brings up the calendar; schedules it in for her class and it assigns her one of the stations and then she's got it queued up. When the media folks come in the morning they just look at the monitor and they know what they need to pull from the shelves. They got all the resources numbered. They go and pull those resources from the shelf, get

them stacked up and ready throughout the day to do those quick switches so when the teacher wants to do that in her lesson she just uses her remote control. She turns on the station and has the full ability to pause, teach for twenty minutes, etc. I went with only five VCRs instead of 49. I was able to get high performance VCRs. These actually have the ability to stop at a specific minute just like you can do with a laser disc where you can stop at a specific frame and you can barcode.

What we find is that they want to over block now that the use has continued to go up as they realize how easy this is. It wasn't an issue the first year. They would say they didn't know where they were going to be in their teaching so they would just block it out for three hours. Now they have to narrow that down a little bit and be a little more specific. It's very easy to use and the teachers have just loved it.

It actually has a capability that, for example, if you want to do something on photosynthesis and you saw there was an Eyewitness one that had a great segment explaining the process and there was a National Geographic one and there was another source, you could stack that lesson and show three minutes of one, two minutes of another, ten minutes of another and really have a nice program. You could even stack it from one of the sources being a laser disc program and two of them being VHS tapes.

Brent Does the computer program tell you where to fast-forward it? Are the tapes coded? Do they automatically go there?

Nancy: No, in order to know, the teacher would have already checked it out and decided that was the segment she wanted. If she doesn't want to see the whole thing but wants it to start at minute 23, she can program it to fast forward to the start of what she wants to see and stop at minute 43 which may be the end of that segment.

Brent: Where is the tape library?

Nancy: It's all the stuff on these shelves. We have about 500.

Brent: Do you get things from the North Carolina public television as well?

Nancy: Right. We've got two laser disc players, five VCRs, one CDI player and it's also connected to the satellite dish so they could conceivably do some programming with other distance learning opportunities. It's worked well for us. It's not been without it's trouble spots here and there but it has accomplished what we wanted it to do which is very easily bring that level of resource and expertise just as TEAMS does into the classroom.

Female: Ann is programming a tape to come so that the teachers go to their computer and program it in.

Nancy: Once something has been scheduled, any teacher in the building can pull up and see what's been scheduled. They may be on the same unit so she can access and see that it's going to be on at 9:30 on channel 73. She just turns on her TV and can access that same program.

Brent Is this ETS's software for scheduling?

Nancy: Yes that is their software. There are a lot of little bugs in it but we have an 800 number with a tech person and they are wonderful about getting right back to you.

Female: The real exciting thing that we are doing involves our literacy team. Teachers can do this as well from any classroom. The teacher who is the expert can broadcast to others, but our literacy team is realizing that with 49 classrooms they can't get to them all. The emphasis is on co-teaching and modeling those practices. They physically can't get to all the classrooms to get them up and going so we're utilizing the closed circuit system where she goes into a host classroom. She models the lessons with the students. She does it totally interactively and then all of

the classrooms at that level get the lessons. The teachers are facilitating. They get the lessons and the focus ahead of time so that they have the opportunity, just like TEAMS. The new component that she added this week was actually using the Internet, the local network. They don't use the cameras. They just hook the computer into the TV monitor and the students can e-mail questions in the middle of the lesson that they have. They actually come up on the TV screen. Students in the host classroom e-mail responses back so we have that interactive feature that you have with TEAMS. We just added that this week. It's real exciting. The teachers have loved it. It gets that student involvement. It maximizes the personnel.

Nathaniel Alexander Elementary

North Carolina

Lab Presentation

Tony: Next year they will end up being my fifth graders. We do a looping system here at Nathaniel Alexander. Last year I was a fifth grade teacher and it was my first year taking students from fourth grade onto fifth grade. I taught for ten years and that was the best year of my teaching career. I'm really a strong proponent of the looping concept. It really lends itself well to the students getting an awful lot accomplished. I'm really anxious to take these students through that process.

Today I'm hoping, technology cooperating, to show you a bunch of stuff that my students do daily in the classroom or in the lab when we come down here related to the TEAMS program. I've got students in groups right now and I just want to outline what you are going to see and then you can ask me questions or ask them questions. They'll show you the different stuff.

Some of them are going to be on my homepage. They will show you some of the stuff that's accessible on my homepage. Some of them are going to be on the TEAMS web page and they are going to be doing an activity that is an extension to a program that we are watching right now in class,

Letters to Rifka, presented by Gail. It's an outstanding program. My students are having such a blast reading the novel and doing all the things that Gail asks us to do. I have some people that are going to show you some of the options they have as students on Nathaniel Alexander's homepage with some things related to Wired for Learning. I've also got some students that are going to do an Internet search on the Russian poet whose book Rifka carries with her in the novel, Alexander Pushkin. I think that's it.

There were five things that I wanted to show you. There are five or six students in each group. At this time I am only using TEAMS for language arts. Last year I used it for math. Last year's math was geometry. I was fortunate enough to take two of my students to California to work with Jeannie Tokashima.

That was one of the coolest things I've ever done. I got to meet a lot of people that are related to TEAMS. I thank my school principal, Nancy Hicks, for allowing me to have that opportunity. I will be picking up the math component this year when it is suitable for my students. I believe it's next month. I talk to Jeannie about once or twice a month. We've become long distance friends. I am a huge proponent of TEAMS. I've talked to a lot of my colleagues in the building. I tell them that after I explain all the benefits that TEAMS has to offer to you, there shouldn't be any reason that you shouldn't try at least a

little bit of it. After having the opportunity to do that, and Nancy has helped me out, we got seven more teachers that are interested and willing to try and are doing the Rifka component and the Chemistry component. I'm going to turn the show over to the students. They all know what they are supposed to be doing.

Don Lake, Senior Project Director

Gayle Perry, TEAMS Webmaster

Brent Hefner, RTC Coordinator

North Carolina

Brent: I was trying to think of what school I could possibly pick that would be a great impact site. Some schools are doing science and some are doing social studies. The idea was to get some school to try the whole strand or as many as possible for the grade level they have. Tony was so gung ho last year, I said well that's got to be the school plus the fact that they have all the technology. That was the site I picked because of Tony and his enthusiasm.

They certainly can be a tier four or five school. I'm sure there are different tiers throughout the whole school but they do have that capability. Those teachers were sort of hand picked a couple of years ago. They're not all hand picked anymore. She had the luxury of hand picking her staff. One of the things she required was that they become involved in using technology in the classroom. I think that was a natural site for me to pick. We've been talking to those teachers this afternoon.

Carla was telling them what was going to be expected throughout the year. You find out things that you didn't know.

They opened the first page of the materials and got to duplication. They asked who's going to duplicate this stuff for us. I said well, I'd send you a supply of blank masters. They said no, the student sheets. I didn't realize that's a problem at that school. They run out of paper when they duplicate things so I will be duplicating student sheets for them.

This school's going to have a lot of surveys to fill in so I've already told them that I will pamper them. I think the results we will get if they follow the procedure they need to will be worth it so we'll just pamper those teachers and help them along. You may have to do that with the sites you pick. You may have to set aside a little more money for that particular site. Maybe we can talk for a few minutes about what makes a good impact site. Maybe we can get some ideas.

Don: Can we go back for just a minute. We're talking about tier three and four sites. Does everyone know what we are talking about?

Gayle: A review would probably be good.

Don: I was thinking it would be good because we have new people in the room. For the rest of you a review would be excellent. I don't want to put Gayle on the spot but since you designed these, could you very quickly and succinctly tell us

what we mean when we talk about tier one through tier five?

Gayle: Tier one is the entry level where all you need is a TV. You receive our programming and do the modules. That's the only technology you have in the room and it can be a really effective program.

Tier two is where there are computers in the classroom but they are not integrated. They are like a supplement. The teachers cycle students through them twenty minutes a week. They go back there and there is a box of software and they pick something out. It's like drill and practice. They might do Printshop. They might do some writing, but it's not integrated. It's supplementary so we're modeling all the time on the program software that's good to put back there. If you're going to cycle students through it at least have it be something worth while that is going to be building concepts for the shows. That's tier two

Tier three is where it's integrated. Now when they are using software they're writing about what they are learning. Perhaps they have the Internet. They're using e-mail. They're beginning to use it as a research tool. They probably are not going into any of the electronic classrooms and doing those kinds of things. It's more that they are just beginning to get the hang of using this new tool effectively.

The next level we call the mastery level. Now they are on top of this. They've mastered technology. It's in everything

they do. If you took the technology away it would hamper the program. Students are going into the electronic classrooms. They are doing projects. They are doing the interactive activities. It's just a part of everything they do and they are using all different kinds of multimedia. They might have multimedia at level three but again it's just kind of an entry level. We're watching the lesson. The students aren't making hyper studio stacks. At level four it's more like what they are doing with the technology than the actual technology itself.

Level five is the innovation stage. You won't find many schools at this level. This is where they take the technology and say "Oh my gosh, I didn't know I could do this with it!" Whatever the teacher is setting out they have become the facilitator and the students have become the guide. They are inventing new ways to use it. We're seeing some people at that level but not very many.

Don: I wouldn't think that you would find a classroom on a level five anywhere but you might find teachers at a level five that are really integrating technology.

Gayle: These are people where students have their own Web pages. When they turn in an assignment they have done an html. They're putting it on the Web. You see these schools and just say wow. You know when you see a level five school.

Those are the five tiers we've set up.

Don: If you need paper describing those we have that. I think a place that we label as an IMPACT site really needs to be at a level three or level two rapidly looking at level three with the vision already there.

Gayle: It should be a level three because they aren't online at level two.

Brent: Let me ask a question. If at level three Internet access, being online, is the main criteria, what if you only have one computer in the room? You can pull up the TEAMS Web page but you've got 25 students.

Gayle: Again you look at that. Even the teacher with only the Web at home can have that e-mail account used for students so you can see level three with a teacher that knows how to integrate it into the classroom.

Rick: We may not be talking about the entire site. We probably realistically are not. As for the site we observed this morning, I'm not sure we could say every single classroom fits that model but they are well on the way. If you know of a site where you have identified an enthusiastic teacher who really has

a level three classroom that's fine.

Gail: It could be flat. A lot of teachers take the site and bring in what they think is safe like using Web-buddy or Web-whacker. That could still be level three because they are using the Web in terms of research or for their subject area.

Rick: If you can get them to hook up the computer to a TV it becomes a presentation thing for the whole classroom. You can use that single computer for the whole classroom to get this rating.

Female: For instance, today in Tony's classroom, three students were on the computer using it as a research tool for Rifka and other students were using books from the library so it was a part of what they were doing. It was just another way to use research.

Male: I don't know my classes well enough across the state to know what they are doing. That's my first objective but what about the number of modules you use? To be honest with you I don't have a lot of teachers using a lot of them. They might use two or three science modules, or two or three math modules, or one science and one math module. I was hoping for some guidance on that.

Don: We would rather they did one module very well or did science extremely well rather than have someone feel like they have to do science, math, etc. We don't encourage that.

Evaluator: The model is that you have a number of teachers in one school where one teacher might be using all the science modules, somebody else is using the math, and somebody else is using Rifka. It doesn't have to be one teacher doing everything and that's not the preference.

Don: Mike, you may have a classroom out there that is wired for the Internet that has a lot of the level three attributes imbedded in that classroom. That teacher may be using nothing but science. That's fine. Or they might be using nothing but math. That's fine.

Evaluator: At the school we were at there are probably going to be ten teachers. Between all ten teachers they will be using everything that TEAMS produces.

Male: You may not have a school in your district let alone a classroom that you can say begins to support this. Yet if you narrow it down to one enthusiastic teacher who's doing the TEAMS science or TEAMS math and they've got Internet access

in the classroom, let's start there. I have to believe that every one of the partners out here has a classroom out there that can be the classroom that we work with.

Evaluator: If the site is there and there is an enthusiastic teacher like Tony, that teacher can be the magnet as Tony was to pull the other teachers in. The model is to try to see what happens when TEAMS is used the way it's intended to be used. That's the model. I would prefer that we start at the high level and see what happens rather than say let's do a minimal approach.

Wendell: We had two or three schools that were interested in becoming impact sites. All of the teachers in the building agreed that they would do at least one module. It was a school that came on kind of late. They don't have a satellite dish. They were doing programs that came on about one o'clock. There were about three teachers that started off. All of a sudden everybody in the school at all grade levels, even the second and third grades before there were programs designed for them in reading, were trying to do some of the science. I tried to convince them that it was a little bit too advanced for them at that time. Rather than discourage them we let them do what they could with last year's tapes. This school, Raymond Elementary, has a population of about 600 students with 28 teachers. Each teacher in the building has agreed to do at least

one module so every TEAMS module will be done. They are Internet wired. Every classroom has cable access. There are TVs and VCRs in every classroom. As the new programs are ready next semester, they are willing and ready to come on board.

Cynthia: We have the same school that has been participating all along.

Female: I have a site sort of selected but there are some things I'm not clear about.

Don: What do they have?

Female: Well they have an enthusiastic teacher and she has the computers. She uses some of the math programming. She's the one that you met when you came out.

Don: She's got Internet?

Female: She has Internet. She's also working on her master's degree. The longevity is a problem. There are two principals. They couldn't commit to the time frame.

Evaluator: Why not?

Female: They just felt like they couldn't. They also had a problem with the use of anything besides the classroom textbook. Those are the two things that were problems for them.

Evaluator: It's probably not a good site.

Clyde: I don't think we have anybody using all of TEAMS. In fact, I'm sure we don't. In my very best school they converted every teacher in the school so that they all use TEAMS for science. They've done that for two years. This is their second year. Next year we'll drop science because one of the people at the state has decided that the sixth grade level is where they are going to put a live science. They're going to wipe out everything but ecology. They've been using all of the science for three or four years. What I have to do is see if they will move it down to fifth grade. I'll go to a different school and see if I can get them wired up. I think I can. They're going to start now on math since they're losing the science. They decided they'd try the math. We don't have anyone using it all. Some schools are using reading, another is using science and somebody else is using math but none of them are using all of it.

Don: You know, that's fine. They don't have to be using it all.

Rick: I think we might have to modify the model.

Male: Would you want us to find maybe three sites then?

Evaluator: There will be other evaluation sites besides these. These are considered to be the models. The idea is to see how TEAMS would work if everything is in place and used at the highest level. What is the impact?

Clyde: So if we don't have sites that will meet this thing don't worry about it?

Evaluator: What we might be able to do is provide enough of a model for you in another place that it would give you the ammunition that you need to go and do it.

Clyde: Okay we'll try it but it isn't going to happen.

Don: I think we need to modify this and work with you on it. As I look at it, it is pretty stringent. It may fit a site five years from now but I don't think everybody's ready for it yet in terms of everything that's built into it.

Rick: What I'm hearing, I think, are two different things. I think we need a site to do pure evaluation. Maybe it's better to find a

single school and if there are more, fine, and not worry about it. What you're saying is that what your needs are and what the evaluatation'sneeds are may not be exactly the same thing. Is one school enough to do a serious evaluation?

Evaluator: We have several schools that have already come forward.

Male: If you found ten good schools using a lot of TEAMS and integrated technology real well across the nation then we could say here's our results from those schools.

Evaluator: Exactly. There are other evaluation components. We need in-depth study sites that make a difference and can show that TEAMS is really making an impact.

Kitty: There's no Star Schools project in the country that is doing anything like we're doing.

Rick: We're asking a lot of these schools and I think we need to give them something to do this.

Male: We don't even need that much. If we could just offer them the kits and offer them a little salary money. The tough part for me is the all courses. If we can get them to use a

subject would that be enough?

Evaluator: It's the support that the teachers bring to each other.

Tony Iannone

Nathaniel Alexander Elementary

Charlotte, NC

Tony: Brent told me that our school has been chosen as a national site to work with the TEAMS modules. He asked me to try and get more teachers involved. I've done that. I've gotten at least seven other people interested. We've gotten materials for them and they are in the process of trying that out at their comfort level. Some people are going to try and do some stuff live. Some are going to view tapes. My understanding was that you were going to explain the evaluation process. You want to see how the things that we are doing here relate to student performance. That's what my understanding is of what's going on.

Evaluator: There are so many TEAMS programs now. It used to be just math and science. Now it's math, science, social studies, and language, not to mention professional development for teachers. One of the things we've been able to validate through the evaluation is professional development for teachers are very strong. The distance learning instructor becomes a role model for the classroom teacher. We've been able to validate that

within twelve months that a teacher moves from a traditional teacher to a facilitator of learning and that within eighteen months we would be able to see them teaching in all their content area as a facilitator. That's one part of the evaluation. We're looking at teacher growth and teacher change. The other part of it is how the programs impact children and looking at special ed., gifted, title 1 / chapter 1, LEP and just trying to figure out how these programs impact different groups of students. They do impact them differently.

Tony: I e-mailed Gayle the other night and said how in the world do I get all of this stuff for this particular module. How do I get it all in before the next broadcast? She e-mailed me back and said just like any good teacher it's better to over plan and have a variety of things that are useful than not to have enough. I've had to pick and choose.

Evaluator: They might do one or two experiments but not use the entire TEAMS project. What courses are the teachers going to be using?

Tony: I'm going to be doing the math next month and into January. I've got three or four people that are also interested in trying the math. We've got two chemistry kits here and people ready to start that. There are two other teachers beside myself

that want to do Rifka. One has the books. These other two teachers are going to share that unit with each other. We haven't got anyone for social studies.

Evaluator: Would you try it?

Tony: Oh, gosh yes. I'll do whatever you need me to do.

Evaluator: If we could have every program that TEAMS produces used within the grade levels that you have in the school then that gives us the best chance of doing a really strong evaluation. What we would be able to do is look at the implementation. You'll have brand new teachers using TEAMS.

Tony: That's mostly what it's going to be beside myself. I'm the only one that has done it for two years.

Evaluator: That's fine. You become the lead teacher and are part of the implementation process where you're helping them understand it. Then you've got Brent and everybody at your office trying to pull it together, making sure you have the kits and making sure you have everything you need and monitoring things throughout. We may do focus interviews with each teacher. There will also be a survey. Are there any standardized tests that you are using in this school?

Tony: There are end of grade tests at the end of the year. They usually are given in May.

Evaluator: Do you have access to those grades or to the scores?

Tony: Yes.

Evaluator: Would it be possible for you to correlate them with TEAMS? TEAMS is never the entire curriculum so what we ask what learning can you attribute solely to TEAMS.

Tony: How are you going to want us to give that information back to you? What's a general time that we would have end of grade scores?

Female: We have them back the first week of June.

Tony: That's what I was thinking. She wants to be able to have those of us that are involved take a look at those.

Female: You want to do a little data analysis?

Tony: Yes.

Female: You don't get as much diagnostic information broken out. For example, if he did geometry, on the end of grade test it won't necessarily say how the kids did with that particular segment of mathematics. You'll just be able to see the overall score for math.

Evaluator: Could we look at the test?

Female: We have some released versions of the test.

Tony: Are these things that you would like to have copies of for yourself?

Evaluator: I would like to have the TEAMS content people look at the test.

Tony: I can tell you based on the geometry segment I did last year that the lessons with Jeannie went above and beyond the questions on the test. The questions on the test were a joke for these students because of how involved the lessons that Jeannie presented were. It over prepared them for that document which is a complement to TEAMS.

Evaluator: They're doing well on that part of the test?

Tony: Oh, yes!

Evaluator: If we looked at the individual questions instead of the entire segment of the test we could do the data analysis on that. Maybe Jerry can pull those things for me. I'd really like to pull apart your test, look at it, and see how it lines up with what TEAMS is teaching. I've looked at some of them and TEAMS is here and the test is doing something else. There's no correlation between the two. It's preposterous.

Female: I think particularly in some areas. For example, mathematics, the emphasis in North Carolina is that it won't simply be a geometry task. It will be a multi-level complex application oriented thing. They will have to use that as an element in conjunction with three or four other math concepts or skills.

Evaluator: Is it norm or criterion referenced?

Female: Criterion.

Evaluator: That would be wonderful.

Female: The other thing you might ask Jerry Slotkin about is just the test magic. That might be an easier way than just getting a

sample copy of the test. That's basically a piece of software that is available from the state that we have just recently gotten here at the school. What you can do is say I want to look at all fourth grade objectives, fourth grade standards. It will pull off all the relevant information. It's got a bank of released questions. It will pull off everything that is related to that specific objective. I think you would get a better sense and ability to do some alignment by playing with that and being able to pull it apart objective by objective.

Evaluator: We have the content people look at it. I am not the content expert. They would be the ones doing that. We should set that up with Jerry. Do you ever use any of the performance based testing that's in the TEAMS modules?

Tony: I've done that. I did it at the end of the geometry. I treated it as an informal assessment of what we were doing.

Evaluator: Did you feel it was valuable?

Tony: Yes. I liked it as an alternative.

Evaluator: What would you normally do?

Tony: For math I would just give a post test at the end of that

strand but having that was like extra information that gave me a little more insight.

Peter Hutcher

Instructional Technology Coordinator

Oakland Unified School District

Evaluator: What is the status of the TEAMS partnership?

Peter: There hasn't been activity with TEAMS. One problem is that Josilin and King Estates is not getting included in the same way this summer in the training that they were last summer. The TEAMS fit gets tougher and tougher the higher you go in the grade level.

The grant is picking up the cost of our person who receives the transmission and makes copies and archives the tapes and so on. The grant is still definitely supporting TEAMS. I really see it as one of the viable ways in which people can develop into experts.

The project is paying for the person who does the downloads. It is not paying for the district license. I'm paying for that out of other funds. The transition to digital will not come out of the grant either. That's due at end of the fall. I have got to wait until my basic new budgets reappear.

Evaluator: How many Core Values students are participating in TEAMS?

Peter: Certainly less than a hundred. It's possible that Emily Stone, now that she did the radio magic stuff, will start using it.

Evaluator: What do you think about how many students are participating in TEAMS whether it's their part of the challenge grant or not?

Peter: Much less than I would like. I don't have good numbers. I will probably organize some TEAMS promotional activities in the fall. I may find a little bit of money to support people if they wanted to use a project that requires materials. It will be outside of the grant. TEAMS really strong points for us are at the elementary level.

Evaluator: Are you going to be using TEAMS for this group?

Pam Bovyer Cook

Technology Literacy Challenge Grant Manager

Oakland Unified School District

Pam: The only one that is a vague match is the media evaluations. At some point we should probably do that. It doesn't match our content and we don't have live video. Perhaps when we get live video. It comes between teaching teachers how to teach reading or teaching them how to use the TEAMS. TEAMS has to come second. A large percentage of the students in Oakland cannot read at grade level or near it. The teachers don't know how to teach reading. We really had to pick up that piece in our in-services.

Joslin Johnson, Principal

King Estates Middle School

Oakland, CA

Evaluator: Are you still considered to be the TEAMS coordinator for the district?

Joslin: No.

Evaluator: You've got some teachers here who have been trained. Have you got enough?

Joslin: No. I'm just saying we started it. We have so many new teachers now. I'd say we're pretty much starting from scratch. The one teacher who is using it is not going to be here next year.

Evaluator: Did Peter talk to you about becoming an in depth evaluation site which we are calling an Impact Site?

Joslin: No, he didn't talk to me but I remember talking to you about it last year.

Evaluator: Are you interested in doing that?

Joslin: Yes. Maybe you should tell me a little bit about it before I commit to anything.

Evaluator: The idea behind it is that you would have a number of teachers using various components of the program, whatever is appropriate for your school…

Are they going to wire the school for you?

Joslin: They tell us a lot of things. If we have this going, it might be an incentive to go to the next step.

I really like TEAMS. I guess you know that. But it's hard to get the teachers to do it. Mr. Williams who I think is a really good first year teacher, he tries a lot of things but I think he is overwhelmed. So I gave him the tapes but it would be nice if we had it at the beginning of the year. This will be his second year and he wants to just do math. Maybe if he just does math, it will fit in better if he uses the TEAMS tapes.

Evaluator: I think TEAMS is the strongest distance learning program in the United States.

Joslin: I have a daughter who is teaching fifth grade at Parker and we talk all the time about strategies and I'm positive I could influence her to try it. She's really interested in math. That's her key subject.

It's just an idea but I know we're trying to link Howard Elementary School which is right up the hill, and then Parker.

Evaluator: That would be wonderful. That would be a great model because we aren't trying that anywhere else.

Denise Jeffrey
Literacy Coach
King Estates Middle School
Oakland, CA

Evaluator: How did you get the TEAMS tapes? Did you tape them?

Denise: Ms. Johnson. You'll have to speak with her so that she could tell you where the tapes came from. I know that she was the district coordinator and she brought the tapes with her. I think that some of the tapes were from KDOL. The only problem that I had was that the quality wasn't that great.

Evaluator: If KDOL started airing the new programs, could you receive it here? Are you connected to do that?

Denise: We aren't yet but we are supposed to be.

Evaluator: How soon do you think that might be in place?

Denise: It was supposed to be in place in September.

Evaluator: Do you have any special education students at this school?

Denise: We do.