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ABSTRACT

Albuquerque (New Mexico) public schools used a Title IV Part A grant to improve academic and behavioral functioning of American Indian elementary and secondary school students. The program's focus was tutoring provided to 899 Indian students from Canoncito Navajo Reservation, the Isleta Pueblo, and the city. A project coordinator, a resource teacher, and 34 tutors served 18 elementary schools, 16 middle schools, and 10 high schools in the district. The program achieved its two academic objectives. During the 1986-87 school year, elementary and middle school students mastered an average of eight competencies each in mathematics and language arts. Ninety percent of these students mastered at least four mathematics competencies; 69% mastered at least four language competencies. Students in grades 6-12 made a mean gain of 1.23 points in grade point average on a scale in which A plus equals 13 and F equals 1. Behavior ratings fell short of the objectives, but 75% of teachers felt that the observed improvement justified the time spent out of class. Eighty-five percent of teachers thought the program was somewhat or very successful in meeting student needs. The Parent Advisory Committee (PAC) held 17 meetings, 3 public hearings, and 3 parent training sessions. The working relationship between the PAC and project administrators was commended in the State Department of Education audit report. Includes eight data tables and recommendations to improve math tutor training and academic skills evaluation instruments. (SV)

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Title IV Indian Education



Program Evaluation 1986-87

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Table of Contents

Administrative Summary	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	i
Program Description	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	1
Evaluation Activities .		•	•	•	•	•	•	•	•	•	•	•	•		•	2
Evaluation Findings	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	3
Summary and Conclusions																16



Title IV Indian Education 1986-87 Program Evaluation Administrative Summary

The Title IV Part A grant, awarded by the U.S. Department of Education, provided supplemental funds to the Albuquerque Public Schools for the improvement of educational opportunities for eligible Indian students enrolled in district schools. The grant award extended from July 1, 1986 through June 30, 1987 and was based on a count of 2,159 students for whom Indian Student Certification forms (ED 506) were on file. The Parent Advisory Committee (PAC), working with program administration, reviewed student data and data from needs assessments to determine that the focus of the program would be educational tutoring.

A project coordinator, resource teacher, and 34 tutors served 18 elementary schools, 16 middle schools and 10 high schools in the district. The resource teacher provided tutors assistance in developing tutoring plans, obtaining materials, and working with school personnel. The program coordinator was responsible for the overall administration of the program.

Students who were identified by teachers as having the greatest need for remediation comprised a target group of 899 students. Students referred by teachers, counselors, and parents were eligible to receive services in more than one subject. Therefore, reported data reflect these duplicate counts.

The project goal, to improve Indian students academic functioning, was supported by three student performance objectives and a parent participation objective.

For the elementary and middle school students, tutoring addressed the specific skills identified by the referring teacher. Pre and post skills checklists were developed from APS curriculum guides and provided the data to measure this component of the program. An average mastery of eight skills was expected and achieved by the combined group of elementary and middle school students in both mathematics and language arts.

Middle school and high school students' grades in subjects in which tutoring was received were converted to a 13 point scale, used as a second method to quantify tutoring effectiveness. The criterion of an average gain of one point was achieved by the 853 middle and high school students for whom grades were available, with an average gain of 1.23 points.

Referring classroom teachers were asked to provide pre and post measures of students' progress in eight school-related behaviors. A mean gain of seven points on the Tutoring Progress Report was projected. While students only showed a mean gain of 4.94, a majority of teachers reported that they felt the students' progress justified the time in tutoring and that the program was successful in meeting students' needs.

The project attempted to increase parents' involvement in their students' educational programs. Parent Advisory Committee meetings were held, as well as three parent training programs. These efforts and the cooperation among parents, project staff and APS administrators were commended during the audit conducted by the Department of Education, Indian Education Programs.



Title IV Indian Education 1986-87 Program Evaluation Program Description

The Title IV Part A grant, awarded by the U.S. Department of Education, provided supplemental funds in 1986-87 to the Albuquerque Public Schools for the improvement of educational opportunities for eligible Native American students enrolled in the district schools. The grant award extended from July 1, 1986 through June 30, 1987, and was based on a population of 2,159 students for whom Indian Student Certification forms (ED 506) were on file. The Canoncito Navajo Reservation, the Isleta Pueblo, and urban Indian residents comprised the service population for the Title IV program.

The Parent Advisory Committee (PAC), formed according to the requirements of the granting agency, completed a needs assessment to assist program personnel in identifying program emphasis for the 1986-87 school year. In addition, a determination of student needs was made through a review of available documentation and a review of Indian students' grades and test scores. The results of the PAC needs assessment, with the project administrators' knowledge of district programs, provided direction for program focus. Educational tutoring was identified as the major activity.

Those students who exhibited the greatest need for remediation, demonstrated by below grade level functioning by teacher report, comprised the target group. Referrals for the tutoring program were made for K-12 students by teachers, counselors, and parents. Once student eligibility was verified by the program coordinator, each student was assigned to the Title IV tutor in his/her school.

Quarterly reports indicated that while 899 individual students were provided tutoring services, several received tutoring in more than one subject and, therefore, data reflected duplicate counts. Tutoring was conducted at 18 elementary, 16 middle, and 10 high schools. In addition, one home tutor assisted students of all grade levels on a regular basis. A project coordinator, a resource teacher, and .4 tutors served 44 schools within the district. The resource teacher provided assistance to tutors in developing tutoring plans, obtaining materials, and working with school personnel. The program coordinator was responsible for the overall administrative management of the program.

An in-service program was provided for all tutors by the resource teacher program coordinator, and other district personnel. In-service programs were designed to increase tutors' skills in providing academic instruction and in dealing with school-related behaviors, such as class participation.

Parent Advisory Committee meetings were held on a regular basis. Training sessions were conducted to introduce parents to practical methods for facilitating and fostering good study habits in the home and to assist them in becoming more involved with their students' education.

The goals of the Title IV program were to improve the school functioning of Indian students and to assist them in receiving passing grades in their academic subjects. Project efforts to accomplish these goals were carried out through the provision of supplemental academic tutoring. The evaluation of



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1

project objectives included the assessment of students' academic performance and assessment of student performance in eight school-related behaviors. Pre and post skills mastery checklists in language arts and math were used for elementary and middle school students. Quarterly grades were obtained for subjects in which middle and high school students received tutoring. Teachers' assessments of students' post-tutoring performance in identified school behaviors were obtained for all students.

Evaluation Activities

This report is a result of site visits which occurred from February, 1987 through July, 1987. Activities conducted during these site visits were designed specifically to provide process evaluation and to gather data for summative evaluation efforts. Site visit activities included presentation and review of the evaluation plan with project staff; administration of a tutor questionnaire; and review and analysis of program documentation.

Attachment A provides a summary of responses to the tutor questionnaire. This questionnaire was a comprehensive instrument that provided information for formative evaluation activities. It should be noted that the questionnaire was administered by the evaluators to provide additional information for long-range planning and on-going program improvement.

This report addresses Title IV efforts in the achievement of the program objectives. Although a variety of sources were utilized for this evaluation, three primary sources provided data for the evaluation: quarterly tutoring summary reports (attachment B); competencies skills lists for language arts and mathematics (attachment C); and pre and post tutoring progress reports as behavior rating scales (attachment D).

The quarterly tutoring summary reports were maintained by the tutors and reflected the number of hours tutoring services were provided and grades students received for each quarter.

The competency skills lists were completed by classroom teachers and tutors. These checklists helped identify areas of mastery and student need. Progress towards mastery was then recorded by the tutors.

The behavior rating scale on the tutoring progress report was completed by classroom teachers at the beginning and end of tutoring.

Secondary sources of information for evaluation included the project proposal, minutes of the Parent Advisory Committee meetings, a needs assessment completed by the parents, reports from parent training activities, and monthly progress reports maintained by the project coordinator.



Evaluation Findings

Objective 1.0: By the end of the 1986-87 school year, there will be a mean gain of 8 competencies at the elementary level and a mean gain of 3 subject objectives at the secondary level for all Native American students tutored, according to the competencies listed in the APS curriculum abstract.

Measurement

Classroom teachers completed skills checklists in the areas of mathematics and language arts, as appropriate, for each student referred for tutoring from grades K-8. These skills checklists were made up of grade level competencies adapted from the APS curriculum guides. The project personnel did not develop competency skills checklists for high school subjects since APS was revising these curriculum guides. Analysis of the data was completed for students in grades 1-8 for mathematics and K-8 for language arts. In addition to analyses that indicated project progress towards objectives, the evaluation plan included reporting the percent of students mastering one-half (4) or more of the target number of competencies to be achieved.

Information gathered from these checklists also enabled project personnel to identify areas of successful tutoring and develop in-service training for tutors that demonstrated successful techniques and provided tutors with curricular materials to improve tutoring skills.

Results

An analysis of data for 117 elementary students and 36 middle school students revealed that a mean of eight mathematics competencies were mastered by the tutored students in grades K-8, meeting the project objective. When these data are separated by school level and grade they show an average mastery of six competencies for students in grades K-5 and an average mastery of 12 competencies for middle school students.

Data reflecting mastery of language arts competencies for 178 elementary and 93 middle school students were analyzed. These 271 students mastered a total of 2,355 competencies, with an average mastery of eight competencies. Elementary students mastered an average of 10 competencies, while middle school students mastered an average of eight. Table 1 provides a summary of these data by grade and level.



3

Table 1

Average Mastery of Competencies by Grade and School Level

	Mathe	ematics	Langi	lage Arts
Grade	# of	Avg. # Comp.	# of	Avg. # Comp.
Grade	Students	Mastered	Students	Mastered
K		-	3	6
1	27	6	27	9
2	19	6	40	12
3	20	7	36	10
4	28	5	35	10
5	23	8	22	8
Elementary				
Total	117	6	178	10
6	11	15	33	7
7	16	12	37	5
8	9	8	23	6
Middle School				
Total	36	12	93	6
Grand Total	153	8	271	8

The percentage of students who gained four or more math competencies (one-half of the criterion identified in project objective) ranged from 67% (eighth graders) to 96% (fourth and fifth graders), with 90% of all students gaining four or more math competencies. Ninety-two percent of the elementary students and 80% of the middle school students gained four or more math competencies.

Further analyses revealed that 69% of the students who received tutoring mastered four or more language arts competencies, which is one-half or more of the anticipated mastery. While only 57% of the elementary students achieved this, 90% of the middle school students mastered four or more competencies in language arts. Table 2 presents data for the number and percent of students at the elementary and middle school levels who gained four or more competencies in math and language arts.



Table 2

Number and Percent of Students Mastering Four or More Competencies

		Math	Language Arts			
Grade	No.	No.		No.	No.	
	Tutored	Gaining		Tutored	Gaining	%
к				3	2	75
1	27	23	85	42	21	50
2 .	19	18	94	40	28	70
3	20	18	90	36	16	44
4	28	27	96	35	20	57
5	23	22	96	22	15	68
Elementary						
Total	117	108	92	178	102	57
6	11	9	82	33	32	97
7	16	14	88	37	31	83
8	9	3	67	23	21	91
Middle Sch.						
Total	36	29	80	93	84	90
Grand Total	153	137	90	271	186	69



Objective 2.0: By the end of the 1986-87 school year for all subjects in which tutoring has been provided, Native American students, grades 6-12, will show a mean gain of one increment according to an incremental ranking scale (to be developed by the evaluator) based on conversion of classroom grades A+ through F as assigned by the classroom teachers.

Measurement

Students' grades in subjects in which tutoring was received were converted to a 13 point scale. Each letter grade, including the plus or minus qualifier was assigned a numerical value, with A+ equal to 13 and F equal to one. This incremental scale was developed to quantify progress made when students' grades improved, but without moving to a higher letter grade (e.g. C- to C+). After converting letter grades for tutored subjects, pre-post comparisons were made.

Results

The criterion of an average gain of one point was achieved by all tutored students. Students (N=853) achieved a total gain of 1049 points on the converted increment scale, resulting in an average gain of 1.23 points.

Mean gains computed for each grade, sixth through twelfth, showed that the objective criterion was achieved by students in each grade except grade 11, in which an average gain of slightly less than one increment point was achieved.

Table 3

Mean Gain of Converted Letter Grades

Grade Level	# of Students Tutored	Mean Gain
6	148	1.35
7	116	1.79
8	116	2.18
9	130	1.23
10	127	1.06
11	153	.92
12	63	1.78
Group Mean		1.23

In addition to grades, these data showed the number of subjects in which students were tutored. The number of content areas in which tutoring was provided ranged from a total of eight subjects at grades 6 and 7, to 18 at grade 12. The most frequently tutored subject for middle school students was



mathematics. Algebra was the most frequently tutored subject in grade nine, English in grades 10 and 12, and history in grade 11. Social studies, health, and science were the subjects in which the largest percent of middle school students showed improvements in earned grades, while Spanish, history, and chemistry were the subjects in which the greatest percentage of high school students showed grade improvements. Tables 4 and 5 show the subjects in which tutoring was provided and the percent of students showing gains for middle and high schools.

Table 4
Summary of Tutoring_By Subject for Middle School Students

	Grade 6				
	Total	% with	% with	% with	
•	Tutored	Gain*	No Change	Loss	
Math	56	50	29	21	
Social Studies	33	67	24	9	
Language Arts	28	64	14	22	
Science	12	58	33	9	
Literature	12	50	25	25	
Ch. I Reading	4	50	50		
Spanish	2	50	50		
Home Economics	1	100			

	Total	% with	% with	% with
	Tutored	Gain*	No Change	Loss
Math	34	44	15	41
Language Arts	29	66	17	17
Social Studies	28	43	46	11
Health	8	100		
Literature	5	80		20
Science	5	80	20	
Spanish	5	60	40	
Ch. I Reading	2	100		

Grade 8							
	Total	% with	% with	% with			
	Tutored	Gain*	No Change	Loss			
Math	31	65	16	19			
Social Studies	30	60	30	10			
Language Arts	28	57	36	7			
Literature	14	64	22	14			
Science	8	100					
History	2		50	50			
Spanish	1		100				
Health	1		100				
Speech	1	100					

^{*}Gain as reflected in incremental improvement in grades earned in the subject area with tutoring.



Table 5
Summary of Tutoring By Subject for High School Students

Grade 9 % with Total. % with % with Gain* No Change Loss Tutored 27 Algebra English Basic Math Science Biology Health Civics Spanish French Literature

Grade 10						
	Total	% with	% with	% with		
	Tutored	Gain*	No Change	Loss		
English	30	33	47	20		
Algebra	29	28	48	24		
Science	16	44	37	19		
Basic Math	13	39	46	15		
Geometry	11	45	45	10		
Health	7		100			
Topics/Measur.	5	40	40	20		
History	4	50	50			
Chemistry	4	75	25			
Spanish	3	34	33	33		
Civics	3	33	67			
French	1		100			
Literature	1	100				

^{*}Gain as reflected in incremental improvement in grades earned in the subject area with tutoring.

Grade 11

	Total	% with	% with	% with
	Tutored	Gain*	No Change	Loss
History	32	43	38	19
Algebra	25	36	48	16
English	19	42	53	5
Geometry	16	50	25	25
Science	14	43	50	7
Basic Math	13	38	46	16
Chemistry	11	45	45	10
Spanish	7	86	14	
Literature	4		100	
French	3	67	33	
Anatomy	2	50		50
Health	2		50	50
Ch. I Reading	1	100		
Physics	1	100		
Humanities	1			100
Topics/Measure.	1	100		
Astronomy	1			100

Grade 12

	GL	ade 12		
	Total	% with	% with	% with
	Tutored	Gain*	No Change	Loss
English	14	 57	22	21
History	10	80	10	10
Algebra	7	57	14	29
Science	5	60	20	20
Chemistry	4	100		
Geometry	3	67	33	
Anatomy	3	33	33	33
Civics	3	67	33	
Literature	2	50	50	
Basic Math	2	50	50	
Sranish	2	50	50	
business	2	50		50
Humanities	1	100		
Marketing	1			100
German	1		100	
Health	1	100		
Sociology	1	100		
Computer Prog.	1			100

*Gain as reflected in incremental improvement in grades earned in the subject area with tutoring.

Discussion

While the most frequently tutored subjects were mathematics for the middle school students and algebra and English for high school students, the greatest grade improvements were in social studies and Spanish.

The number of students receiving tutoring in middle school math and algebra and data regarding grade improvement led the evaluators to conclude that project personnel may want to consult with the district math curriculum supervisor. In-service training and materials for tutoring algebra may be needed by some tutors. The number of students referred for math tutoring may warrant further data collection regarding the specific math skills tutored.



Objective 3.0: By the end of the 1986-87 school year, 100% of the Native American students referred for tutoring will receive prepost scores on a pupil behavior rating scale and will show a mean group gain of 7.

Measurement

The tutoring progress report used in previous Title IV projects was converted so it could be used pr and post turoring to rate students' performance in the following eight school related behaviors: listening skills, following directions, turning in work on time, participating in class, attendance, attitude toward school, self-concept, and self management. The scale required referring classroom teachers to rate each student's need for improvement in these school related behaviors. Through the use of a three point rating scale that indicated no improvement, some improvement, or a lot of improvement, teachers then reported post-tutoring changes in these areas.

Teachers were also asked, post-tutoring, to rate the overall effectiveness of the tutoring program and to indicate if the student's improvement justified time out of class.

Results

Data from 575 students showed a mean gain of 4.94, slightly more than 2 points lower than the projected mean gain of seven. The elementary students (N=164) had a mean gain of 6.99. Middle school (N=206) and high school students (N=205) had mean gains of 4.12.

The school related behaviors in which all Title IV students demonstrated the most gain were attitudes toward school and following directions. When data for subgroups were reviewed, elementary students did not differ from the larger Title IV group, and showed most improvement in attitudes toward school and following directions. Middle school students, however, showed the greatest improvements in turning in work on time and listening skills. Table 6 summarizes these data.



Table 6

Improvements in School Related Behaviors

	Elementary N=164	Middle School N=206	High School N=205	Total N=575
Listening Skills	.77	.61	.43	.58
Following Directions	.91	.60	.53	.66
Turning in Work	.78	.82	.50	.70
Participating in Class	.89	.52	.50	.62
Attendance	.56	.08	.51	.37
Self Confidence .	.99	.55	.43	.63
Attitude Toward School	1.29	.61	.68	.82
Study Skills	.80	.33	.51	.61
Overall Mean Gain	6.99	4.12	4.12	4.94

Although students did not meet the objective of a seven point mean gain, 75% of the cooperating classroom teachers felt that the improvement demonstrated by the students justified the time students spend in tutoring. Eighty-five percent of the teachers also reported that, in their opinion, the program had been "somewhat" to "very" successful in meeting students' needs. Tables 7 and 8 present teachers' responses to these items.

Table 7

Teacher Responses Regarding Student Improvement Justifying Time Out of Class

	<u>Yes</u>	No	No Response
High School (N=205)	55%	17%	28%
Middle School (N=206)	79%	9%	12%
Elementary (N=164)	95%	3%	2%
Total (N=575)	75%	10%	15%

Table 8

Teacher Responses Regarding Success of the Program in Meeting Students' Needs

	Very	Somewhat	Not At All	No Response
High School (N=205)	22%	52%	17%	9%
Middle School (N=206)	33%	54%	8%	5%
Elementary (N=164)	48%	49%	3%	
Total (N=575)	33%	5 2%	10%	5%



Discussion

Tutors reported that teachers found that compiling pre and post ratings of school-related behaviors was time consuming and a duplication of information usually shared during conferences between teachers and tutors. Further, tutors reported that ratings for some students who did not have difficulties in these areas did not show changes in pre-to-post ratings. However, data collection procedures counted these students as not having made progress.

Project personnel may wish to review the need to rate every student on a set of school-related behaviors and, instead, consider individualized objectives addressing those areas of need for each student.



Objective 4.0: The Title IV-A Parent Committee members will meet at least 3 times during the 1986-87 school year with representatives from the APS Parent Involvement Center to plan and implement activities that will encourage the involvement of more parents of Indian students.

Measurement

Minutes from the Parent Advisory Committee (PAC) meetings and the project coordinator's log of activities were reviewed as data sources in the evaluation of this objective.

Results

The PAC held a total of 17 meetings, three public hearings, and three parent training sessions. Three of these meetings included representatives from APS departments other than Indian Education, and addressed planning and implementation of activities that encouraged more involvement by parents of Indian students.

A summary of PAC meetings and training sessions is presented below.

Parent Training	PAC Meetings Urban and Combined	PAC Meetings Canoncito	Public Hearings
April 2, 1987 May 8, 1987 June 28, 1987	November 17, 1986 December 11, 1986 January 5, 1987 January 12, 1987 January 20, 1987 February 9, 1987 March 3, 1987 April 2, 1987 April 20, 1987 May 11, 1987	October 14, 1986 October 29, 1986 November 11, 1986 January 22, 1987 March 9, 1987 April 23, 1987	November 19, 1986 January 20-22, 1987 June 11, 1987

Discussion

The project coordinator's efforts in promoting parental involvement were reflected in the documentation and in the summation report of the April 9, 1987 audit conducted by a representative of the Department of Education, Indian Education Programs. A review of documentation reveals frequent correspondence with parents, informing them of program implementation and encouraging participation in meetings and training sessions. Efforts to communicate with all parents, through surveys, parent training, and visits to outlying communities such as Canoncito and Isleta, were evident in program documentation.



The audit summation report stated:

The parent committee's organizational structure conforms with the requirements specified in Section 251.20 of the Indian Education Programs' regulations. A teacher and student have been selected to serve on the PAC. The PAC functions in accordance with an approved set of by-laws. The minutes of the parent committee meetings are kept and reflect the committee's involvement in the needs assessment, project design and evaluation, application approval, program and budget revisions, project monitoring, and staff selection.

An excellent working relationship exists between the parent advisory committee, the staff, and school district administrators. Fiscal, performance evaluative reports are discussed and made available to the parent committee.



Summary and Conclusions

The Title IV Part A tutorial program provided serves to 899 eligible Indian students during the 1986-87 school year. The project goal, to improve Indian student's academic functioning, was supported by three student performance objectives and a parent participation objective.

Objective 1

For the elementary and middle school students, tutoring addressed the specific skills identified by the referring teacher. Pre and post skills checklists were developed from APS district curriculum guides and provided the data to measure this component of the program. An average mastery of eight skills was achieved by the combined group of elementary and middle school students in both mathematics and language arts.

Tutors reported difficulties using established checklists to record students' mastery of skills. They further expressed concerns about not having a means to reflect the number of skills that were taught as prerequisites to teaching the skill for which the student was initially referred. Further, tutors noted that students were referred for tutoring in skills from lower grade competency lists as well as skills from their grade-level lists.

These data and tutor reports suggest that some means of enabling tutors to report students' progress toward achieving all skills for which tutoring was provided might better reflect overall project progress. They further suggested that data collected in some manner other than through preestablished skills lists may better assist in planning tutorial activities and more accurately reflect student progress in the project.

Objective 2

Students' grades in subjects in which tutoring was received, converted to a 13 point scale, served as a second measure of tutoring effectiveness. The criterion of an average gain of one point was achieved by the 853 middle and high school students with an average gain of 1.23 points.

From the number of students receiving tutoring in middle school math and in algebra, evaluators concluded that project personnel may want to consult with the district math curriculum supervisor. In-service training and materials for tutoring algebra may be needed by some tutors. Additionally, the number of students referred for math tutoring may warrant further data collection regarding the specific math skills tutored.

Objective 3

Referring classroom teachers were asked to provide pre and post measures of students' progress in eight school related behaviors. A mean gain of seven points on the Tutoring Progress Report was the criterion identified in the proposal. While students showed a mean gain of only 4.94, a majority of teachers reported that they felt student progress justified the time students spent in tutoring and that the program was successful in meeting students' needs.



Tutors reported that these pre and post measures consumed a great deal of teachers' time and were a duplication of information already shared. Further, the collection procedures failed to accurately separate data for students who did not need to improve from those who failed to improve in these school-related behaviors.

Project personnel may wish to review the need to rate every student on ε set of school-related behaviors and instead, consider individualized objectives addressing areas of need for each student.

Objective 4

Parent involvement was the focus of the fourth objective. The project attempted to increase parents' involvement in their student's educational program. Several Parent Advisory Committee meetings were held, six of which were held in the Canoncito community. Three parent training programs aimed at improving Indian parent participation were held. These activities and the excellent working relationship among parents, project staff, and APS administration were cited by the Department of Education, Indian Education Program auditor in his April, 1987 audit.

Overall, the Title IV program was successful in accomplishing two of the three objectives addressing student progress. The objective addressing parent involvement was accomplished and the working relationship between the PAC and project administrators was commended in the Department of Education audit report.