DOCUMENT RESUME

ED 417 362 CG 028 312

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TITLE Pima County Summer Youth Employment Program: Statistical Analysis Report.
INSTITUTION Creative Research Associates, Inc., Tucson, AZ.
PUB DATE 1997-11-00
NOTE 22p.
PUB TYPE Reports - Evaluative (142)
EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS Adolescents; *Dropout Programs; Education Work Relationship; *Educational Objectives; *High Risk Students; High Schools; Program Evaluation; *Summer Programs; *Youth Employment
IDENTIFIERS Arizona (Pima County); Test of Adult Basic Education

ABSTRACT

The Summer Youth Employment Program was designed to give at-risk youth educational opportunities and work experience during the summer. This paper gives an overview of the Program's operation in Pima County (Arizona). Test results are presented for 1,975 youth in the summer of 1996 and for 1,178 youths in 1997. Student progress was evaluated with the Test of Adult Basic Education (TABE). For 1996, the identical TABE was administered to youth in May, before the program began, as a pretest, and in July, at the end of the program, as a posttest. Alternate forms of the TABE were given as pretests and posttests in 1997. Test scores were Grade Equivalent scores. Results show the following: that the youth made significant improvements in reading in most grades in the summers of 1996 and 1997; dropouts and non-dropouts generally showed gains in reading, math, and language for both summer programs; the gains in reading in 1996 were not significantly different from the gains in 1997; the gains in math and language were greater in 1996 than in 1997. It is recommended for future programs that alternative forms of the TABE be used rather than the same test as a pretest and posttest, and that the alternative forms be changed each summer. This way, youth would not become familiar with the test. (Contains 12 tables.) (EMK)

PIMA COUNTY
SUMMER YOUTH EMPLOYMENT PROGRAM

STATISTICAL ANALYSIS REPORT

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NOVEMBER 1997

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EXECUTIVE SUMMARY

The Summer Youth Employment Program was designed to give at-risk youths educational opportunities and work experience during the summer. The present analysis addresses the test results of 1,975 youths in the summer of 1996 and 1,178 youths in the summer of 1997. Student progress was evaluated with the Test of Adult Basic Education (TABE). The identical TABE was administered to youths before the program began as a pretest (May) and at the end of the program as a posttest (July) in the summer of 1996. Alternate forms of the TABE were given as pretests and posttests in the summer of 1997. Therefore, youths were administered tests designed to measure reading, math, and language, but the tests were different. Test scores were Grade Equivalent scores.

- Youths made significant improvement in reading in most grades in the summers of 1996 and 1997.
- Dropouts and non-dropouts generally showed gains in reading, math, and language in the summers of 1996 and 1997.
- The gains in reading in 1996 were not significantly different from the gains in 1997.
- The gains in math and language were greater in 1996 than 1997.

It is recommended for future programs that alternative forms of the TABE be used rather than the same test as a pretest and posttest. This way youths would not become familiar with the test. It is also recommended that the alternative forms be changed each summer so that youths who participate each summer do not become familiar with the tests.

PROJECT DESCRIPTION

The Summer Youth Employment Program (SYEP) was designed to give at-risk youth educational opportunities and work experience in the summer. The program started in 1987 and has traditionally begun sometime in early June, lasting seven weeks. Designed for low-income families, SYEP offers youths work in the public sector, basic education and remedial instruction, and employability skills to discover what it takes to be successful on the job. Because Pima County has traditionally emphasized academic skills in its SYEP program, applicants are pretested and posttested on the Tests of Adult Basic Education (TABE) to determine academic deficiencies. The program incorporates a three-component design of Basic Education (TBE), Work Experience (WEX), or a combination of the two. Pima County Community Services Department subcontracts with community-based organizations to administer and oversee youth employment and training programs. A specific subcontractor determines the type of component under which a participant will work i.e., 100% TBE, 100% WEX, or 50/50% study-work.

The following subcontractors participated in the Summer Youth Employment Program.

1996	1997
Pima County Edge Program	-
SER Jobs for Progress	SER Jobs for Progress
Tucson Urban League	Tucson Urban League
Tucson Youth Development	Tucson Youth Development

Statistics Definitions

N (Number)	The number of subjects within the sample.
M (Mean or Average)	The average of the scores.
SD (Standard Deviation)	The variability of scores in the distribution.
Diff (Difference)	Difference between the pretest and posttest means. This indicates gains or losses from pretest to posttest.
t (t test result)	Used to determine whether or not the differences between two means arose by chance.

p (probability)	Asks the question, 'How likely is it that the differences between these variables were a random event?'
Grade Equivelent	The estimate of the grade level performance of a student.

Training Activities

After the youth's intake and assessment were completed, his or her name was entered into the SYEP applicant pool to be considered for enrollment by an agency. Selection from the pool was based upon each contractor's need to meet contract significant segments, the training activities offered by the agency, and the academic abilities of the youth based upon pretest scores. Those most in need of remediation were targeted towards the basic education programs, while others were targeted towards the work experience and college/world of work awareness programs. Each contractor received cooperation from their groups in the attempt to meet significant segment requirements.

INSTRUMENT

The Pima County Community Services Department has utilized the Tests of Adult Basic Education (TABE) for its SYEP Program every year since 1987. The TABE assesses basic reading, mathematics, and language skills utilizing content and language appropriate for adults. Administrators can choose either the Complete Battery edition for both norm- and curriculum-referenced information, or the Survey edition when time is limited and only norm-referenced information is needed. The Survey form is much shorter, requiring only 71 minutes to administer, and yields Total Reading, Total Math, Total Language, and Total Battery scores. The Survey edition is utilized for SYEP pretesting and posttesting.

TABE literature assures administrators that all items and passages are as free as possible from ethnic and gender bias. The SYEP program utilizes Survey Form 7, which includes the following subtests:

- Reading
- Mathematics Computation
- Applied Mathematics
- Language
- Spelling

Reading

This subtest measures basic reading skills in a variety of life-skill and academic contexts. It includes items that measure both prose and document literacy, such as the ability to read diagrams, maps, charts, tables, forms, and consumer lables. The test measures vocabulary skills as part of the reading process and reports vocabulary as a competency rather than as a separate subtest.

Mathematics

Test contexts include household measuring and cooking, budgeting, comparison shopping, and interpreting data. Applied Mathematics uses real-life documents, such as tax forms.

Language

The Language subtest integrates skills assessment in usage, mechanics, sentence formation, and paragraph development. Most items focus directly on problem areas typically encountered when writing business letters, resumes, job-related reports, or essays for the GED.

Spelling

Spelling receives an isolated focus, since it is often an area of particular difficulty involving a wide range of interrelated language traits -- listening, speaking, reading, and writing. The item format de-emphasizes reading and vocabulary skills and focuses directly on spelling skills.

TABE features four difficulty levels; Easy, Medium, Difficult, and Advanced. The SYEP program utilizes the Difficult level (grades 6.6-8.9) and the Advanced level (grades 8.6-12.9). The number after the decimal represents the school month within that grade i.e., 7.1 is grade 7 in the month of September, 7.9 is grade 7 in the month of May.

A New 1997 Version of the TABE

The Test of Adult Basic Education has proven to be a good instrument over the years, but without yearly change in the test questions, some concern arises due to the youth seeing the same questions twice each summer and the same test over successive years. In 1997, the developer and publisher of the TABE, McGraw-Hill School Publishing Company developed changes in the instrument that features all new items, updated norms, additional levels, integrated content, and computer graphics that reflect today's society.

PARTICIPANTS

In 1996, a total of 1,975 youths were pretested as part of their application process for the Summer Youth Employment Program. Males represented 50.2% of the total number and females represented 49.8%. The rundown of ethnicity is as follows: 21.3% White, 13.8% African American, 58.7% Hispanic, 4.5% Native American and, 1.7% Asian.

In 1997, a total of 1,178 youths were pretested as part of their application process for the Summer Youth Employment Program. Males represented 47.7% of the total number and females represented 52.3%. The rundown of ethnicity is as follows: 18.7% White, 16.0% African American, 61.0% Hispanic, 3.4% Native American and, .9% Asian. Refer to Table 1.

Table 1
Sex and Ethnicity in Summer Youth Programs 1996 and 1997

Demographics	1996		1997		Total	
	Freq.	Percent	Freq.	Percent	Freq.	Percent
Sex						
Male	992	50.2%	562	47.7%	1554	49.3%
Female	983	49.8%	616	52.3%	1599	50.7%
Total	1975	100%	1178	100%	3153	100%
Ethnicity						
White	421	21.3%	220	18.7%	641	20.3%
African American	273	13.8%	189	16.0%	462	14.7%
Hispanic	1159	58.7%	719	61.0%	1878	59.6%
Native American	88	4.5%	39	3.4%	127	4%
Asian	34	1.7%	11	.9%	45	1.4%
Total	1975	100%	1178	100%	3153	100%

PRETEST TO POSTTEST GRADE LEVEL DIFFERENCES 1996

Tables 2 through 5 present the pretest/posttest comparisons for the Summer Youth Educational Program 1996. Youth were pretested and posttested with the same Tests of Adult Basic Education (TABE) Reading and Mathematics Tests. The mean pretest scores and the mean posttest scores were compared using t tests to determine if there were statistically significant changes (gains or losses). TABE tests scores were presented as Grade Equivalent scores.

In the summer of 1996, the same test was administered for both the pretest and posttest. Youth were a little familiar with the test at the time of posttest because they had completed the same items on the prettest. Youth who had been in the program previous summers were a little more familiar with the test because they had completed the same test as a pretest and a posttest for each summer that they were in the program. So one would expect a little familiarity with the test.

On the other hand, youth did not know the answers to the tests. They had taken the test but were never given the correct answers to each test. So one factor in the testing during the summer of 1996 was that some of the youth were familiar with the test at the time of pretesting, and all of the youth were familiar with the test on the posttesting. The degree to which the familiarity with the test might have affected the results of the testing is unknown.

Grade Equivalent Scores. Grade equivalent (GE) scores are derived from the raw scores of the test using information in the norms of the TABE. A GE of 7.1 for an individual would mean that the individual's score represents a level of performance at Grade 7, first month. Usually the first month of school is September. A GE of 7.9 would represent Grade 7, ninth month (May). A seventh grade student during the three months of the summer would have a GE of 8.0 for the three months. GE's assume there is only one month of progress in the summer even though there are three months (June, July, and August).

Youth were pretested in June 1996. If a Grade 6 student were tested in June following completion of Grade 6, their GE would be 7.0 because it is in the summer following Grade 6.

The gains or losses in average Grade Equivalents were computed by subtracting the pretest mean GE from the posttest GE (pretest - posttest). So if there is a gain, then it would appear in the table as a positive difference.

At Grade 12 there were only two individuals pre and posttested. Whenever there is a number of youth less than 20, then the reader should not place much confidence in the statistical comparisons. So, for example, for Grade 12, the two individuals tested did not make a statistically significant gain. But that should not trouble the reader because with such small numbers, one cannot make any clear inferences about the population of Grade 12 youth.

Statistical Significance. Youth test results were compared for each grade using a statistical test called a t test. This test indicated if there was a significant improvement or significant loss from prettest to posttest. The letter "p" in the table means "probability." If the "p" is a number less than .05, then one concludes there was a statistically significant change from pretest to posttest.

Youth in Grades 7 - 10 in 1996 showed significant gains in reading and math from pretest to posttest at each grade level. For example, the 109 youth at Grade 10 increased from an average (or mean) of 8.08 on the pretest to a mean of 9.00 on the posttest. This was a gain of .92 months in Grade Equivalents. Youth were pretested in May and posttested in July. Youth gained .92 GE months in reading over a period of three months (May, June, July). So in three months youth made nine months gain in Grade Equivalents. This is three times the expected gain in Grade Equivalents. See Tables 2 and 3.

Youth in Grades 11 and 12 in 1996 did not make significant gains in reading, but Grade 11 youth did make significant gains in Math.

Grades 7 and 12 in Table 2 and Grades 9 - 11 showed gains of 1.00 or greater that were statistically significant. In Grade Equivalent terms this indicates one year gain in reading or math ability. This was done over the course of three months in the summer.

Table 2
TABE Reading Pretest/Posttest Comparisons 1996

Grades		Pretest		Posttest				
	N	M	SD	M	SD	Diff	t	p
Grade 7	42	6.16	2.34	7.22	2.66	1.06	2.87	.006
Grade 8	178	6.91	2.50	7.80	2.55	.89	5.83	.000
Grade 9	181	7.53	2.30	8.32	2.42	.79	5.15	.000
Grade 10	109	8.08	2.36	9.00	2.25	.92	5.43	.000
Grade 11	40	8.73	2.73	8.91	2.65	.18	.646	.522
Grade 12	2	7.35	1.20	8.40	.282	1.05	1.61	.353

Note. TABE=Tests of Adult Basic Education; N=Number, M=Mean, SD=Standard Deviation, Diff=Difference, t = t test, p = probability.

Table 3
TABE Math Pretest/Posttest Comparisons 1996

Grades		Pretest		Posttest				
	N	M	SD	M	SD	Diff	t	p
Grade 7	42	6.84	1.89	7.39	2.11	.55	2.29	.027
Grade 8	177	6.76	2.00	7.54	2.28	.78	6.04	.000
Grade 9	181	7.50	2.27	8.56	2.50	1.06	6.33	.000
Grade 10	107	8.29	2.71	9.47	2.82	1.18	5.80	.000
Grade 11	39	8.33	2.94	9.53	3.17	1.20	2.96	.005
Grade 12	2	7.60	1.13	12.80	.141	5.20	7.42	.085

Note. TABE=Tests of Adult Basic Education; N=Number, M=Mean, SD=Standard Deviation, Diff=Difference, t = t test, p = probability.

In Tables 4 and 5 youth showed significant gains in Grades 7 to 11 in language and in their Total TABE scores. For example, at Grade 9 in language, youth showed a one year gain (1.03) in Grade Equivalents over the course of three months.

Table 4
TABE Language Pretest/Posttest Comparisons 1996

Grades		Pretest		Posttest				
	N	M	SD	M	SD	Diff	t	p
Grade 7	42	5.29	2.32	6.36	2.71	1.07	2.31	.026
Grade 8	173	6.07	2.84	6.94	2.72	.87	5.03	.000
Grade 9	180	6.28	2.99	7.31	3.16	1.03	5.23	.000
Grade 10	107	6.16	3.09	7.42	3.30	1.26	6.72	.000
Grade 11	39	7.07	3.71	8.26	4.14	1.19	2.34	.024
Grade 12	2	4.25	.777	7.25	1.48	3.00	1.87	.312

Note. TABE=Tests of Adult Basic Education; N=Number, M=Mean, SD=Standard Deviation, Diff=Difference, t = t test, p = probability.

Table 5
TABE Totals Pretest/Posttest Comparisons 1996

Grades		Pretest		Posttest				
	N	M	SD	M	SD	Diff	t	p
Grade 7	42	6.14	1.98	6.97	2.06	.83	3.19	.003
Grade 8	163	6.67	2.26	7.61	2.31	.94	7.53	.000
Grade 9	179	7.13	2.31	8.07	2.49	.94	6.68	.000
Grade 10	108	7.51	2.50	8.58	2.53	1.07	5.84	.000
Grade 11	39	8.08	2.93	8.92	3.13	.84	2.25	.030
Grade 12	2	6.45	.212	8.95	.495	2.50	5.00	.126

Note. TABE=Tests of Adult Basic Education; N=Number, M=Mean, SD=Standard Deviation, Diff=Difference, t = t test, p = probability.

PRETEST TO POSTTEST DROPOUT/NON-DROPOUT DIFFERENCES 1996

In Table 6 dropouts and non-dropouts made significant gains in reading, math, and language. For example, dropouts in reading on the pretest had an average reading GE of 7.77 and a posttest reading GE of 8.90. This was a gain of 1.13 and it was statistically significant. Non-dropouts made a gain from 7.39 on the pretest reading test to a 8.18 on the posttest reading test. This was a gain of .79. **It appeared that dropouts made greater gains in reading, math, and language than did non-dropouts.**

Table 6
TABE Pretest/Posttest Comparisons of Dropouts and Non-Dropouts 1996

TABE		Pretest		Posttest				
	N	M	SD	M	SD	Diff	t	p
Reading								
Dropout	51	7.77	2.41	8.90	2.52	1.13	3.10	.003
Non-Dropout	504	7.39	2.50	8.18	2.52	.79	9.15	.000
Mathematics								
Dropout	50	7.55	2.47	9.04	2.60	1.49	4.91	.000
Non-Dropout	501	7.41	2.37	8.34	2.65	.93	10.2	.000
Language								
Dropout	51	6.63	2.92	8.13	3.66	1.50	3.80	.000
Non-Dropout	495	6.11	3.16	7.11	3.16	1.00	9.12	.000
Total								
Dropout	50	7.65	2.58	8.44	2.64	.79	1.82	.075
Non-Dropout	483	7.00	2.38	7.97	2.50	.97	13.02	.000

Note. TABE=Tests of Adult Basic Education; N=Number, M=Mean, SD=Standard Deviation, Diff=Difference, t = t test, p = probability.

Summer Activity (Education and Work Experience) 1996

Table 11 presents comparisons of youth in the Education Program (TBE) and the Work Experience (WEX) Programs in reading, mathematics, language and total. Youth in both the Education Program (TBE) and the Work Experience Program (WEX) showed significant gains in reading, mathematics, language and total scores.

Table 7
TABE Pretest/Posttest Comparisons by Education and Work Experience 1996

Activity		Pretest		Posttest				
	N	M	SD	M	SD	Diff	t	p
Reading								
TBE	525	7.36	2.48	8.18	2.52	.82	9.35	.000
WEX	29	8.48	2.53	9.30	2.40	.82	9.35	.047
Mathematics								
TBE	521	7.36	2.33	8.36	2.68	1.00	11.30	.000
WEX	29	8.37	2.94	9.13	2.18	.76	1.60	.119
Language								
TBE	516	6.09	2.96	7.15	3.16	1.06	9.74	.000
WEX	29	7.27	3.14	8.13	2.65	.86	1.90	.068
Total								
TBE	503	7.00	2.39	7.96	2.53	.96	11.78	.000
WEX	29	7.94	2.44	8.87	2.00	.93	2.97	.006

Note. TABE=Tests of Adult Basic Education; TBE=Basic Education, WEX=Work Experience; N=Number, M=Mean, SD=Standard Deviation, Diff=Difference, t = t test, p = probability.

PRETEST TO POSTTEST GRADE LEVEL DIFFERENCES 1997

Table 8
TABE Reading Pretest/Posttest Comparisons 1997

Grades		Pretest		Posttest				
	N	M	SD	M	SD	Diff	t	p
Grade 6	3	6.03	2.57	7.47	2.31	1.44	4.11	.054
Grade 7	63	6.82	2.20	7.10	2.06	.28	1.01	.316
Grade 8	173	6.88	2.23	7.76	2.20	.88	5.48	.000
Grade 9	158	6.92	2.07	8.02	2.20	1.10	7.06	.000
Grade 10	76	7.71	2.81	8.34	2.90	.63	2.23	.029
Grade 11	25	8.05	2.52	9.03	2.44	.98	2.79	.010
Grade 12	2	4.55	3.46	5.15	5.72	.60	.375	.772

Note. TABE=Tests of Adult Basic Education; N=Number, M=Mean, SD=Standard Deviation, Diff=Difference, t = t test, p = probability.

Table 9
TABE Math Pretest/Posttest Comparisons 1997

Grades		Pretest		Posttest				
	N	M	SD	M	SD	Diff	t	p
Grade 6	3	5.00	1.28	4.60	2.03	-.40	.399	.728
Grade 7	62	5.96	1.72	6.30	2.04	.34	1.55	.125
Grade 8	173	6.34	2.12	6.94	2.18	.60	4.04	.000
Grade 9	158	6.91	4.73	7.25	2.26	.34	.867	.387
Grade 10	77	6.99	2.50	7.46	2.90	.47	1.84	.069
Grade 11	26	7.41	2.21	7.76	2.88	.35	.823	.418
Grade 12	2	4.50	1.41	7.60	1.70	3.10	1.40	.393

Note. TABE=Tests of Adult Basic Education; N=Number, M=Mean, SD=Standard Deviation, Diff=Difference, t = t test, p = probability.

Table 10
TABE Language Pretest/Posttest Comparisons 1997

Grades		Pretest		Posttest				
	N	M	SD	M	SD	Diff	t	p
Grade 6	3	4.93	3.18	4.27	1.40	-.66	.487	.674
Grade 7	63	5.20	2.89	5.77	3.21	.57	1.39	.169
Grade 8	172	6.08	2.84	6.51	2.82	.43	2.19	.030
Grade 9	159	6.34	3.03	6.62	2.92	.28	1.20	.230
Grade 10	77	6.78	3.29	7.29	3.37	.51	1.26	.211
Grade 11	26	7.33	3.43	8.44	3.05	1.11	1.68	.105
Grade 12	2	4.70	2.40	5.70	1.13	1.00	.400	.758

Note. TABE=Tests of Adult Basic Education; N=Number, M=Mean, SD=Standard Deviation, Diff=Difference, t = t test, p = probability.

Table 11
TABE Totals Pretest/Posttest Comparisons 1997

Grades		Pretest		Posttest				
	N	M	SD	M	SD	Diff	t	p
Grade 6	4	4.58	2.18	4.58	2.07	.00	.000	1.00
Grade 7	62	6.04	2.36	6.43	2.48	.39	1.59	.116
Grade 8	172	6.73	2.88	7.28	2.55	.55	3.45	.001
Grade 9	159	6.92	2.81	7.54	2.63	.62	3.65	.000
Grade 10	77	7.32	3.01	7.67	2.96	.35	1.11	.267
Grade 11	26	7.69	2.68	8.18	2.73	.49	1.41	.170
Grade 12	2	4.55	2.19	5.15	1.77	.60	2.00	.295

Note. TABE=Tests of Adult Basic Education; N=Number, M=Mean, SD=Standard Deviation, Diff=Difference, t = t test, p = probability.

PRETEST TO POSTTEST DROPOUT/NON-DROPOUT DIFFERENCES 1997

Table 12
TABE Pretest/Posttest Comparisons of Dropouts and Non-Dropouts 1997

TABE		Pretest		Posttest				
	N	M	SD	M	SD	Diff	t	p
Reading								
Dropout	25	5.96	2.43	6.78	2.49	.82	2.13	.044
Non-Dropout	484	7.11	2.30	7.96	2.35	.85	8.72	.000
Mathematics								
Dropout	26	5.24	2.33	5.82	2.39	.58	1.80	.083
Non-Dropout	484	6.69	3.22	7.13	2.35	.44	3.01	.003
Language								
Dropout	26	4.78	3.13	5.00	2.83	.22	.625	.538
Non-Dropout	484	6.27	3.02	6.73	3.03	.46	3.34	.001
Total								
Dropout	26	5.53	2.97	5.66	2.45	.13	.429	.671
Non-Dropout	485	6.87	2.80	7.42	2.65	.55	5.47	.000

Note. TABE=Tests of Adult Basic Education; N=Number, M=Mean, SD=Standard Deviation, Diff=Difference, t = t test, p = probability.

Summer Activity (Education and Work Experience) 1997

Table 13
TABE Pretest/Posttest Comparisons by Education and Work Experience 1997

Activity		Pretest		Posttest				
	N	M	SD	M	SD	Diff	t	p
Reading								
TBE	371	6.93	2.22	7.85	2.30	.92	8.48	.000
WEX	138	7.39	2.56	8.02	2.55	.63	3.40	.001
Mathematics								
TBE	371	6.57	3.46	6.98	2.19	.41	2.25	.025
WEX	139	6.72	2.37	7.27	2.78	.55	3.26	.001
Language								
TBE	371	6.03	2.98	6.58	2.87	.55	3.77	.000
WEX	139	6.64	3.15	6.82	3.46	.18	.634	.527
Total								
TBE	372	6.63	2.71	7.26	2.52	.63	5.57	.000
WEX	139	7.27	3.07	7.52	3.01	.25	1.36	.17

Note. TABE= Tests of Adult Basic Education, WEX=Work Experience; N=Number, M=Mean, SD=Standard Deviation, Diff=Difference, t = t test, p = probability.

COMPARING GAINS OF SUMMER 1996 AND 1997

All of the youth who were pretested in reading, math, language, and total scores in 1996 were compared with the youth who were pretested in reading, math, language, and total scores in 1997. The gains of 1996 were from pretest to posttest with identical tests. The gains of 1997 were done with newly developed forms of the TABE test. The newly developed forms of the test are supposed to measure the same variable (reading, math, language) but with different items.

Table 30 presents the comparisons of 1996 and 1997 gains. For example, in reading the gain of .82 achieved in 1996 and the gain of .83 achieved in 1997 with each other, those two gains were compared to determine if they were significantly different. The results show there was no significant difference between those gains. That means that the gain from pretest to posttest in reading (i.e. .82) in the summer of 1996 was not significantly different from the pretest to posttest gain in reading (i.e. .83) in the summer of 1997.

In mathematics, the gains made by the youth in 1996 of .97 was significantly greater than the gain of the youth in 1997 of .45. Likewise, the gain in language by youth in the summer of 1996 of 1.05 was significantly greater than the gain of .45 in the summer of 1997. Also, the gain in the summer of 1996 in total scores of .95 was significantly greater than the gain of .53 in the summer of 1997.

Youth did not show gains as great in 1997 as in 1996. This might be due to a new test that was utilized in 1997 for both pretest and posttest, including new questions. The test also appeared to be more difficult to the Pima County Community Services staff, particularly the mathematics component.

Table 14
TABE Pretest/Posttest Comparisons by Years 1996 and 1997

Year	Pretest			Posttest				
	N	M	SD	M	SD	Diff	t	p
Reading								
1996	554	7.42	2.49	8.24	2.52	.82	.18	.861
1997	509	7.06	2.32	7.89	2.36	.83		
Mathematics								
1996	550	7.42	2.37	8.39	2.66	.97	3.29	.001
1997	510	6.61	3.19	7.06	2.36	.45		
Language								
1996	545	6.15	2.98	7.20	3.14	1.05	3.60	.000
1997	510	6.19	3.04	6.64	3.04	.45		
Total								
1996	532	7.06	2.39	8.01	2.51	.95	3.50	.000
1997	511	6.80	2.82	7.33	2.67	.53		

Note. The mean difference scores of the 1996 and 1997 groups were compared with independent samples t-tests. N=Number, M=Mean, SD=Standard Deviation, Diff=Difference, t = t test, p = probability.

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Publication Date: November 1997

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