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AUTHOR Estes, Gary D.; Anderson, Judith I.
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ABSTRACT

Physical Education Opportunities for Exceptional Learners (PEOPEL) is a second year Elementary Secondary Education Act (ESEA) Title III project within the Phoenix Union High School System. This program is designed to meet the need for a program at the secondary school level that addresses itself to meeting physical, social, emotional and mental needs of physically and mentally handicapped and other exceptional students. In 1975-76 the PEOPEL staff pilot-tested and revised curriculum materials and teaching strategies which were developed in 1974-75. A comparison of 54 PEOPEL students with 36 other handicapped students not participating in PEOPEL provided evidence that the PEOPEL program had a positive effect on students' physical abilities and attitudes. Based on findings of the evaluation, recommendations were made to adopt the PEOPEL program as a regular program in the Phoenix Union High School System and to periodically re-evaluate the impact that the PEOPEL program has on students' physical and mental education. (MV)

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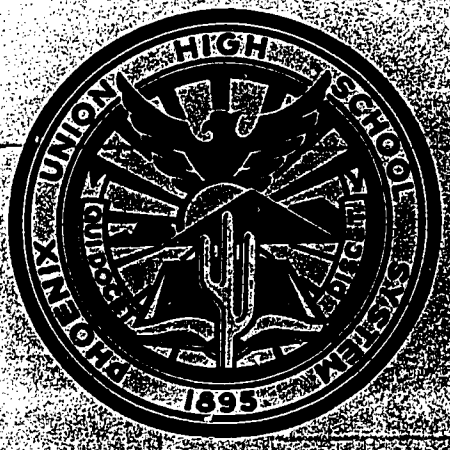

PHOENIX UNION HIGH SCHOOL SYSTEM

Phoenix Union High School System
2526 West Osborn Road Phoenix, Arizona 85017

AN EVALUATION OF PHYSICAL EDUCATION OPPORTUNITIES FOR EXCEPTIONAL LEARNERS (PEOPEL)

ESEA Title III Project
Number 007-210-12-75-0060-1

Prepared By

Gary D. Estes, PhD
Federal Programs Evaluator

Judith I. Anderson, PhD
Assistant Evaluator

June 1976

PEOPEL Project
Larry D. Irmer,
Coordinator

Research and Planning
Lloyd W. Colvin, Ed.D
Director

Federal Programs
Donald D. Covey, Ed.D
Director

Abstract

The PEOPEL program is a physical education program for physically and mentally handicapped students. In 1975-76 the PEOPEL staff pilot-tested and revised curriculum materials and teaching strategies which were developed in 1974-75. A comparison of 54 PEOPEL students with 36 other handicapped students not participating in PEOPEL provided evidence that the PEOPEL program has a positive effect on students' physical abilities and attitudes. Based on findings in the evaluation, recommendations were made to adopt the PEOPEL program as a regular program in the Phoenix Union High School System and to replicate the evaluation of the impact that the PEOPEL program has on students' physical and mental education.

PEOPEL 1975-76 FINAL EVALUATION REPORT

Physical Education Opportunities for Exceptional Learners (PEOPEL) is a second year ESEA Title III project within the Phoenix Union High School System. The program is designed to meet the need for a program at the secondary school level that addresses itself to meeting physical, social, emotional and mental needs of physically and mentally handicapped and other exceptional students.

Program need. The PEOPEL program is the only physical education program designed for physically and mentally handicapped students in the Phoenix Union High School District. Yet, according to the March of Dimes, one out of every 14 children born is physically or mentally handicapped. At West High School there have been identified 45 educable mentally retarded, 25 learning disabled, 10 crippled, three visually handicapped, four hard of hearing, and 25 speech impaired, in addition to an estimated 50 other health impaired problems. All but 50 of these students presently are involved in academic special education programs.

Physically and mentally retarded students must be given comparable participation opportunities in physical education in order to aid their mental, physical, emotional, and social abilities. Due to the lack of adaptive physical education opportunities, many handicapped students either are assigned to study halls or are integrated into the regular physical education classes where they too frequently are relegated to the role of spectator, scorekeeper, timer, or towel custodian. The need for well-developed, meaningful, and individualized adaptive physical education programs is very apparent.

Program summary. The PEOPEL program was developed under the direction of Larry Irmer, the PEOPEL coordinator at West High School. The classes consist of no more than twelve handicapped students, four to

twelve student aides and a physical education instructor. The student aides are required to take a one semester course in which they are taught how to help the handicapped students and to understand their problems. The staff has developed a set of units of instruction which covers a wide range of physical activity. Within each unit, there are pre and posttests to determine each student's level of ability, and there are tasks included to increase the student's ability to perform the activity.

The PEOPEL program began its second year at West High School on September 2, 1975, with seven PEOPEL classes and one Student Aide Training class. Included in the seven PEOPEL classes were 75 students and 30 Student Aides; the Student Aide class had 28 students. A comparison group of students at Trevor Browne consisted of 40 similarly handicapped students who did not participate in an adaptive P.E. program during the year. A breakdown of students by grade in school, sex, and handicap is presented in Table 1. Although the proportion of EMH students in the Browne sample is slightly lower than the proportion in the West sample, 59% and 75% respectively, there were no significant differences in the distribution of students among the handicap conditions for Browne and West, $\chi^2(3) = 2.87$, $p > .10$. The VH, OHI and TMH categories were grouped together for this comparison in order to insure adequate cell sizes.

Table 1

Summary of Students at Browne and West

	Browne		West	
	#	%	#	%
Grade in School				
9th	12	30%	22	39%
10th	16	40%	22	39%
11th	11	28%	9	16%
12th	1	2%	3	5%
Sex				
Male	28	70%	40	71%
Female	12	30%	16	29%
Handicap*				
EMH	30	75%	33	59%
SLD/ED	7	18%	14	25%
PH	5	12%	10	18%
VH	1	2%	2	4%
OHI	1	2%	2	4%
TMH	0	0%	2	4%
Total Number	40		56	

*Some students had more than one handicap.

METHOD

Project Objectives

The project objectives will be discussed individually with presentation of evidence of how they were met during the 1975-76 academic year. The five objectives were:

1.1 Given ten months instruction time, materials, supplies, and support requirements, the coordinator shall implement, review, evaluate, and revise a model program of Physical Education Opportunities for Exceptional Learners with the emphasis on developmental physical education through individualized instruction as evidenced by the revised instructional manual.

1.2 Given ten months implementation time, materials, supplies and support requirements, the coordinator shall utilize evaluation materials for the model program of Physical Education Opportunities for Exceptional Learners as evidenced by evaluation reports.

1.3 Given ten months implementation time, materials, supplies and support requirements, the coordinator shall determine and record major modifications in teaching methods and techniques for performance objectives as they relate to specific exceptional learners as evidenced by teaching suggestions manual.

1.4 Given ten months implementation time, materials, supplies and support requirements, the coordinator shall conduct on-site visits, demonstrations and explanations of the Physical Education Opportunities for Exceptional Learners model program for professional educators, administrators, parents, and other interested community members as evidenced by activity reports.

1.5 The effects of the model "PEOPEL" program on students' physical, mental, social and emotional levels will be assessed by written evaluation reports.

Measures of Program Effectiveness

The effectiveness of the PEOPEL program was measured by changes in pre to posttest scores in the WEARS Attitude Scale and the Physical Fitness Battery Test. In addition, student assistants were given pre and posttests of knowledge of and attitude towards exceptional learners.

Reliabilities

WEARS. Since most of the test materials were not designed for exceptional learners, some modifications of the tests were necessary. The WEARS Attitude Scale was revised by the PEOPEL staff and a special education teacher in order to reduce the reading level required to respond to the test. A copy of the revised test is included in Appendix A. A split-half reliability and Coefficient alpha were calculated to determine if the revision substantially changed the reliability of the test and to determine the reliability for the students in this evaluation. In addition, correlation between the pre and posttests was computed.

Physical Fitness Battery. Modification of the Physical Fitness Battery also was necessary. Some subtests were deleted, which was stated to be permissible in the test manual. Five subtests were included; these were the Shuttle Run, the Flexed Arm Hang, the Sit & Reach, the Sit-Ups, and the 12-Minute Run. A description of each subtest, its content validity, and its reported reliability is contained in Appendix B. The intercorrelations of the five

subtests and the pre to posttest correlation of each subtest were computed.

Selection of a Comparison Group

A comparison group of students consisted of exceptional learners from Trevor Browne High School. The comparison group students also were given the WEARS Attitude Scale and the Physical Fitness Battery. Ideally, students are assigned to treatment and comparison groups on a random basis; when this is not possible, it is necessary to compare the groups on all relevant variables to determine if they are comparable. If students differ significantly on relevant variables, such as pretest measures, it is somewhat difficult to assess whether changes from pre to posttest and/or differences in posttest score are due to the treatment or to other, outside factors. Therefore, a multivariate analysis of variance was used to compare the PEOPEL and comparison groups on the five subtests of the Physical Fitness Battery and the WEARS Attitude Scale. Since the multivariate F-ratio was statistically significant, univariate F-ratios were computed for each of the measures, and the means and standard deviations for each group on each measure also were computed.

Analysis of Gain Scores

Physical Fitness Battery. Gain scores were computed for each student on each measure by subtracting the pretest score from the posttest score. A multivariate analysis of variance was used to assess differences in the gain scores of the PEOPEL and comparison groups. Since the multivariate F-ratio was statistically significant, univariate F-ratios were computed for each subtest. In addition,

the means and standard deviations of the gain scores were computed for each group on each variable, and the pre and posttest means were calculated and graphed.

Student Aide Data. Pre and posttest scores on the Student Aide Exam were collected for the student aides at West High School and for a random sample of physical education students at West High School not enrolled in the student aide class. A t-test was used to compare the differences in the gain scores for the two groups in order to assess whether the student aides' increase in knowledge of how to work with students with various exceptionalities was greater than the students not in the student aide class.

RESULTS

Project Objectives

Objective 1.1

The names of PEOPEL personnel were submitted to ESEA Title III on Sept. 29, 1975. The agenda for the June 13, 14, 16-20, 1975 workshop was submitted on June 4, 1975. A copy of materials to be presented at the Arizona Education Fair was sent on November 6, 1975, and the agenda for the December 1, 1975 Open House was forwarded before the Open House was scheduled. A copy of materials to be presented at the Arizona Association for Health, Physical Education and Recreation Conference in Tucson from December 6-7, 1975 was sent on November 17, 1975.

A survey questionnaire was sent to Northern Arizona University, Arizona State University, the University of Arizona, and Grand Canyon College asking if courses in adaptive physical education were offered. It was found that ASU would offer two courses in adaptive physical education.

Information on the process of review and evaluation of performance objectives was sent to the ESEA Title III office on February 24, 1976. The first training course for student aides concluded in the spring of 1975, and on June 5, 1975 a summary of the two Course Reaction surveys completed by the students was sent to the ESEA Title III office. On December 10, 1975, another Student Aide Training Course Reaction Survey was completed by 29 aides. Quarterly reports on PEOPEL were submitted as well as a schedule of meetings attended, including the 4th National

Conference on Physical Activity for the Exceptional Individual, which was held in Los Angeles on November 13-15, 1975.

On May 13, 1975 the revised manual on performance objectives as derived from the review and revision session with Dr. Edna Wooten of the University of Oregon were sent to the ESEA Title III office. The second edition of the Teacher's Guide should be available from the printer in August, 1976. A revised Student Aide Booklet also will be available at that time.

Objective 1.2

On January 13, 1976, a letter describing the survey process for locating PEOPEL students was sent to the ESEA Title III office. In general, a letter was sent to each principal and many of the physical educators, special educators, and nurses of the feeder elementary schools involved.

A PEOPEL workshop was held on June 13, 14 and 16-20, 1975 to plan and coordinate the PEOPEL project for 1975-76.

Objective 1.3

The PEOPEL staff began modification and revision of the Teacher's Guide in September 1975. In February, 1976, the staff met once every two weeks to discuss specific modifications of each Unit. The major revisions developed from task analysis sequences designed to make each unit more descriptive and measurable. The PEOPEL staff believes that this has been accomplished and the revised Teacher's Guide will be available when returned from the printer in August, 1976. The classroom teaching methods were continually discussed during each semester. Some of the changes for the 1976-77 Academic Year include: a closer working relationship with the general physical education department and

its activities, a more realistic and precise selection of performance objectives by the students, a greater amount of instruction and enjoyment with a reduction in testing, an increased student aide role in the concept and practice of peer-teaching, and a PEOPEL Department consistency in matters related to grading procedures and proper dress.

From the course evaluation completed by the student aides in December, 1975, and from two student aide meetings, the following revisions were made: the readings of the Student Aide Booklet were revised to a sophomore (grade 10) reading level, more time is to be spent teaching the aides how to coach in a variety of situations and activities, practicums will be discussed more frequently in class to insure positive feedback, and one reading of PEOPEL Philosophy and Goals has been added to the Student Aide Booklet. The revised Student Aide Booklet will be available in August, 1976, when it is returned by the printer. Also, the Student Aide Training class has been changed in title by the Phoenix Union High School System to P.E. N810, Physical Education Careers Class for Student Aides.

Objective 1.4

The PEOPEL staff invited representatives from every high school in Arizona, the Arizona Department of Education (Special Education Division), the ESEA Title III office, and the West High elementary feeder schools as well as all Phoenix Union High School System physical education teachers, and administrators plus the parents of all PEOPEL students to visit the PEOPEL project. As of April 14, 1976, 38 people had visited PEOPEL.

Advisory Council meetings were held during the 1975-76 school year and "Parents for PEOPEL" met three times, on October 16, 1975, February 17, 1975, and May 13, 1975.

The second Open House for 1975-76 was held on December 1, 1975. Keith Erickson of the Phoenix Suns was the featured speaker; 175 people attended.

Objective 1.5

Objective 1.5 is discussed in the following section: Measures of Program Effectiveness.

Measures of Program Effectiveness

Reliabilities

WEARS. The split-half reliability of the WEARS, computed on 105 pretests, was .92. Coefficient alpha was equal to .89 for the same sample of students. The pretest-posttest correlation was .46 for 96 students with WEARS pretest and posttests.

Physical Fitness Battery. The pre-post correlations for each of the activities in the Physical Fitness Battery were as follows: Shuttle Run, .82; Flexed Arm Hang, .83; Sit & Reach, .73; Sit-Ups, .77; and 12 Minute Run, .64.

The intercorrelations of the pretest scores are presented in Table 1 on page 12. All of the activities are significantly correlated except for the Flexed Arm Hang and the Sit & Reach ($r = .16$) and the 12 Minute Run and the Sit & Reach ($r = .01$). These reliability estimates are sufficient to be judged acceptable by most. The pretest-posttest reliability estimates are obviously lower than those which would have been obtained with a test and immediate retest estimate of stability.

Comparability of Experimental and Control Groups

A one-way multivariate analysis of variance was used to compare the experimental and control group pretest scores on the five activities of the Physical Fitness Battery and the WEARS. Complete test data were

Table 1

Correlations Among Pretest Scores on the Activities of the Physical Fitness Battery

	Activities				
	Shuttle Run	Flexed Arm Hang	Sit & Reach	Sit-Ups	12 Minute Run
Shuttle Run	1.00	-.33*	-.30*	-.63*	-.52*
Flexed Arm Hang		1.00	.16	-.43*	-.45*
Sit & Reach			1.00	.24*	.01
Sit-Ups				1.00	.52*
12 Minute Run					1.00

* $p \leq .01$

available for 36 students in the comparison group and 54 students in the PEOPEL group. The means and standard deviations for each of the physical fitness activities and the WEARS are presented in Table 2 on page 15. The multivariate and univariate tests of the differences between the two groups are presented in Table 3 on page 16. The multivariate F-ratio was significant ($p < .001$), indicating that, overall, the two groups did differ. The univariate F-ratios indicated that the groups differed on each of the activities in the Physical Fitness Battery, but not on the WEARS. As mentioned earlier, there were no significant differences in the compositions of the Comparison and PEOPEL groups in terms of types of handicaps.

Analysis of Gain Scores

Physical Fitness Battery. A one-way multivariate analysis of the five gain scores was used to compare the performance of the PEOPEL and Comparison groups. Included in the analyses were 36 Comparison group students and 49 PEOPEL students. The means and standard deviations of the gain scores are presented in Table 4 on page 17, and the results of the multivariate and univariate analyses are presented in Table 5 on page 18. The multivariate F-ratio was significant, which shows that overall the groups had significantly different gains. The univariate F-ratios indicated that the PEOPEL students made significantly more positive gains on each of the activities in the Physical Fitness Battery except the Flexed Arm Hang.

The pretest and posttest means for the two groups are graphed in Figures 1 through 5 on page 19. On each of the subtests of the Physical Fitness Battery, the PEOPEL students did significantly worse on the pretest than did the comparison students. On the posttest, the situation was reversed, i.e., there were no significant differences

between the two groups on each of the subtests of the Physical Fitness Battery. As can be seen from Figures 1 through 5 there was a tendency for the PEOPEL students to improve from the pretest to the posttest, whereas the Comparison students showed little or no change in score from pretest to posttest.

Table 2

Means and Standard Deviations on the Physical Fitness Battery and the WEARS Attitude Scale for Students Having Complete Pretest Data

Group	N		Variable					
			Physical Fitness Battery					WEARS
			Shuttle Run[1]	Flexed Arm Hang[2]	Sit & Reach[3]	Sit-Ups[4]	12 Minute Run[5]	Attitude Scale[6]
Comparison	36	Mean	10.775	18.000	20.333	28.306	4.165	140.722
		S.D.	1.018	14.293	4.880	9.645	1.298	22.047
PEOPEL	54	Mean	12.613	9.720	15.231	19.722	3.582	141.574
		S.D.	2.715	15.496	5.068	11.053	1.290	22.068

1. Number of seconds; lower score is more positive.
2. Number of seconds; higher score is more positive.
3. Number of inches; higher score is more positive.
4. Number of sit-ups; higher score is more positive.
5. Number of laps; higher score is more positive.
6. Range from 20 to 160; higher score is a more positive attitude.

Table 3

Multivariate and Univariate Tests of the Differences in Pretest Score of the Experimental and Control Groups on the Physical Fitness Battery and the WEARS Attitude Scale

Multivariate Test of Significance	F	Degrees of Freedom	Probability
	6.095	6,83	< .001

Univariate Tests of Significance	F	Degrees of Freedom	Mean Square	Probability
Shuttle Run	15.038	1,88	72.967	< .001
Flexed Arm Hang	6.715	1,88	1516.713	< .011
Sit & Reach	22.542	1,88	562.224	< .001
Sit Ups	14.392	1,88	1591.350	< .001
12 Minute Run	4.395	1,88	7.352	< .039
WEARS Attitude Scale	.032	1,88	15.674	< .858

Table 4

Means and Standard Deviations of the Gain Scores on the Physical Fitness Battery and the WEARS Attitude Scale for Students Having Complete Pretest and Posttest Data

Group	N		Variable					
			Physical Fitness Battery					WEARS Attitude Scale[2]
			Shuttle Run[1]	Flexed Arm Hang[2]	Sit & Reach[2]	Sit-Ups[2]	12 Minute Run[2]	
Comparison	36	Mean	.258	.489	-1.139	-.722	-.131	2.375
		S.D.	1.698	9.313	3.093	5.998	1.297	22.276
PEOPEL	49	Mean	-1.065	4.065	3.755	8.122	.733	14.554
		S.D.	.884	8.231	5.786	6.300	.773	22.147

1. Decrease in time was a positive gain.
2. Increase was a positive gain.

Table 5

Multivariate and Univariate Tests of the Difference in Gain Scores of the Experimental and Control Groups in The Physical Fitness Battery

Multivariate Test of Significance	F	Degrees of Freedom		Probability
	18.522	5,79		< .001
Univariate Tests of Significance	**F**	**Degrees of Freedom**	**Mean Square**	**Probability**
Shuttle Run	21.812	1,83	36.360	< .001
Flexed Arm Hang	3.504	1,83	265.446	< .065
Sit & Reach	21.245	1,83	497.057	< .001
Sit Ups	42.581	1,83	1623.465	< .001
12 Minute Run	14.711	1,83	15.508	< .001

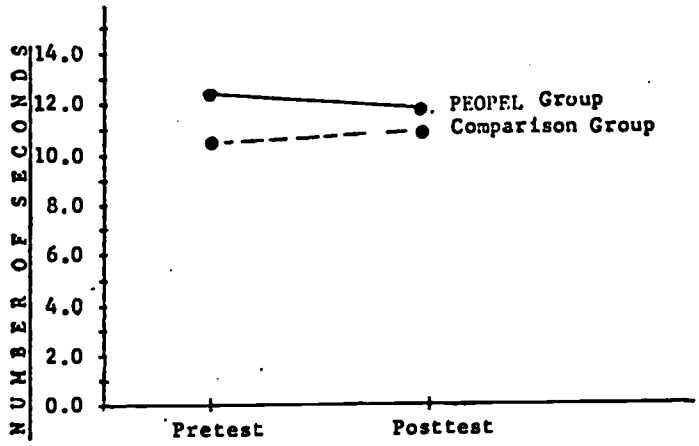

Figure 1. Mean pre and posttest scores on the Shuttle Run.

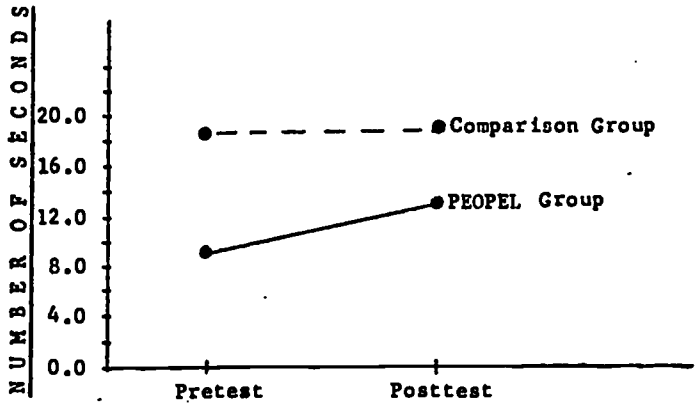

Figure 2. Mean pre and posttest scores on the Flexed Arm Hang.

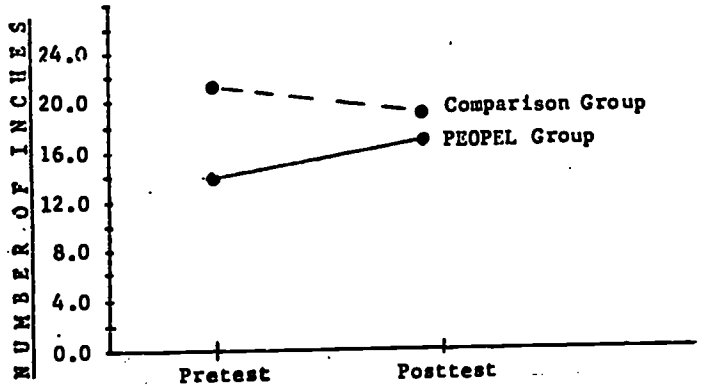

Figure 3. Mean and pre and posttest scores on the Sit and Resch.

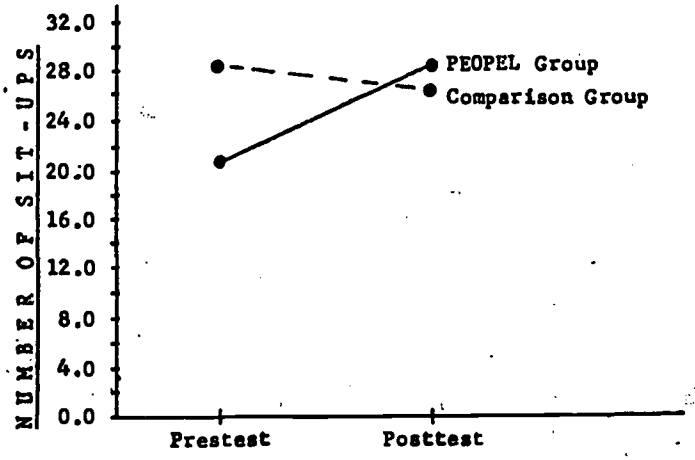

Figure 4. Mean pre and posttest scores for Sit Ups.

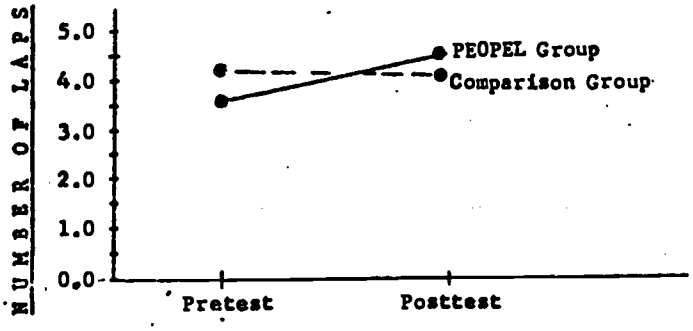

Figure 5. Mean pre and posttest scores for the 12 Minute Run.

KEY: Comparison Group - - - - - -

PEOPEL Group ——————

A second set of analyses were run eliminating outliers; i.e., those students who had test scores which were greater than three standard deviations above or below the mean. Eliminated from analysis were three students in the Comparison group who had unexplainable decreases in the 12 Minute Run (2 3/4 laps post vs. 5 laps pre; and 2 5/6 laps post vs. 6 laps pre) and eight students in the experimental group who had pre and posttest scores of 0.0 on the Flexed Arm Hang. The means and standard deviations of the gain scores are presented in Table 6 on page 22 and the results of the multivariate and univariate analyses are presented in Table 7 on page 23. The multivariate F-ratio and all univariate F-ratios were statistically significant.

A comparison of the mean gain scores for the complete sample and the sample with outliers omitted is presented in Table 8 on page 24. When the outliers were omitted, the mean gain scores of the Comparison and PEOPEL groups became more discrepant for the Flexed Arm Hang and the Sit & Reach and less discrepant for the Shuttle Run, the Sit-Ups, and the 12 Minute Run. The only difference in significance between the analyses of the data with the complete sample and with the sample with outliers omitted was on the Flexed Arm Hang, where the univariate F-ratio showed no significant difference between the comparison and PEOPEL students when the complete sample was used but did show a significant difference when the outliers were eliminated.

WEARS Attitude Scale. A univariate analysis of variance was used to test for differences in the attitude gain scores of the PEOPEL and Comparison groups. The results of this analysis are presented in Table 9 on page 25, and the pre and posttest means for the two groups are graphed in Figure 6 on page 26. The univariate F-ratio indicated that the gain for the PEOPEL

group from 141.6 on the WEARS pretest to 156.2 on the posttest was significantly ($p < .01$) greater than the change for the Comparison group of from 139.5 on the WEARS pretest to 141.8 on the posttest.

Table 6

Means and Standard Deviations of the Gain Scores on the Physical Fitness Battery when Students with Out-Lying Scores are Omitted

Group	N		Variable				
			Physical Fitness Battery				
			Shuttle Run	Flexed Arm Hang	Sit & Reach	Sit Ups	12 Minute Run
Comparison	33	Mean	.061	-.009	-1.348	-.061	.142
		S.D.	1.092	8.507	2.970	5.402	.951
PEOPEL	41	Mean	-1.190	4.859	3.988	7.512	.748
		S.D.	.893	8.795	6.216	5.925	.831

Table 7

Multivariate and Univariate Tests of the Difference in Gain Scores of the Experimental and Control Groups on the Physical Fitness Battery When Students with Outlying Scores are Omitted

Multivariate Test of Significance	F	Degrees of Freedom		Probability
	16.908	5,68		< .001
Univariate Tests of Significance	**F**	**Degrees of Freedom**	**Mean Square**	**Probability**
Shuttle Run	29.393	1,72	28.607	< .001
Flexed Arm Hang	5.766	1,72	433.212	< .019
Sit & Reach	20.507	1,72	520.649	< .001
Sit Ups	32.288	1,72	1048.526	< .001
12 Minute Run	8.548	1,72	6.713	< .005

Table 8

Mean Gain Scores on the Physical Fitness Battery for the Complete Sample and the Sample with Outliers Omitted

		Physical Fitness Battery				
		Shuttle Run	Flexed Arm Hang	Sit & Reach	Sit-Ups	12 Minute Run
Complete Sample	Comparison Group	.258	.489	-1.139	-.722	-.131
	PEOPEL Group	-1.065	4.065	3.755	8.122	.733
	Difference Between Mean Gain Scores	1.323	3.576	4.894	8.844	.864
Sample with Outliers Omitted	Comparison Group	.061	-.009	-1.348	-.061	.142
	PEOPEL Group	-1.190	4.859	3.988	7.512	.748
	Difference Between Mean Gain Scores	1.251	4.868	5.336	7.573	.606

Table 9

Differences in Gain Scores Between
the Experimental and Control Groups
on the WEARS Attitude Scale

Source	Sum of Squares	Degrees of Freedom	Mean Square	F	Probability
Within Cells	46331.211	94	492.885		
A	3460.744	1	3460.744	7.021	< .009

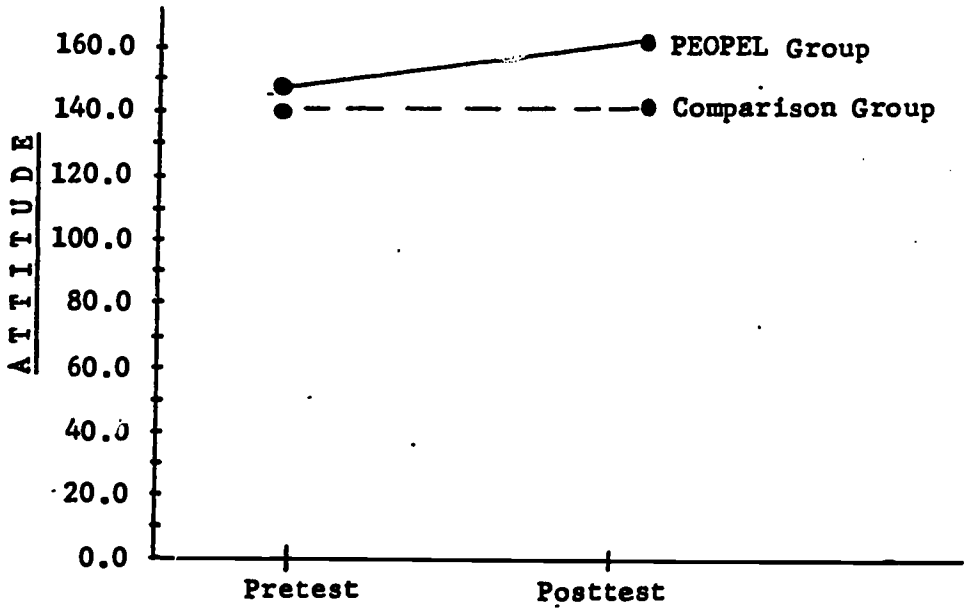

Figure 6. Mean pre and posttest scores on the WEARS.

Student Aide Data. The mean gain score for 84 West High School student aides was 19.36, with a standard deviation of 12.95; the mean gain score for 41 West High Comparison students was only 3.2, with a standard deviation of 8.51. The resulting t-test of 5.67 was significant at the .01 level.

The results of the student aide test data reflects only a small portion of the benefits and experiences student aides received. The test data are evidence that students participating in the student aide class had significant increases in knowledge. Observational reports by the evaluators and other PEOPEL visitors revealed that the experiences provided student aides in working within the PEOPEL classes probably had even more impact on the knowledge and skills of the student aides. The strengthened knowledges and skills include an increased understanding, of ability to communicate with, and sense of responsibility toward others.

Summary and Conclusions

PEOPEL currently is the only physical education program designed for physically and mentally handicapped students in the Phoenix Union High School District. During 1975-76, the second year of the PEOPEL program, 70 students and 55 student aides participated in the program, which was located at West High School. Student progress was measured by pre and posttest scores on a revised version of the WEARS Attitude Scale and on five subtests of the Physical Fitness Battery. A similar group of 40 students at Browne High School who did not participate in a physical education program served as a Comparison group. Gain scores were used to compare the progress made by the two groups; it was found that the PEOPEL students made significantly more positive gains on four of the five subtests of the Physical Fitness Battery and on the WEARS.

The student aides at West showed a more positive increase in knowledge of working with exceptional learners than did a Comparison group at West.

The experience that the student aides gained in working with the students in the PEOPEL program is one of the outstanding unanticipated outcomes. Representatives from the State Department of Education and other PEOPEL observers have made comments which support and goes beyond the evidence given by the test scores. Specifically, the student aides clearly gained experience in knowledge of the capabilities and limitations of handicapped students, knowledge of techniques for assisting handicapped students, and experience in working with others in a tutoring/assistant role.

Based on these data it is recommended that the Phoenix Union High School System adopt the PEOPEL Program as a regular program in 1976-77 and expand the program to other schools. It is also recommended that an evaluation of the PEOPEL Program be carried out in 1976-77 to verify the results obtained in 1975-76. While the results of the 1975-76 evaluation design reflect the effects of three teachers and seven classes, the results will be more generalizable and reliable if a product evaluation design can be implemented again in 1976-77.

The accomplishments of the PEOPEL Program in the areas of (1) program and material development for PEOPEL classes, (2) physical education instruction provided for exceptional students, (3) results of the instruction on students' physical and affective skills, (4) development of a course for and training of student aides, (5) the benefits which student aides derive from the PEOPEL Program and (6) the involvement of the community and other schools, are outstanding. The data contained in

this report and the accomplishments of the PEOPEL staff are more than sufficient to conclude that the PEOPEL Program is a model program which effectively meets the needs of exceptional learners.

APPENDICES

Appendix A

WEAR'S PHYSICAL EDUCATION ATTITUDE SCALE (MODIFIED)

PEOPEL PROGRAM

Directions: There are five possible responses to each statement: Strongly Agree, Agree, Do Not Know, Disagree, Strongly Disagree

Consider physical education only as an activity class taught during the regular school day. Mark an "X" in the box which best answers the statement for you

Your own experiences and feelings should help you answer the statement. In no way will your answers affect your grade in any class.

	Strongly Agree	Agree	Do Not Know	Disagree	Strongly Disagree
1. If some school classes have to be dropped, P.E. should be dropped.					
2. Playing and working with others in P.E. help students learn to understand each other.					
3. P.E. games and sports do <u>not</u> help students learn to control emotions or feelings of anger, fright, happiness, etc.-					
4. Playing hard in P.E. activities gets students interested in dressing out and taking showers.					
5. P.E. is a class that is good in helping students learn about getting along with other people.					
6. It takes time to dress out in shorts and shirts/blouses and to dress back into school clothes. It takes time to play in P.E. All this time could be spent doing more important things.					
7. Playing hard in P.E. activities and games helps to work off emotional tension such as unhappiness, anger etc.					
8. A student's body is usually strong enough without playing and working in P.E. -					
9. I would take P.E. only if I had to.					
10. Playing games and sports in P.E. helps students become more fun to be around.					

WEAR'S PHYSICAL EDUCATION ATTITUDE SCALE (MODIFIED)

PEOPEL PROGRAM

Directions: There are five possible responses to each statement: Strongly Agree, Agree, Do Not Know, Disagree, Strongly Disagree

Consider physical education only as an activity class taught during the regular school day. Mark an "X" in the box which best answers the statement for you

Your own experiences and feelings should help you answer the statement. In no way will your answers affect your grade in any class.

	Strongly Agree	Agree	Do Not Know	Disagree	Strongly Disagree
11. Playing games and sports in P.E. does not help students learn how to walk, run and jump better.-					
12. Schools do not place enough importance on P.E.					
13. It is important that students learn and improve physical skills such as running, jumping, shooting baskets or hitting a ball.					
14. P.E. classes do not offer important ways of learning to get along with other people.-					
15. Doing exercises each day is good for your health.					
16. A student would be better off emotionally if he did not play games and sports in P.E.-					
17. Physical skills like running, shooting baskets, hitting a ball, etc. are not necessary to lead a full life.-					
18. It is possible to make P.E. an important subject by teaching meaningful and worthwhile activities.					
19. P.E. does more harm to the body than it does good.					
20. Practicing a physical skill helps relax the mind.					

WEAR'S PHYSICAL EDUCATION ATTITUDE SCALE (MODIFIED)

PEOPEL PROGRAM

Directions: There are five possible responses to each statement: Strongly Agree, Agree, Do Not Know, Disagree, Strongly Disagree

Consider physical education only as an activity class taught during the regular school day. Mark an "X" in the box which best answers the statement for you

Your own experience and feelings should help you answer the statement. In no way will your answers affect your grade in any class.

	Strongly Agree	Agree	Do Not Know	Disagree	Strongly Disagree
21. Playing games and sports with other students in P.E. is fun.					
22. P.E. does <u>not</u> offer anything that can be of use outside the class time. -					
23. P.E. classes help students learn attitudes that will make them better people.					
24. There should <u>not</u> be more than two, 1 hour periods of P.E. during the week.-					
25. It is harder to make friends in P.E. classes than in other classes. -					
26. In P.E. games and activities such as football, volleyball, and softball, students form groups of teams. Belonging to a group is a good experienc for students.					
27. Students do <u>not</u> learn enough from P.E. to make it worth the time spent in class. -					
28. P.E. is an important class in helping students learn about good all-around health.					
29. Skills that are learned in P.E. help people learn how to live better.					
30. There are <u>no</u> good lessons that are learned from playing games and sports in P.E. -					

WEAR'S PHYSICAL EDUCATION ATTITUDE SCALE (MODIFIED)

PEOPEL PROGRAM

Directions: There are five possible responses to each statement: Strongly Agree, Agree, Do Not Know, Disagree, Strongly Disagree

Consider physical education only as an activity class taught during the regular school day. Mark an "X" in the box which best answers the statement for you.

Your own experiences and feelings should help you answer the statement. In no way will your answers affect your grade in any class.

	Strongly Agree	Agree	Do Not Know	Disagree	Strongly Disagree
31. People get all the exercise they need just by doing their daily work.-					
32. Playing in P.E. classes help people develop a better personality.					
33. It will help students if they play and work for an hour each day in a P.E. class.					
34. P.E. activities seem to upset students.-					
35. P.E. really helps students get stronger which helps them do their daily tasks better.					
36. P.E. helps develop student mentally and emotionally. P.E. should be included in the program at every school.					
37. P.E. encourages students to do better than other students in many activities. This makes students dislike each other.-					
38. I would advise anyone to take P.E.					
39. Playing in games and sports helps students have a better outlook on life.					
40. Physical education classes do <u>not</u> help make you feel better.-					

Appendix B

Criterion selected

- muscular strength
- muscular endurance
- cardiovascular endurance
- flexibility
- agility

Muscular strength

Definition: The muscular force exerted against a moveable or immoveable object.

Test for Muscular Strength: FLEXED ARM HANG.

Objective: To measure the muscular endurance of the arms and shoulder girdle.

Validity: Content validity was established.

Reliability: Has been reported as high as .90.

Equipment and Materials: Horizontal bar, stopwatch.

Directions: With an overhand grasp and the assistance of two spotters, the performer should raise the body off the floor so that the chin is above the bars and the elbows are flexed. The student should hold this position for as long as possible.

Scoring: The time should be started as soon as the student starts in the flexed hang position. The time should be stopped as soon as chin touches the bar. The number of seconds to the nearest second that the performer maintains the proper position is recorded as the score.

Muscular endurance

Definition: The ability of a muscle to repeat identical movements or pressures, or to maintain a certain degree of tension over a period of time.

Test for muscular endurance: BENT KNEE Sit-Up (60 Seconds)

Objective: To measure the endurance of the abdominal muscles.

Validity: Content validity was established for this test.

Reliability: Has been reported as high as .94.

Equipment and Materials: Mats

Directions: From a lying position on the back the performer flexes his knees as the feet remain flat on the floor. The hands are placed behind the neck with the fingers interlaced. A student holds the performer's ankles so that the heels are in contact with the mat at all times. The student sits up touching the face to the knees then returns to the starting position making sure the back of the hands touch the mat. The exercise is repeated as many times as possible in 60 seconds.

Scoring: The total number of repetitions for 60 seconds is recorded for the score. Repetitions should not be counted when the finger tips do not maintain contact behind the head, when the knees are not touched, or when the back of the hands do not touch the mat.

Cardiovascular Endurance

Definition: The ability of the circulatory and respiratory systems to adjust and to recover from the effects of exercise or work.

Test for cardiovascular fitness: 12-minute run/walk

Objective: To measure cardiovascular fitness.

Validity: A validity coefficient of .90 was obtained when maximum oxygen intake was used as the criterion.

Reliability: A test-retest reliability of .94 was reported by Doolittle and Bigbee. (1)

Equipment and Facilities: Stopwatch, whistle, a track or specific course measured in distance.

Directions: The students start behind a line, and upon the starting signal, they run and/or walk as many laps as possible around the track or course within 12 minutes. Upon the signal of the whistle to stop, the students should stop long enough for the tester and his assistants to take note of the distance covered to the nearest quarter of a lap.

Scoring: Record the number of laps to the nearest quarter lap and then multiply by the number of yards around the track or course to give the total yards covered.

Flexibility

Definition: The ability of an individual to move the body and its parts through as wide a range of motion as possible without undue strain to the articulations and muscle attachments.

Test for flexibility: The modified sit and reach

Objective: To measure the flexion of the hip and back as well as the elasticity of the hamstring muscles.

Validity: Content validity was established for this test.

Reliability: An r of .92 was found when scores recorded on two separate days were correlated.

Objectivity: An r of .98 was found when the scores from an experienced tester were correlated with scores from an inexperienced tester.

Equipment and Material: Yardstick or measuring tape, chalk dust, tape.

Directions: A yardstick or measuring tape is taped to the floor. The performer assumes a sitting position perpendicular to the yardstick with the lap extended so that the yardstick is between the legs. The performer's heels should be lined up at the near edge of the 15-inch mark and not more than 5 inches apart. A partner's feet are used to brace the performer's feet so that on the reach the heels will not slide over the line. The performer should stretch forward three times. On the third effort he should reach as far as possible and mark the tape by touching it with his chalked fingers.

Scoring: The score is the furthest point that is reached with the fingertips. The best measure of three trials is recorded to the nearest quarter inch.

Agility

Definition: The ability to rapidly change body position and direction in a precise manner.

Test for agility: Shuttle run

Objective: To measure speed and change of direction.

Validity: Content validity was established for this test.

Reliability: Reported as high as .92

Equipment and Materials: Two blocks of wood (2" x 2" x 4"), stopwatch.

Directions: The student starts from a standing position behind one of the two lines which are 30 feet apart. Behind the far line are two blocks of wood. At the starting signal, the student races to the blocks, picks one up, and runs back to the starting line. He places (not throws) the wooden block behind the starting line, runs back and picks up the second

Directions: Contd.

block carrying it across the finish line. Two trials are given with a rest period between trials.

Scoring: The time to the nearest tenth of a second of the better of the two trials is recorded.