DOCUMENT RESUME

ED 319 860 UD 027 473

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TITLE Summer Academic Skills Enhancement Program. Final Evaluation Report.
INSTITUTION Columbus Public Schools, OH. Dept. of Evaluation Services.
PUB DATE 89
NOTE 37p.
PUB TYPE Reports - Evaluative/Feasibility (142)

EDRS PRICE MF01/PC02 Plus Postage.
DESCRIPTORS *Basic Skills; Education Work Relationship; Federal Programs; High Schools; *High School Students; Job Skills; *Job Training; Pretests Posttests; Program Evaluation; *Remedial Programs; *Summer Programs; Urban Schools
IDENTIFIERS *Columbus Public Schools OH; *Job Training Partnership Act 1982

ABSTRACT

This evaluation of a summer remedial education program found that a substantial number of clients demonstrated criterion-assessed growth. The 1989 Summer Academic Skills Achievement Program was funded by the Private Industry Council (PIC) of Franklin County (Ohio) through the Job Training Partnership Act (JTPA) to provide JTPA clients from Columbus high schools with the reading comprehension, language mechanics, and mathematics computation skills needed for entry-level employment. The 146.4-curriculum hour program also included job readiness skills. The Comprehensive Tests of Basic Skills (CBTS) and an employment skills test were used as a pretests and posttests. Analysis of test scores and student demographic data yielded the following major findings: (1) on average, a client who attended the entire program increased the number of instructional objectives mastered by 25 percent; (2) overall, 58 percent of the clients demonstrated a gain of at least one grade level in at least one of the three curricular areas; (3) of the 117 participants, 75 percent were Black, 15 percent were White, 7 percent were Asian, and three clients had Spanish surnames; (4) 72 percent of the participants attended at least 34 of the 39 days of the remediation program; and (5) about 30.5 percent of the participants achieved the target employment test skills. The program did not include a control group for comparison purposes but relied on the pretest-posttest measures on the treatment group only. Statistical data are included on 18 tables. (FMW)

Private Industry Council of Franklin County
Job Training Partnership Act

FINAL EVALUATION REPORT
SUMMER ACADEMIC SKILLS ENHANCEMENT PROGRAM
1989

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ABSTRACT

Program Description: The Summer Academic Skills Achievement Program was funded by the Private Industry Council (PIC) of Franklin County through the Job Training Partnership Act (JTPA). The purpose of the program was to provide JTPA clients with the (a) reading comprehension, (b) language mechanics, and (c) mathematics computation skills required for employment into entry-level positions. A total of 146.4 curriculum hours were used toward this end.

Three selection criteria were used to define program eligibility: (a) JTPA eligible and PIC referred; (b) enrolled in a Columbus high school; and (c) demonstrated skill deficiency in reading, language, or mathematics. Clients accepted into the program used the Houghton-Mifflin New Directions in Reading curriculum, the Houghton-Mifflin "whole language" grammar and composition series, and the same publisher's mathematics curriculum Individualized Computational Skills Program and Essentials for High School Mathematics.

The 1989 program consisted of two segments: testing (April-June) and remediation (June 19 - August 11). Performance objectives were stated for each of the three remediation foci: reading comprehension, language mechanics, and mathematics computation.

In addition to the three academic curricula addressed, pre-employment skills also were taught to clients. Using the MPC Educational Publishers' booklet Job Seeker's Guide, these skills were stressed as an integral part of each academic curriculum; i.e., employment skills instruction took place at scheduled times each week, where the instructional topic for the week was mandatory.

Evaluation Questions:

1. Are there changes from pretest to posttest in the number of clients who exhibit mastery, partial mastery, or non-mastery of the objectives measured by the CTBS?

2. What are the distributions of changes in grade equivalents and normal curve equivalents in reading comprehension, language mechanics, and mathematics computation from pretest to posttest?

3. What are the demographic characteristics and attendance rates of clients?

Major Findings: On average, a client who attended the 1989 Summer Program increased the number of instructional objectives mastered (posttest-pretest) by 25%. On pretesting of the 16 objectives, the average number mastered was 22%. After treatment and posttesting, the average was 47% mastery. Thus, over the

eight-week remediation interval, clients' mastery of the 16 instructional objectives increased from less than four to nearly eight. A total 308 pretest scores were analyzed. The average reading comprehension grade equivalent for this group was 6.4. The average language mechanics grade equivalent was 5.6. The average mathematics computation grade equivalent was 6.8. Following remediation, grade equivalent values observed were reading comprehension 6.6 (+0.2), language mechanics 6.2 (+0.6), and mathematics computation 7.0 (+0.2). A total of 127 posttest scores were evaluated.

Further analysis of pretest-posttest change was conducted to assess clients with both test scores. Under the criterion of at least a gain of 1.0 grade equivalent in at least one of the three areas of interest, it was shown that 29.4% met the criterion for reading comprehension; 32.8% met the criterion for language mechanics; and 16.8% met the criterion for mathematics comprehension. Overall, 58.0% of the 119 clients with paired test scores met the criterion for at least one area tested.

Client demographic data reported for 117 participants and showed almost 50% male/female. Seventy-five percent of these 117 participants were black, 15% white, and 7% were Asian. Three clients with Spanish surnames participated. The 1989 summer program included 39 "remediation" days. Seventy-two percent (84) of the 117 demographic records analyzed reported attendance of at least 34 days.

A fourth evaluation criterion related to Employment Skills was derived during the program timeline: clients will have a raw score of at least 38 (75%) on the Employment Skills posttest. A total of 118 clients had paired pretest-posttest scores. The average pretest score for this group was 25.6 and the average posttest score was 33.3; the median posttest score was 34. By definition, no client could be in the program with a pretest score of 38 or greater. Thus, about 30.5% (N=36) of the 118 testable clients moved into the score range which indicated the criterion had been reached.

Summary/Recommendations

Substantial numbers of clients demonstrated criterion-assessed growth during the remediation phase of the 1989 summer program. This growth was observed for the three academic areas and for Employment Skills as well. On balance, the program appears to have made considerable progress toward its stated objectives.

The 1989 summer program did not include a control group for comparison purposes. Rather, the program attempted to transmit significant instructional material within a relatively short timeframe, relying on pretest-posttest measures on the treatment group only. Under the assumption that a similar "control" would be unlikely to demonstrate any growth during the same timeframe, the summer 1989 treatment group did improve with respect to all four areas evaluated.

Private Industry Council of Franklin County
Job Training Partnership Act

FINAL EVALUATION REPORT
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1989

Program Description

The 1989 Summer Program consisted of two distinct phases: testing and remediation. The testing phase was designed to produce eligible clients for the program; remediation strategies were adopted to maximize the potential for improving client's content mastery in three instructional areas: (a) reading comprehension (six objectives); (b) language mechanics (five objectives); and (c) mathematics computation (five objectives). The proposed Description of Services statement summarized these two phases as "Diagnostic Testing" and "Remedial Academic Training." Underlying the remediation phase was a singular goal: provide JTPA clients with the academic skills necessary for "employment into entry level positions."

Referral and Selection

The target group for this program was defined as "All economically disadvantaged JTPA eligible clients who have an interest in Basic Skills/ remedial skills training."

Three criteria were used to establish client eligibility:

1. JTPA-eligible and PIC referred;
2. enrolled in a Columbus high school; and
3. demonstrated skill deficiency in reading, language, or mathematics.

The selection process was initiated by a referral from the Private Industry Council (PIC). Referrals were tested and the Columbus Public Schools' Department of Community Education notified PIC regarding candidates who would become program clients and who would not, subject to measurements per criterion three.

A maximum of 750 PIC-identified youth were to be pretested. Of these, a maximum of 250 PIC-referred youth were to be selected to attend the eight-week remediation phase beginning in mid-June. The remediation phase was conducted at the North Education Center and emphasized prescriptive/individualized instructional strategies and materials.

Recruitment Methods: The Private Industry Council supplied (by way of the PIC-10 referral form) the Department of Community Education with the names of 750 eligible youth who were chosen or self-identified for participation in the Summer Academic Skills Enhancement Program ("Fast Track"). In April, the Department administered a CTBS battery to those 750 youth. Two hundred twenty-five youth whose scores showed deficiency ($\geq$ 2 years) in reading or language or mathematics were selected for the "Fast Track" program. The department also assisted PIC officials with orientation and enrollment.

Testing

Commencing April 18, 1989, the Department of Community Education administered the Comprehensive Tests of Basic Skills (CTBS;1981), Form U, Level H reading comprehension, language mechanics, and mathematics computation subtests to 750 PIC-identified youth. The principal assessment activity for students enrolled in the Columbus City School District took place at students' home schools. For youth living outside the Columbus City School District or for youth referred after the testing period was closed, testing was administered by PIC personnel at a site designated by PIC management. The Department of Community Education supplied PIC staff with the test instruments and answer sheets.

The Department of Program Evaluation of the Columbus Public Schools scored completed tests and produced individual diagnostic reports and system summaries. All scores were norm-referenced. The Columbus evaluators used the TESTMATE microcomputer software system to scan, score, and report norm-referenced data.

The Department of Community Education, in concert with the Department of Program Evaluation selected Form U, Level H of the Comprehensive Tests of Basic Skills (third edition) as the most appropriate level of difficulty for the identified client group. The CTBS is a norm-referenced achievement test, the content categories of which were defined by examining current state and district curriculum guides, published texts and instructional programs, and criterion-referenced assessment instruments. Columbus evaluation professionals selected the reading comprehension, language mechanics, and mathematics computation subtests for administration to clients. Total time for actual testing was 93 minutes; test administration protocols added approximately 35 minutes to the testing session.

Reading. At the lowest levels, the reading comprehension test measures visual and sound recognition of letters, words, vowels, and consonants. Items measuring comprehension skills are related to sentences and stories. Reading comprehension items measure skills in understanding sentence meaning, passage details, character analysis, main ideas, generalization, written forms, and author techniques.

Language Mechanics. These items measure the student's ability to identify the correct use of capital letters, periods, commas, exclamation points, question marks, quotation marks, colons, semicolons in sentences and in extended passages.

Mathematics. The mathematics computation items measure the operations of addition, subtraction, multiplication, and division of decimals. Also, integers are covered.

Testing Methodology Used. The tests' designers used a three-parameter Item Response Theory to scale the CTBS and to develop norms. Application of IRT methodology provides a number of direct benefits to the user of CTBS U, including more accurate descriptions of client performance. Consultants from the educational community, represented by native American, Asian, Hispanic, and Black ethnic and cultural groups, reviewed all items for possible racial, ethnic, and gender bias. Consequently, the standardized instruments do not contain items that appeared statistically biased in item tryouts. In the standardization, the sample reflects ethnic minorities as they are represented in the general population.

Remediation

Two hundred twenty-five PIC-referred youth attended an eight-week summer prescriptive and individualized instructional program at the North Education Center as part of the Summer Youth Employment Training Program operated by the Private Industry Council. The instructional phase of the remedial program took place from June 19, 1989, until August 11, 1989. Those clients who successfully completed course work were eligible to receive 0.5 unit of academic credit for reading, 0.5 unit of academic credit for language arts, or 0.5 unit of academic credit for mathematics computation.

Clients attended daily classes in reading comprehension, language arts, and mathematics computation. Client instructional hours began at 8:10 a.m. and concluded at 11:50 a.m. Monday through Friday. (All training was delivered by instructors certificated by the State of Ohio.)

At the conclusion of the summer instructional phase, staff administered the CTBS (UH) to treatment clients. The Department of Program Evaluation analyzed data with appropriate statistical tests to determine whether the summer remedial treatment was effective in improving clients' basic academic skills.

The Department of Community Education chose instructional materials based on research findings that have correlated student learning with patterns of curriculum organization. Specifically, researchers discovered that highly structured instructional formats are most effective when working on basic skills competencies with lower achieving students. The following curricula were designed to achieve maximum mastery over a short time through rigorous instructional organization:

Reading Comprehension. The curriculum employed was Houghton-Mifflin's New Directions in Reading program, which has been designed as a reading comprehension achievement series for high school students who have not yet mastered reading comprehension skills. The three-part instructional plan consists of (a) preparation in vocabulary building, (b) enhancement of comprehension skills through guided reading, and (c) review and extension exercises to verify comprehension and provide skills reinforcement through immediate practice. The comprehension domain is the central focus of each instructional unit, and the curriculum stresses 10 comprehension skills: understanding punctuation, understanding word referents, using context to reveal word meanings, and to understand figurative language, noting important details, understanding sequence of events, recognizing the main idea of paragraphs, making inferences and drawing conclusions or predicting outcomes, understanding cause-effect relationships, understanding comparisons, and distinguishing between fact and opinion. In addition to quizzes for individual lessons, instructors administered both mid-level and end-of-level testing.

Language Mechanics. The language curriculum used Houghton-Mifflin's "whole language" grammar and composition series. This curriculum integrates grammar with reading and writing skills. Grammar units begin with the presentation of the basic lesson, and from that base they progress to vocabulary building activities. These activities are capped by exercises that assist students to make the crucial grammar-writing connection. Students then move to "checkup" activities that assess mastery levels attained. A cumulative review follows, which in turn is supplemented by enrichment work or differentiated additional practice (easy, average, or challenging). Reading and writing units commence with literature selections and are followed by activities that give students

practice in using the three modalities of literature response: listening, speaking, and thinking (inferring/drawing conclusions). Composition skills are taught through the five-step writing process: pre-writing, drafting, revising, proofreading, and publishing (final drafting). Students master spelling skills using Houghton-Mifflin's spelling program, which supports a complete testing program in standardized test format.

Mathematics Computation. The Department of Community Education incorporated a remedial mathematics program and a pre-employment program that students may take as an alternative to reading or to language arts (but not to both subjects). The mathematics computation curriculum, Houghton-Mifflin's Individualized Computational Skills Program, is divided into 13 skill areas, called "strands," and 135 skills. These skills cover computational skills from the primary level through grade 12. Skills inventories pinpoint skills with which a student should begin, and teaching model cards provide an up-to-date and continuous record of student mastery. Clients receive cumulative reviews at the conclusion of each lesson. The mathematics component also used Houghton Mifflin's Essentials for High School Mathematics to teach clients (a) problem solving strategies with real-world applications, (b) estimating techniques, (c) mental-math tips, and (d) electronic calculator applications to paper-and-pencil math problem solutions.

Employment Skills

The Department of Community Education also addressed the issue of improving clients' employment potential. Because many clients do not have the non-academic basic skills essential if one is to secure a position, instruction in this important area was added to the 1989 Summer Program. The Job Seeker's Guide curriculum by MPC Educational Publishers was used. To be eligible for this program a client pretest score of less than 38 was required.

Employment skills were taught as an integral part of all three academic curricula: (a) reading comprehension, (b) language mechanics, (c) mathematics computation. So, no matter which particular academic curriculum a client entered, employment skills also were emphasized. The objective was to improve job readiness of clients by improving pre-employment skills. A segment of instructional time in each class was alloted each week during which the instructor covered a specific employment-skills topic. These topics were covered during the remediation phase of the program:

1. Determining Your Strengths
2. Professional Development and Your Personal Qualities
3. Begin Your Job Search
4. Your Social Security Card and Other Preparation
5. Locating Job Possibilities
6. How to Prepare Resumes and Application Forms
7. Telephoning for an Interview
8. Understanding Application Forms and Dealing with Problems
9. Filling out Application Forms
10. Planning a Successful Interview
11. Job Applicant Rating Form
12. Performance and Success on the Job

Evaluation Design

Pretesting of program candidates was used to discern skills deficiencies and to constitute the final of three eligibility tests. Candidates who became program clients were then guided through the remediation phase as described above. Clients who completed the eight-week instructional program were then posttested to reveal pre/posttest change with respect to reading comprehension, language mechanics, and mathematics computation observed scores.

Assessment of observed-score change was intended to be related to Pupil Census Form data (PCF; pupil demographic/attendance data). Because student ID numbers were not reported on PCF sheets, the demographic/attendance analyses remained separate from achievement and employment skills analyses.

Three evaluation criteria were stated to guide the assessment process:

1. Are there changes from pretest to posttest in the number of clients who exhibit mastery, partial mastery, and non-mastery of the objectives measured by the CTBS?

2. What are the distributions of changes in grade equivalents and normal curve equivalents in reading comprehension, language mechanics, and mathematics computation of clients from pretest to posttest?

3. What are the demographic characteristics and attendance rates of clients?

Criteria 1 and 2 were to be evaluated for clients attending at least 80% of the instructional sessions. It was not possible to implement this condition with certainty; analyses were conducted on all pre/posttest clients (clients who took both exams). Data reported for either pre/posttest for both achievement (CTBS measurements) and employment skills as individual assessments include all clients from whom data were obtained.

The selection process resulted in 308 usable pretest forms (CTBS). Of these clients enrolled at the beginning of the remediation phase, 127 usable posttest forms (CTBS) were received by the Department of Program Evaluation. One hundred and seventy Employment Skills pretest forms and 125 posttest forms were received. Demographic/attendance data (PCF) were obtained for 117 clients.

Due to: (a) difficulties in matching pre-posttested data by student ID, (b) ambiguous directions with respect to the evaluation criteria, (c) the belief that equally meaningful analysis strategies were available, the intent of each evaluation question was retained but the methodology and reported values differ slightly from the original statements.

Program data from clients were converted into data files using TESTMATE. SPSS/PC+ was used to complete analysis of these data files. All data-related activities were completed using an IBM PS/2 Model 80 and attached peripheral devices at the Department of Program Evaluation.

Major Findings

Achievement Testing Results (CTBS)

Evaluation Question: (revised)

> Are there positive changes from pretest to posttest in the percents of instructional objectives mastered by clients?

Table 1 displays the results from evaluation of CTBS pre/posttest scores at the instructional objective level. From Table 1 it is evident that substantial improvements were realized within each Content Area. For example, the Content Area Mathematics Computation improved from 14% of objectives mastered to 42% on the posttest, a change of 28 units; i.e., from about one-fourth to one-half of all objectives mastered by all pairs of client values. If all students master an objective the value would be 100%. Taken as a whole, change for the total test is 25 units. All change values are positive, the least being 16% and the greatest being 34%. Given that there probably are some clients reported herein who did not attend sessions 80% of the time, and given that this instructional program is beneficial to students, had it been possible to report data for only those meeting this criterion, it follows that "change" would be greater.

The lowest percent mastery observed was "divide decimals or fractions." At 3%, in the posttest group of 127 there could have been as few as three or four clients who demonstrated mastery at the time pretesting was done. Note that there is no assurance that all members of the 3% group continued as clients for the program's duration. If, in fact, none of the 3% group was evaluated at posttest time, "change" is greater than reported. Thus, because the 3% group represents optimal change potential, change values reported in Table 1 represent minimum change.

At posttest time 33% of 127 observations demonstrated mastery of the same instructional objective. Converting numerically produces a value of about 41. Therefore, to suggest that about 37-38 clients achieved mastery where none existed previously is not unreasonable. Similar derivations can be justified for each instructional objective displayed in Table 1.

Evaluation Question: (revised)

> What are the distributions of changes in grade equivalents in Reading Comprehension, Language Mechanics, and Mathematics Computation from pretest to posttest?

Tables 2-7 have been prepared to display pre/posttest distributions of grade-equivalent (GE) scores by clients. Summary statistics have been added to present measures of central tendency and variability. These statistics can be used to make pre/posttest comparisons. Again, 308 clients are reported on pretest tables; 127 clients are reported on posttest tables. "Valid Cases" equals the appropriate total minus the number of "Missing Cases."

Although in each of the three Content Areas the reported mean increases from pretest to posttest, these six tables are not sufficiently graphic to reveal the "change-distribution" of interest. To do so requires pairing

clients' pre/post test values and adding another dimension to the strategy; to facilitate comparison, a new evaluation criterion was stated:

> Client will show an advancement of at least one grade equivalent (GE) on at least one subtest.

Thus, computer analyses were repeated for clients with paired test values; at least one of the three possible pairs (reading comprehension, language mechanics, and mathematics computation). Frequency distributions for pre/posttest data are displayed as Tables 8-13. A total of 119 clients are included in this sub-analysis of GE change. Therefore, of the 127 clients who completed a posttest, 119 (94%) met the criterion (one observable pair). Note that mean-value changes pre/posttest are greater than observed in Tables 2-7.

Then, the second factor was introduced: of the 119 possible, how many demonstrated a gain of at least one GE, pre/posttest? An analysis was added to produce Table 14, a concise summary of clients who reached criterion. Rows in this table represent individual clients. Identifying variables have been removed to insure client anonymity.

From Table 14 it is apparent that a total of 69 clients (58% of 119) met the criterion (Observe the "CTBS CRITERION" column where a "1" indicates a gain of at least one GE on at least one Content Area). Note that a total of 94 "criterion met" observations were from 69 clients, or about 1.4 per client in the group of 69. The three columns labeled "_ _ CRIT" to the left of "CTBS CRIT" display these cases ("1" = criterion met).

The columns labeled "change" offer some interesting comparisons. Clearly, not all clients who had the pre/posttest pairs required made positive changes in terms of GE values. Numerous instances of negative change may be isolated. Definitive explanation of this observation is beyond the scope of this report. Last, it is informative to note that--on balance--about 50% of all 119 clients in this group did "gain" from their experience, where gain is defined as posttest-pretest>0.

Demographics/Attendance

Evaluation Question:

> What are the demographic characteristics and attendance rates of clients?

Demographic/Attendance data were provided on standard Pupil Census Forms (PCF) to the Department of Program Evaluation by the Summer Program Coordinator. Student numbers were not included. Four variables were reported: sex (male, female); race (white, black, Spanish surname, Asian, American Indian); and total days of program enrollment/attendance. A total of 117 forms were received and analyzed. Fifty-eight male and 59 female clients were included. Race/Ethnic groups represented were (a) white (N=18, 15.4%), (b) Black (88, 75.2%), (c) Spanish surname (3, 2.6%), and (d) Asian (8, 6.8%). No American Indians were identified. All clients were enrolled for 39 days of instruction. Days of attendance varied from a low of 29 to the maximum possible. Mean days of attendance was 35.5, with a standard deviation of 3.2 days. Seventy-two percent (84) of the clients in this group attended at least 34 days of instruction.

Because all non-black groups were quite small in number, client data were recoded--ethnically--into Black (N=88) or non-black (N=29) for subsequent analyses of the sex and ethnic variables. Chi-square tests of independence failed to reject the null hypotheses in each instance; attendance was found unrelated to either sex or ethnic group membership.

Employment Skills

A new evaluation criterion was introduced for evaluation of this aspect of the 1989 Summer Program:

> Client will have a posttest raw score (RS) of 38 or more on the employment skills test.

Clients were pretested and posttested using the Pre-Employment/Work Maturity Skills instrument. Clients scoring 38 or greater on the pretest were excluded from the instructional program. A total of 170 pretests were scored and only one client with a raw score of 38 was dropped.

Of the remaining 169, 125 posttest scores were obtained for analysis. Table 15 displays the posttest frequency distribution and related statistics. On posttest, about 29% of these clients met the criterion ($RS \geq 38$).

Pre/posttest change was of interest, so pairs were isolated for analysis. Tables 16-17 display raw score frequencies for pre/posttests. Pairs were obtained for 118 clients. Of these, 36 (30.5%) clients met the criterion ($RS \geq 38$ on posttest). Therefore, of the 118 Employment Skills pre/post pairs analyzed, slightly more than 30% scored 38 or greater on the posttest. Posttest scores varied from a low of 11 to a maximum of 50 (all correct answers). In terms of mean values, on average scores increased from 26 to 33, a change of seven units. Table 18 is a summary of change evaluation on the Employment Skills Test. Summary statistics are presented at the conclusion of the table. Again, client-identification data have been removed to insure anonymity.

In addition to the analysis reported above, this consultant to the program also prepared computer software with which to produce individual client reports. In cooperation with the Summer Program Coordinator, agreement was reached regarding report formats. This agreement focused on single-page formats suitable for insertion into clients' folders. Two such pages were generated for each client tested: a CTBS report and an Employment Skills report. These sets of reports were delivered to the Summer Program Coordinator.

Summary/Recommendations

Analyses of 1989 summer program data produced statistics suggesting a positive impact by the program. Clients retained for the full 39 day enrollment interval (valid pre/posttest pairs) demonstrated--as a group--positive change regarding each evaluation criterion. Whether academic achievement was phrased in terms of objectives mastered or grade-equivalent change, the result was positive. Of course, observing individuals in this regard produces exceptions, clients whose posttest values were actually less than pretest values. Such an observation should not be unexpected; rather, attention should focus on the group, where positive change is evident.

A similar observation can be made for the Employment Skills program. Over 30% of all students with pre/posttest scores met the 75% correct criterion on posttesting. One student got all 50 answers correct, a gain of 18 units from this client's pretest score.

The fact that demographic data could not be related with achievement and skills data remains a concern. It is recommended that future summer programs be implemented with a thoughtful, feasible plan for assigning a unique student number to each client accepted into the program. While considerable numbers of pretested clients may well leave the program prior to posttesting, it should be possible to maintain the quality of identifying information required for assessing dependent variables with respect to demographic data.

Reference

CTB/McGraw-Hill Staffwriters. Comprehensive Tests of Basis Skills. Monterey, California: CTB/McGraw-Hill, 1981.

Table 1

Percent of Objectives Mastered
CTBS Form U, Level H
1989 Summer Program

Content Area	Test/Objective	Percent Mastered Pretest	Posttest	Change
Reading	Comprehension			
	Passage Details	26	53	27
	Character Analysis	36	55	19
	Main Idea	43	62	19
	Generalizations	46	62	16
	Written Forms	16	45	29
	Writing Techniques	24	48	24
	Subtest Average	32	53	21
Language	Mechanics			
	Pronoun/Noun/Adjectives	30	53	23
	Beginning Words/Titles	19	39	20
	Period/Question Mark	11	45	34
	Exclamation Point/Comma			
	Quotation Marks	26	52	26
	Editing Skills	16	49	33
	Subtest Average	21	47	26
Mathematics	Computation			
	Adds Decimals or Fractions	19	46	27
	Subtracts Decimals or Fractions	19	49	30
	Multiply Decimals or Fractions	12	37	25
	Divide Decimals or Fractions	3	33	30
	Integers	16	37	21
	Subtest Average	14	42	28
	Total Test Average =	22	47	25
	N =	367	127	

Table 2

Pretest Reading Comprehension
Grade-Equivalent Distribution
1989 Summer Program

G.E. Value	Frequency	Percent	Cumulative Percent
4.0	61	19.8	20.3
4.3	14	4.5	25.0
4.6	18	5.8	31.0
4.7	10	3.2	34.3
4.9	6	1.9	36.3
5.0	14	4.5	41.0
5.2	5	1.6	42.7
5.3	6	1.9	44.7
5.4	11	3.6	48.3
5.6	5	1.6	50.0
5.7	5	1.6	51.7
5.8	8	2.6	54.3
6.0	7	2.3	56.7
6.2	9	2.9	59.7
6.5	5	1.6	61.3
6.9	10	3.2	64.7
7.3	9	2.9	67.7
7.7	11	3.6	71.3
8.1	10	3.2	74.7
8.3	9	2.9	77.7
8.5	10	3.2	81.0
8.7	7	2.3	83.3
8.9	5	1.6	85.0
9.1	8	2.6	87.7
9.3	7	2.3	90.0
9.6	9	2.9	93.0
9.9	2	.6	93.7
10.5	5	1.6	95.3
12.2	7	2.3	97.7
12.9	7	2.3	100.0
Missing	8	2.6	
Total	308	100.0	

Mean	6.405			Median	5.650
Mode	4.000	Std Dev	2.333	Variance	5.445
Maximum	12.900	Range	8.900	Minimum	4.000

Valid Cases 300 Missing Cases 8

Table 3

Posttest Reading Comprehension
Grade-Equivalent Distribution
1989 Summer Program

G.E. Value	Frequency	Percent	Cumulative Percent
4.0	26	20.5	20.5
4.3	6	4.7	25.2
4.6	5	3.9	29.1
4.7	4	3.1	32.3
4.9	4	3.1	35.4
5.0	3	2.4	37.8
5.2	3	2.4	40.2
5.3	6	4.7	44.9
5.4	5	3.9	48.8
5.6	1	.8	49.6
5.7	1	.8	50.4
5.8	1	.8	51.2
6.0	1	.8	52.0
6.2	3	2.4	54.3
6.5	5	3.9	58.3
6.9	3	2.4	60.6
7.3	7	5.5	66.1
7.7	4	3.1	69.3
8.1	4	3.1	72.4
8.3	3	2.4	74.8
8.5	4	3.1	78.0
8.7	3	2.4	80.3
8.9	1	.8	81.1
9.1	4	3.1	84.3
9.3	2	1.6	85.8
9.6	1	.8	86.6
9.9	5	3.9	90.6
10.5	5	3.9	94.5
12.2	3	2.4	96.9
12.9	4	3.1	100.0
Total	127	100.0	

Mean	6.602			Median	5.700
Mode	4.000	Std Dev	2.486	Variance	6.181
Maximum	12.900	Range	8.900	Minimum	4.000

Valid Cases 127 Missing Cases 0

Table 4

Pretest Language Mechanics
Grade-Equivalent Distribution
1989 Summer Program

G.E. Value	Frequency	Percent	Cumulative Percent
4.0	128	41.6	48.3
4.3	15	4.9	54.0
4.5	8	2.6	57.0
4.8	8	2.6	60.0
5.0	7	2.3	62.6
5.3	14	4.5	67.9
5.6	12	3.9	72.5
6.1	5	1.6	74.3
6.7	7	2.3	77.0
7.3	11	3.6	81.1
7.9	5	1.6	83.0
8.4	10	3.2	86.8
9.0	7	2.3	89.4
9.5	6	1.9	91.7
10.1	5	1.6	93.6
10.8	4	1.3	95.1
11.8	5	1.6	97.0
12.9	8	2.6	100.0
Missing	43	14.0	
Total	308	100.0	

Mean	5.602			Median	4.300
Mode	4.000	Std Dev	2.398	Variance	5.750
Maximum	12.900	Range	8.900	Minimum	4.000

Valid Cases 265 Missing Cases 43

Table 5

Posttest Language Mechanics
Grade-Equivalent Distribution
1989 Summer Program

G.E. Value	Frequency	Percent	Cumulative Percent
4.0	47	37.0	37.3
4.3	6	4.7	42.1
4.5	6	4.7	46.8
4.8	6	4.7	51.6
5.0	4	3.1	54.8
5.3	5	3.9	58.7
5.6	1	.8	59.5
6.1	6	4.7	64.3
6.7	4	3.1	67.5
7.3	6	4.7	72.2
7.9	5	3.9	76.2
8.4	5	3.9	80.2
9.0	2	1.6	81.7
9.5	6	4.7	86.5
10.1	3	2.4	88.9
10.8	3	2.4	91.3
11.8	5	3.9	95.2
12.9	6	4.7	100.0
Missing	1	.8	
Total	127	100.0	

Mean	6.226			Median	4.800
Mode	4.000	Std Dev	2.759	Variance	7.613
Maximum	12.900	Range	8.900	Minimum	4.000

Valid Cases 126 Missing Cases 1

Table 6

Pretest Mathematics Computation
Grade-Equivalent Distribution
1989 Summer Program

G.E. Value	Frequency	Percent	Cumulative Percent
4.3	37	12.0	12.3
4.6	12	3.9	16.2
5.0	13	4.2	20.5
5.4	22	7.1	27.8
5.8	13	4.2	32.1
6.1	12	3.9	36.1
6.4	15	4.9	41.1
6.6	22	7.1	48.3
6.8	15	4.9	53.3
7.0	11	3.6	57.0
7.2	27	8.8	65.9
7.3	5	1.6	67.5
7.4	10	3.2	70.9
7.5	2	.6	71.5
7.7	6	1.9	73.5
7.8	15	4.9	78.5
8.0	11	3.6	82.1
8.1	4	1.3	83.4
8.2	8	2.6	86.1
8.3	3	1.0	87.1
8.5	7	2.3	89.4
8.7	6	1.9	91.4
8.9	4	1.3	92.7
9.3	2	.6	93.4
9.6	2	.6	94.0
10.3	3	1.0	95.0
11.1	4	1.3	96.4
11.7	5	1.6	98.0
12.5	1	.3	98.3
12.9	5	1.6	100.0
Missing	6	1.9	
Total	308	100.0	

Mean	6.811			Median	6.800
Mode	4.000	Std Dev	1.831	Variance	3.353
Maximum	12.900	Range	8.600	Minimum	4.300

Valid Cases 302 Missing Cases 6

Table 7

Posttest Mathematics Computation
Grade-Equivalent Distribution
1989 Summer Program

G.E. Value	Frequency	Percent	Cumulative Percent
4.3	14	11.0	11.0
4.6	4	3.1	14.2
5.0	6	4.7	18.9
5.4	6	4.7	23.6
5.8	9	7.1	30.7
6.1	4	3.1	33.9
6.4	6	4.7	38.6
6.6	9	7.1	45.7
6.8	4	3.1	48.8
7.0	3	2.4	51.2
7.2	6	4.7	55.9
7.3	6	4.7	60.6
7.4	4	3.1	63.8
7.5	5	3.9	67.7
7.7	4	3.1	70.9
7.8	8	6.3	77.2
8.0	5	3.9	81.1
8.2	2	1.6	82.7
8.3	3	2.4	85.0
8.5	3	2.4	87.4
8.7	2	1.6	89.0
8.9	3	2.4	91.3
9.6	2	1.6	92.9
10.3	2	1.6	94.5
11.1	2	1.6	96.1
11.7	1	.8	96.9
12.5	2	1.6	98.4
12.9	2	1.6	100.0
Total	127	100.0	

Mean	6.979			Median	7.000
Mode	4.300	Std Dev	1.893	Variance	3.584
Maximum	12.900	Range	8.600	Minimum	4.300

Valid Cases 127 Missing Cases 0

Table 8

Pretest Reading Comprehension
Grade-Equivalent Distribution
Paired Data
1989 Summer Program

G.E. Value	Frequency	Percent	Cumulative Percent
4.0	24	20.2	20.7
4.3	8	6.7	27.6
4.6	8	6.7	34.5
4.7	4	3.4	37.9
4.9	1	.8	38.8
5.0	5	4.2	43.1
5.2	3	2.5	45.7
5.3	3	2.5	48.3
5.4	6	5.0	53.4
5.6	2	1.7	55.2
5.7	1	.8	56.0
5.8	2	1.7	57.8
6.0	2	1.7	59.5
6.2	2	1.7	61.2
6.5	2	1.7	62.9
6.9	4	3.4	66.4
7.3	3	2.5	69.0
7.7	7	5.9	75.0
8.1	6	5.0	80.2
8.3	1	.8	81.0
8.5	2	1.7	82.8
8.7	2	1.7	84.5
8.9	2	1.7	86.2
9.1	3	2.5	88.8
9.3	4	3.4	92.2
9.6	3	2.5	94.8
10.5	3	2.5	97.4
12.2	1	.8	98.3
12.9	2	1.7	100.0
Missing	3	2.5	
Total	119	100.0	

Mean	6.216			Median	5.400
Mode	4.000	Std Dev	2.204	Variance	4.860
Maximum	12.900	Range	8.900	Minimum	4.000

Valid Cases 116 Missing Cases 3

Table 9

Posttest Reading Comprehension
Grade-Equivalent Distribution
Paired Data
1989 Summer Program

G.E. Value	Frequency	Percent	Cumulative Percent
4.0	24	20.2	20.2
4.3	5	4.2	24.4
4.6	4	3.4	27.7
4.7	4	3.4	31.1
4.9	4	3.4	34.5
5.0	3	2.5	37.0
5.2	3	2.5	39.5
5.3	6	5.0	44.5
5.4	5	4.2	48.7
5.6	1	.8	49.6
5.7	1	.8	50.4
5.8	1	.8	51.3
6.0	1	.8	52.1
6.2	3	2.5	54.6
6.5	3	2.5	57.1
6.9	3	2.5	59.7
7.3	6	5.0	64.7
7.7	4	3.4	68.1
8.1	4	3.4	71.4
8.3	3	2.5	73.9
8.5	4	3.4	77.3
8.7	3	2.5	79.8
8.9	1	.8	80.7
9.1	3	2.5	83.2
9.3	2	1.7	84.9
9.6	1	.8	85.7
9.9	5	4.2	89.9
10.5	5	4.2	94.1
12.2	3	2.5	96.6
12.9	4	3.4	100.0
Total	119	100.0	

Mean	6.657			Median	5.700
Mode	4.000	Std Dev	2.519	Variance	6.346
Maximum	12.900	Range	8.900	Minimum	4.000

Valid Cases 119 Missing Cases 0

Table 10

Pretest Language Mechanics
Grade-Equivalent Distribution
Paired Data
1989 Summer Program

G.E. Value	Frequency	Percent	Cumulative Percent
4.0	58	48.7	50.4
4.3	7	5.9	56.5
4.5	2	1.7	58.3
4.8	5	4.2	62.6
5.0	3	2.5	65.2
5.3	7	5.9	71.3
5.6	5	4.2	75.7
6.1	1	.8	76.5
6.7	5	4.2	80.9
7.3	1	.8	81.7
7.9	4	3.4	85.2
8.4	4	3.4	88.7
9.0	3	2.5	91.3
9.5	2	1.7	93.0
10.1	1	.8	93.9
10.8	1	.8	94.8
11.8	3	2.5	97.4
12.9	3	2.5	100.0
Missing	4	3.4	
Total	119	100.0	

Mean	5.463			Median	4.000
Mode	4.000	Std Dev	2.322	Variance	5.393
Maximum	12.900	Range	8.900	Minimum	4.000

Valid Cases 115 Missing Cases 4

Table 11

Posttest Language Mechanics
Grade-Equivalent Distribution
Paired Data
1989 Summer Program

G.E. Value	Frequency	Percent	Cumulative Percent
4.0	42	35.3	35.6
4.3	5	4.2	39.8
4.5	6	5.0	44.9
4.8	6	5.0	50.0
5.0	3	2.5	52.5
5.3	5	4.2	56.8
5.6	1	.8	57.6
6.1	6	5.0	62.7
6.7	4	3.4	66.1
7.3	6	5.0	71.2
7.9	5	4.2	75.4
8.4	5	4.2	79.7
9.0	2	1.7	81.4
9.5	6	5.0	86.4
10.1	3	2.5	89.0
10.8	3	2.5	91.5
11.8	4	3.4	94.9
12.9	6	5.0	100.0
Missing	1	.8	
Total	119	100.0	

Mean	6.300			Median	4.900
Mode	4.000	Std Dev	2.758	Variance	7.606
Maximum	12.900	Range	8.900	Minimum	4.000

Valid Cases 118 Missing Cases 1

Table 12

Pretest Mathematics Computation
Grade-Equivalent Distribution
Paired Data
1989 Summer Program

G.E. Value	Frequency	Percent	Cumulative Percent
4.3	16	13.4	13.6
4.6	4	3.4	16.9
5.0	3	2.5	19.5
5.4	7	5.9	25.4
5.8	6	5.0	30.5
6.1	2	1.7	32.2
6.4	4	3.4	35.6
6.6	8	6.7	42.4
6.8	7	5.9	48.3
7.0	4	3.4	51.7
7.2	12	10.1	61.9
7.3	2	1.7	63.6
7.4	1	.8	64.4
7.5	2	1.7	66.1
7.7	5	4.2	70.3
7.8	11	9.2	79.7
8.0	3	2.5	82.2
8.1	1	.8	83.1
8.2	3	2.5	85.6
8.5	3	2.5	88.1
8.7	3	2.5	90.7
8.9	2	1.7	92.4
9.3	2	1.7	94.1
10.3	2	1.7	95.8
11.1	1	.8	96.6
11.7	2	1.7	98.3
12.5	1	.8	99.2
12.9	1	.8	100.0
Missing	1	.8	
Total	119	100.0	

Mean	6.897			Median	7.000
Mode	4.300	Std Dev	1.807	Variance	3.265
Maximum	12.900	Range	8.600	Minimum	4.300

Valid Cases 118 Missing Cases 1

Table 13

Posttest Mathematics Computation
Grade-Equivalent Distribution
Paired Data
1989 Summer Program

G.E. Value	Frequency	Percent	Cumulative Percent
4.3	13	10.9	10.9
4.6	4	3.4	14.3
5.0	6	5.0	19.3
5.4	6	5.0	24.4
5.8	9	7.6	31.9
6.1	4	3.4	35.3
6.4	6	5.0	40.3
6.6	7	5.9	46.2
6.8	4	3.4	49.6
7.0	3	2.5	52.1
7.2	4	3.4	55.5
7.3	6	5.0	60.5
7.4	3	2.5	63.0
7.5	5	4.2	67.2
7.7	4	3.4	70.6
7.8	8	6.7	77.3
8.0	5	4.2	81.5
8.2	1	.8	82.4
8.3	3	2.5	84.9
8.5	3	2.5	87.4
8.7	2	1.7	89.1
8.9	3	2.5	91.6
9.6	2	1.7	93.3
10.3	2	1.7	95.0
11.1	2	1.7	96.6
12.5	2	1.7	98.3
12.9	2	1.7	100.0
Total	119	100.0	

Mean	6.950			Median	7.000
Mode	4.300	Std Dev	1.886	Variance	3.559
Maximum	12.900	Range	8.600	Minimum	4.300

Valid Cases 119 Missing Cases 0

Table 14

P I C 1 9 8 9 C T B S R E P O R T

CTBS FORM ** U ** LEVEL ** H **

<-- READ. COMP. ->				<-- LANG. MECH. ->				<-- MATH. COMP. ->				
PRE G.E.	POST G.E.	CHANGE	RCCR IT	PRE G.E.	POST G.E.	CHANGE	LCMR IT	PRE G.E.	POST G.E.	CHANGE	MCCR IT	CCTR BIST
9.1	8.1	-1.0	0	4.8	4.8	0.00	0	5.4	5.8	.40	0	0
4.0	5.3	1.30	1	4.3	5.0	.70	0	5.8	6.1	.30	0	1
4.6	5.4	.80	0	4.0	4.0	0.00	0	6.8	6.4	-.40	0	0
7.3	6.2	-1.1	0	4.0	4.8	.80	0	7.2	7.0	-.20	0	0
5.3	5.0	-.30	0	4.0	4.0	0.00	0	4.3	5.8	1.50	1	1
4.3	5.3	1.00	1	4.0	4.0	0.00	0	5.0	6.4	1.40	1	1
6.9	7.7	.80	0	4.3	6.1	1.80	1	8.1	8.0	-.10	0	1
8.7	9.9	1.20	1	4.3	5.3	1.00	1	7.2	7.5	.30	0	1
8.5	9.9	1.40	1	11.8	11.8	0.00	0	7.8	8.3	.50	0	1
4.3	4.9	.60	0	4.0	4.5	.50	0	6.6	5.0	-1.6	0	0
4.3	4.0	-.30	0	5.6	5.0	-.60	0	7.2	5.0	-2.2	0	0
10.5	12.2	1.70	1	9.0	10.1	1.10	1	8.0	8.5	.50	0	1
9.3	10.5	1.20	1	11.8	12.9	1.10	1	11.7	8.7	-3.0	0	1
5.0	5.8	.80	0	4.0	4.0	0.00	0	4.3	6.1	1.80	1	1
4.0	4.0	0.00	0	4.0	6.1	2.10	1	7.8	7.8	0.00	0	1
8.9	10.5	1.60	1	4.0	4.3	.30	0	5.4	7.8	2.40	1	1
6.0	5.4	-.60	0	7.9	7.3	-.60	0	7.8	6.1	-1.7	0	0
8.1	7.3	-.80	0	8.4	10.8	2.40	1	7.8	5.4	-2.4	0	1
8.1	7.3	-.80	0	8.4	11.8	3.40	1	7.8	6.6	-1.2	0	1
4.3	4.0	-.30	0	.	4.0	.	.	6.6	5.0	-1.6	0	0
8.1	8.5	.40	0	4.0	6.7	2.70	1	7.2	6.8	-.40	0	1
9.3	9.1	-.20	0	5.3	9.5	4.20	1	7.2	7.5	.30	0	1
4.0	4.0	0.00	0	4.0	4.0	0.00	0	4.3	5.4	1.10	1	1
4.0	4.0	0.00	0	4.0	4.8	.80	0	8.2	7.8	-.40	0	0
.	4.3	.	.	4.0	4.0	0.00	0	4.3	4.3	0.00	0	0
4.6	5.0	.40	0	4.0	4.5	.50	0	4.3	7.3	3.00	1	1
10.5	9.1	-1.4	0	12.9	12.9	0.00	0	7.0	8.0	1.00	1	1
5.	4.6	-.80	0	4.3	4.5	.20	0	4.3	7.2	2.90	1	1
4.5	5.3	1.00	1	4.0	4.0	0.00	0	6.6	6.1	-.50	0	1
9.1	12.2	3.10	1	4.0	6.7	2.70	1	7.4	7.8	.40	0	1
8.1	8.3	.20	0	.	9.5	.	.	7.8	8.0	.20	0	0
4.0	5.3	1.30	1	4.0	4.0	0.00	0	5.4	5.8	.40	0	1
6.5	8.1	1.60	1	4.0	4.0	0.00	0	5.4	5.4	0.00	0	1
7.7	7.3	-.40	0	5.3	6.7	1.40	1	7.8	7.7	-.10	0	1
4.9	4.3	-.60	0	4.0	4.0	0.00	0	4.3	4.6	.30	0	0
7.3	6.9	-.40	0	5.3	6.7	1.40	1	8.2	7.7	-.50	0	1
12.9	12.9	0.00	0	7.9	6.1	-1.8	0	6.8	7.7	.90	0	0
4.3	4.0	-.30	0	4.0	4.0	0.00	0	6.8	5.0	-1.8	0	0
9.3	8.5	-.80	0	10.8	9.5	-1.3	0	9.3	12.5	3.20	1	1
5.0	4.0	-1.0	0	5.6	7.3	1.70	1	7.7	7.7	0.00	0	1

*** CTBS CRITERION = 1 ***

*** AT LEAST ONE TEST PAIR GAINED > 0.99 ***

P I C 1 9 8 9 C T B S R E P O R T

CTBS FORM ** U ** LEVEL ** H **

<-- READ. COMP. ->				<-- LANG. MECH. ->				<-- MATH. COMP. ->				
PRE G.E.	POST G.E.	CHANGE	RCCRIT	PRE G.E.	POST G.E.	CHANGE	LCMRIT	PRE G.E.	POST G.E.	CHANGE	MCCRIT	CCTRBIST
4.6	4.9	.30	0	4.0	4.0	0.00	0	6.1	5.4	-.70	0	0
5.2	5.4	.20	0	4.0	4.0	0.00	0	5.4	5.4	0.00	0	0
5.7	8.3	2.60	1	5.0	9.0	4.00	1	7.0	6.6	-.40	0	1
9.3	12.9	3.60	1	7.9	7.9	0.00	0	9.3	9.6	.30	0	1
5.0	4.0	-1.0	0	4.0	4.0	0.00	0	6.8	7.2	.40	0	0
4.0	4.0	0.00	0	4.0	4.0	0.00	0	6.4	4.6	-1.8	0	0
8.5	8.5	0.00	0	4.8	4.5	-.30	0	5.8	5.8	0.00	0	0
5.4	5.3	-.10	0	4.0	4.0	0.00	0	6.8	4.3	-2.5	0	0
5.2	4.3	-.90	0	4.0	6.1	2.10	1	4.6	7.0	2.40	1	1
4.6	4.0	-.60	0	4.0	4.0	0.00	0	8.7	8.7	0.00	0	0
4.0	4.0	0.00	0	4.0	4.0	0.00	0	4.6	4.3	-.30	0	0
4.6	4.0	-.60	0	4.0	4.0	0.00	0	5.8	4.6	-1.2	0	0
6.9	9.9	3.00	1	4.8	8.4	3.60	1	7.2	6.6	-.60	0	1
12.9	12.9	0.00	0	5.3	9.5	4.20	1	5.0	6.6	1.60	1	1
5.8	9.3	3.50	1	6.7	10.8	4.10	1	8.5	9.6	1.10	1	1
4.0	4.0	0.00	0	4.0	4.0	0.00	0	4.3	4.6	.30	0	0
7.7	6.9	-.80	0	5.6	5.3	-.30	0	8.7	8.3	-.40	0	0
8.1	7.7	-.40	0	6.1	8.4	2.30	1	7.2	7.3	.10	0	1
7.7	7.3	-.40	0	9.5	10.8	1.30	1	8.7	12.5	3.80	1	1
7.3	10.5	3.20	1	6.7	7.9	1.20	1	7.2	6.4	-.80	0	1
9.6	8.9	-.70	0	4.8	4.0	-.80	0	7.3	7.3	0.00	0	0
4.0	5.2	1.20	1	4.0	4.5	.50	0	7.0	6.4	-.60	0	1
5.4	4.0	-1.4	0	4.0	4.0	0.00	0	6.8	5.0	-1.8	0	0
5.3	8.1	2.80	1	7.3	7.3	0.00	0	4.6	7.4	2.80	1	1
5.6	4.0	-1.6	0	4.0	4.0	0.00	0	6.4	6.8	.40	0	0
4.0	4.3	.30	0	4.0	4.3	.30	0	7.2	6.8	-.40	0	0
7.7	6.5	-1.2	0	6.7	8.4	1.70	1	8.2	8.9	.70	0	1
5.3	5.2	-.10	0	4.0	4.5	.50	0	5.4	5.8	.40	0	0
4.3	4.0	-.30	0	4.0	4.0	0.00	0	7.2	7.0	-.20	0	0
4.0	4.0	0.00	0	4.0	4.0	0.00	0	4.3	4.3	0.00	0	0
5.2	5.4	.20	0	4.0	5.3	1.30	1	6.6	7.3	.70	0	1
10.5	12.2	1.70	1	9.5	12.9	3.40	1	7.5	8.2	.70	0	1
5.6	6.9	1.30	1	5.0	6.1	1.10	1	6.6	5.4	-1.2	0	1
8.9	10.5	1.60	1	12.9	10.1	-2.8	0	7.7	7.8	.10	0	1
6.5	6.5	0.00	0	4.0	7.9	3.90	1	6.6	7.3	.70	0	1
7.7	8.5	.80	0	9.0	7.9	-1.1	0	8.5	8.3	-.20	0	0
6.9	8.1	1.20	1	4.5	5.3	.80	0	5.8	6.4	.60	0	1
4.0	5.0	1.00	1	4.0	4.0	0.00	0	7.8	7.5	-.30	0	1
5.4	6.0	.60	0	.	5.0	.	.	7.2	5.8	-1.4	0	0
4.6	4.9	.30	0	4.0	4.0	0.00	0	4.6	6.4	1.80	1	1

*** CTBS CRITERION = 1 ***
*** AT LEAST ONE TEST PAIR GAINED > 0.99 ***

P I C 1 9 8 9 C T B S R E P O R T

CTBS FORM ** U ** LEVEL ** H **

<-- READ. COMP. ->				<-- LANG. MECH. ->				<-- MATH. COMP. ->				
PRE G.E.	POST G.E.	CHANGE	RCCR IT	PRE G.E.	POST G.E.	CHANGE	LCMR IT	PRE G.E.	POST G.E.	CHANGE	MCCR IT	CCTR BIST
9.6	8.7	-.90	0	5.6	11.8	6.20	1	11.7	10.3	-1.4	0	1
6.0	7.7	1.70	1	6.7	7.3	.60	0	7.7	8.0	.30	0	1
.	4.6	.	.	4.3	4.3	0.00	0	4.3	6.8	2.50	1	1
4.0	4.0	0.00	0	4.8	4.0	-.80	0	7.0	5.8	-1.2	0	0
6.2	7.3	1.10	1	5.3	12.9	7.60	1	8.5	8.9	.40	0	1
4.0	5.6	1.60	1	4.0	4.0	0.00	0	4.3	7.2	2.90	1	1
4.0	4.9	.90	0	4.0	4.3	.30	0	7.5	7.8	.30	0	0
4.0	4.6	.60	0	5.3	8.4	3.10	1	8.0	7.8	-.20	0	1
4.0	4.0	0.00	0	4.0	4.0	0.00	0	4.3	4.3	0.00	0	0
4.0	4.6	.60	0	4.0	4.8	.80	0	7.8	7.3	-.50	0	0
4.0	4.7	.70	0	4.0	4.3	.30	0	5.8	4.3	-1.5	0	0
5.0	5.4	.40	0	4.0	4.0	0.00	0	6.4	6.6	.20	0	0
4.0	6.5	2.50	1	4.0	4.0	0.00	0	7.2	4.3	-2.9	0	1
8.7	9.9	1.20	1	9.0	10.1	1.10	1	8.9	8.5	-.40	0	1
4.3	4.7	.40	0	4.3	5.3	1.00	1	7.7	7.5	-.20	0	1
5.4	4.3	-1.1	0	4.0	.	.	.	5.0	4.3	-.70	0	0
4.0	4.0	0.00	0	4.0	4.0	0.00	0	4.3	4.3	0.00	0	0
4.7	4.7	0.00	0	5.3	4.0	-1.3	0	7.3	7.5	.20	0	0
5.4	5.7	.30	0	8.4	7.3	-1.1	0	8.9	8.9	0.00	0	0
4.7	6.2	1.50	1	5.0	6.1	1.10	1	8.0	8.0	0.00	0	1
4.7	4.7	0.00	0	6.7	9.5	2.80	1	7.7	7.4	-.30	0	1
.	4.0	.	.	4.0	4.0	0.00	0	4.3	5.8	1.50	1	1
4.6	8.7	4.10	1	7.9	11.8	3.90	1	10.3	11.1	.80	0	1
7.7	7.3	-.40	0	8.4	9.0	.60	0	11.1	11.1	0.00	0	0
9.6	9.9	.30	0	4.0	5.6	1.60	1	6.1	4.3	-1.8	0	1
9.1	9.3	.20	0	4.3	7.9	3.60	1	6.6	8.5	1.90	1	1
5.8	12.9	7.10	1	4.0	8.4	4.40	1	6.4	7.2	.80	0	1
6.2	7.7	1.50	1	5.6	4.8	-.80	0	10.3	10.3	0.00	0	1
6.9	8.3	1.40	1	4.0	4.0	0.00	0	6.8	5.0	-1.8	0	1
5.0	6.2	1.20	1	.	4.0	.	.	5.4	5.8	.40	0	1
4.0	4.0	0.00	0	4.0	4.0	0.00	0	.	4.3	.	.	0
4.0	4.0	0.00	0	4.0	4.0	0.00	0	4.3	4.3	0.00	0	0
4.7	5.2	.50	0	4.0	4.8	.80	0	6.6	6.6	0.00	0	0
12.2	10.5	-1.7	0	12.9	12.9	0.00	0	12.5	12.9	.40	0	0
7.7	8.7	1.00	0	10.1	7.3	-2.8	0	7.8	7.4	-.40	0	0
8.3	9.1	.80	0	11.8	12.9	1.10	1	12.9	12.9	0.00	0	1
4.6	5.3	.70	0	4.0	4.0	0.00	0	4.3	6.6	2.30	1	1
8.1	9.6	1.50	1	4.5	9.5	5.00	1	7.8	7.8	0.00	0	1
4.0	4.0	0.00	0	4.0	4.0	0.00	0	5.8	4.3	-1.5	0	0

*** CTBS CRITERION = 1 ***
*** AT LEAST ONE TEST PAIR GAINED > 0.99 ***

P I C 1 9 8 9 C T B S R E P O R T

CTBS FORM ** U ** LEVEL ** H **

	<-- READ. COMP. ->				<-- LANG. MECH. ->				<-- MATH. COMP. ->				
STNO NAME	PRE G.E.	POST G.E.	CHAN GE	RC CR I T	PRE G.E.	POST G.E.	CHAN GE	LC MR I T	PRE G.E.	POST G.E.	CHAN GE	MC CR I T	CC TR B'L S'T
N GAINED 1(+) UNIT(S)				35				39				20	69
% GAINED 1(+) UNIT(S)				30%				34%				17%	58%
% WHO SHOWED GAIN			53%				49%				44%		

*** CTBS CRITERION = 1 ***
*** AT LEAST ONE TEST PAIR GAINED > 0.99 ***

Table 15

Posttest Employment Skills
Raw Score Values
1989 Summer Program

Raw Score	Frequency	Percent	Cumulative Percent
.00	1	.8	.8
13.00	1	.8	1.6
19.00	1	.8	2.4
20.00	3	2.4	4.8
21.00	3	2.4	7.2
22.00	1	.8	8.0
23.00	4	3.2	11.2
24.00	3	2.4	13.6
25.00	1	.8	41.4
26.00	3	2.4	16.8
27.00	6	4.8	21.6
28.00	5	4.0	25.6
29.00	4	3.2	28.8
30.00	6	4.8	33.6
31.00	5	4.0	37.6
32.00	5	4.0	41.6
33.00	9	7.2	48.8
34.00	8	6.4	55.2
35.00	7	5.6	60.8
36.00	7	5.6	66.4
37.00	6	4.8	71.2
38.00	9	7.2	78.4
39.00	4	3.2	81.6
40.00	4	3.2	84.8
41.00	4	3.2	88.0
42.00	3	2.4	90.4
43.00	6	4.8	95.2
44.00	2	1.6	96.8
45.00	2	1.6	98.4
49.00	1	.8	99.2
50.00	1	.8	100.0
Total	125	100.0	

Mean	33.024			Median	34.000
Mode	33.000	Std Dev	7.523	Variance	56.588
Maximum	50.000	Range	50.000	Minimum	.000

Valid Cases 125 Missing Cases 0

Table 16

Pretest Employment Skills
Raw Score Values
Paired Data
1989 Summer Program

Raw Score	Frequency	Percent	Cumulative Percent
11	1	.8	.8
13	1	.8	1.7
16	3	2.5	4.2
17	1	.8	5.1
18	5	4.2	9.3
19	6	5.1	14.4
20	5	4.2	18.6
21	6	5.1	23.7
22	8	6.8	30.5
23	6	5.1	35.6
24	5	4.2	39.8
25	6	5.1	44.9
26	11	9.3	54.2
27	7	5.9	60.2
28	8	6.8	66.9
29	8	6.8	73.7
30	6	5.1	78.8
31	9	7.6	86.4
32	6	5.1	91.5
33	5	4.2	95.8
34	1	.8	96.6
35	3	2.5	99.2
37	1	.8	100.0
Total	118	100.0	

Mean	25.644			Median	26.000
Mode	26.000	Std Dev	5.257	Variance	27.633
Maximum	37.000	Range	26.000	Minimum	11.000

Valid Cases 118 Missing Cases 0

Table 17

Posttest Employment Skills
Raw Score Values
Paired Data
1989 Summer Program

Raw Score	Frequency	Percent	Cumulative Percent
13	1	.8	.8
19	1	.8	1.7
20	3	2.5	4.2
21	3	2.5	6.8
22	1	.8	7.6
23	4	3.4	11.0
24	2	1.7	12.7
25	1	.8	13.6
26	3	2.5	16.1
27	5	2.4	20.3
28	5	4.2	24.6
29	4	3.4	28.0
30	6	5.1	33.1
31	5	4.2	37.2
32	5	4.2	41.5
33	9	7.6	49.2
34	8	6.8	55.9
35	6	5.1	61.0
36	5	4.2	65.3
37	5	4.2	69.5
38	5	4.2	77.1
39	4	3.4	80.5
40	4	3.4	83.9
41	4	3.4	87.3
42	3	2.5	89.8
43	6	5.1	94.9
44	2	1.7	96.6
45	2	1.7	98.3
49	1	.8	99.2
50	1	.8	100.0
Total	118	100.0	

Mean	33.331			Median	34.000
Mode	33.000	Std Dev	7.017	Variance	49.232
Maximum	50.000	Range	37.000	Minimum	13.000

Valid Cases 118 Missing Cases 0

Table 18

P I C 1 9 8 9 EMPLOYMENT SKILLS TEST R E P O R T

PRETEST SCORE	PRETEST %CORRECT	POSTTEST SCORE	POSTTEST %CORRECT	CHANGE SCORE	EMP. SKILL CRITERION
32	64	36	72	4	0
17	34	28	56	11	0
18	36	38	76	20	1
26	52	39	78	13	1
29	58	30	60	1	0
23	46	27	54	4	0
32	64	49	98	17	1
27	54	38	76	11	1
27	54	34	68	7	0
24	48	23	46	-1	0
22	44	38	76	16	1
26	52	32	64	6	0
21	42	33	66	12	0
33	66	35	70	2	0
31	62	33	66	2	0
31	62	45	90	14	1
33	66	37	74	4	0
26	52	33	66	7	0
29	58	33	66	4	0
23	46	33	66	10	0
32	64	42	84	10	1
37	74	35	70	-2	0
19	38	22	44	3	0
23	46	45	90	22	1
29	58	41	82	12	1
23	46	27	54	4	0
31	62	41	82	10	1
30	60	36	72	6	0
31	62	27	54	-4	0
19	38	28	56	9	0
19	38	38	76	19	1
29	58	33	66	4	0
33	66	37	74	4	0
18	36	29	58	11	0
29	58	30	60	1	0
32	64	50	100	18	1
21	42	33	66	12	0

*** EMP. SKILLS CRITERION = 2 ***
*** POSTTEST SCORE EQ OR > 38 ***

P I C 1 9 8 9 EMPLOYMENT SKILLS TEST R E P O R T

PRETEST SCORE	PRETEST %CORRECT	POSTTEST SCORE	POSTTEST %CORRECT	CHANGE SCORE	EMP. SKILL CRITERION
25	50	31	62	6	0
31	62	43	86	12	1
25	50	35	70	10	0
27	54	36	72	9	0
26	52	29	58	3	0
19	38	20	40	1	0
30	60	36	72	6	0
25	50	31	62	6	0
19	38	32	64	13	0
29	58	34	68	5	0
25	50	33	66	8	0
27	54	31	62	4	0
16	32	29	58	13	0
35	70	36	72	1	0
18	36	21	42	3	0
31	62	33	66	2	0
25	50	43	86	18	1
20	40	43	86	23	1
30	60	43	86	13	1
31	62	43	86	12	1
30	60	34	68	4	0
27	54	44	88	17	1
27	54	30	60	3	0
23	46	40	80	17	1
26	52	28	56	2	0
26	52	25	50	-1	0
22	44	40	80	18	1
28	56	40	80	12	1
24	48	23	46	-1	0
25	50	21	42	-4	0
20	40	39	78	19	1
24	48	28	56	4	0
34	68	34	68	0	0
31	62	34	68	3	0
28	56	27	54	-1	0
32	64	31	62	-1	0
33	66	30	60	-3	0

*** EMP. SKILLS CRITERION = 2 ***
*** POSTTEST SCORE EQ OR > 38 ***

P I C 1 9 8 9 EMPLOYMENT SKILLS TEST R E P O R T

PRETEST SCORE	PRETEST %CORRECT	POSTTEST SCORE	POSTTEST %CORRECT	CHANGE SCORE	EMP. SKILL CRITERION
21	42	20	40	-1	0
30	60	44	88	14	1
28	56	38	76	10	1
28	56	38	76	10	1
24	48	37	74	13	0
22	44	41	82	19	1
16	32	23	46	7	0
20	40	35	70	15	0
35	70	32	64	-3	0
18	36	35	70	17	0
13	26	13	26	0	0
22	44	41	82	19	1
26	52	43	86	17	1
24	48	38	76	14	1
22	44	39	78	17	1
21	42	32	64	11	0
28	56	21	42	-7	0
26	52	30	60	4	0
20	40	20	40	0	0
22	44	23	46	1	0
16	32	24	48	8	0
22	44	26	52	4	0
23	46	29	58	6	0
18	36	19	38	1	0
26	52	34	68	8	0
27	54	27	54	0	0
31	62	37	74	6	0
30	60	34	68	4	0
28	56	42	84	14	1
26	52	40	80	14	1
28	56	42	84	14	1
21	42	30	60	9	0
11	22	28	56	17	0
19	38	24	48	5	0
22	44	31	62	9	0
35	70	39	78	4	1
32	64	34	68	2	0

*** EMP. SKILLS CRITERION = 2 ***
*** POSTTEST SCORE EQ OR > 38 ***

P I C 1 9 8 9 EMPLOYMENT SKILLS TEST R E P O R T

PRETEST SCORE	PRETEST %CORRECT	POSTTEST SCORE	POSTTEST %CORRECT	CHANGE SCORE	EMP. SKILL CRITERION
29	58	26	52	-3	0
29	58	38	76	9	1
33	66	32	64	-1	0
26	52	35	70	9	0
28	56	38	76	10	1
20	40	37	74	17	0
21	42	26	52	5	0
CRITERION SUM					36
MEAN VALUES					
26		33		8	
STD. DEV.					
5		7		7	
MEDIAN					
26		34		9	
MODE					
26		33		4	
MINIMUM					
11		13		-7	
MAXIMUM					
37		50		23	
%EQ OR > 75%					
	0.0		30.5%		

*** EMP. SKILLS CRITERION = 2 ***
*** POSTTEST SCORE EQ OR > 38 ***