DOCUMENT RESUME

ED 136 037 08 CE 010 190

AUTHOR	Heitzeg, Howard; Jeter, Kaye
TITLE	Pontiac Adult-Student Learning System. Final Evaluation Report. Project Years 1973-76.
INSTITUTION	Pontiac City School District, Mich.
SPONS AGENCY	Bureau of Occupational and Adult Education (DHEW/OE), Washington, D.C.
REPORT NO	V361048
PUB DATE	76
GRANT	OEG-0-73-5287
NOTE	78p.; Several pages of the Evaluation Design Worksheets may not reproduce well
EDRS PRICE	MF-$0.83 HC-$4.67 Plus Postage.
DESCRIPTORS	*Career Exploration; Data Analysis; Demonstration Projects; Job Skills; Program Descriptions; *Program Development; *Program Effectiveness; School Districts; *School Industry Relationship; Secondary Education; Skill Development; *Vocational Development; *Vocational Education; Vocational Followup; Work Experience Programs
IDENTIFIERS	Michigan; Michigan (Pontiac)

ABSTRACT

The Pontiac Adult-Student Learning (PALS) Program's three years of operation are described in this report. (The primary goal of the project was to broaden the career horizons and aspirations of students in Pontiac's (Michigan) two high schools through an instructional program which would include student work experience through cooperative efforts between area industries and businesses and the Pontiac schools.) Five major sections are included: Statement of Problem, Overview of Project, Goals and Objectives, Data Analysis and Conclusions, and Evaluation Design Worksheets. The major portion of this report is included in the section, Data Analysis and Conclusions, in which each of the following project outcomes and supportive data are examined: Teacher inservice training; delivery of followup for inservice participants; pilot one semester placement program for 11th and 12th grades; institute support of the project by business and industry; disseminate the PALS curricula throughout district, State, and nationwide; pilot and research program for girls on choosing nonsex role stereotyped occupation; place PALS in the regular school day as a regular class; complete a followup of PALS students; continue career classes and increase number of students in program; involve parents in PALS program; and research decisionmaking process. Tables, graphs, and other supplementary information are included. (SA)

FINAL EVALUATION REPORT

Project years

1973 - 76

Project No. V361048

Contract No. OEG-0-73-5287

PONTIAC ADULT-STUDENT LEARNING SYSTEM

Exemplary Project in Vocational Education

Conducted Under

Part D of Public Law 90-576

Howard Heitzeg

Project Evaluator

Kaye Jeter

Project Supervisor

School District of the City of Pontiac

350 Wide Track Drive

Pontiac, Michigan 48058

TABLE OF CONTENTS

I. Statement of Problem

Historically, high schools have not met the challenge of providing vocational education for their students.

Traditionally, high schools have served as a feeder system to the colleges and universities and have tended to focus their resources on college preparatory programs. Middle schools or junior high schools have had mixed missions, with some confusion and lack of unity of purpose. Even with the introduction of the comprehensive high school in the late 50's, the secondary schools have rarely met the needs of all their students. In part, the problem has been the lack of clearly defined purposes and a systematic identification of student needs.

With the passage of the 18 year old age of majority, it is essential that secondary schools begin to interpret their role in terms of better preparing their students for adulthood. The luxury of a three (3) year grace period between high school graduation and full adulthood is no longer available. Therefore, the schools must begin to spell out their student performance objectives in terms of a full range of career opportunities. In this sense, career education is not to be narrowly defined as occupational training, vocational education, or industrial arts. Career education, rather, is defined "as educational activities from kindergarten through adult life which provide an individual with the attitudes and skills necessary to select and be successful in a career field. This includes the blending of occupational preparation, career exploration, consumer education and general education programs."

It has become evident that secondary schools cannot accomplish this task in isolation. A true partnership must be formed involving schools, employers, parents, and students in order to assemble the resources and manpower necessary to guarantee that each 18 year old will be prepared for full adulthood. This preparation must include all students regardless of their post high school plans.

The following district wide information is presented to illustrate the socio-economic nature and academic profile of the school district.

The City of Pontiac is an industrial city of 85,000 people located in the northern section of Oakland County. It is 25 miles northwest of downtown Detroit. Pontiac is an old established city operating under a commission and city manager.

Three large General Motors plants are located within the city and offer employment, directly or indirectly, to a large majority of the population. The three plants contribute about 50% of the local tax revenue. The working force is about half blue collar and half white collar.

The City of Pontiac has a total population of 82,233, according to the 1960 census figures. This represents 19,233 families. The following chart shows the relationship of the total families to the low income families.

Income	1960 Census Number of Families	Adjusted 1968 Families	Adjusted Percent of Total Families
$0-999	708	849	4.3
$1000-1999	1232	1478	7.4
$2000-2999	1182	1418	7.1
$3000-3999	1388	1665	8.4
TOTAL	4510		27.2

According to the 1960 Census the School District of the City of Pontiac includes 120,000 people as compared with almost 700,000 people in Oakland County and 7,800,000 in the State of Michigan. The 25% Negro population exceeds the Negro percentage of both the state and county level. The percentage of economically deprived persons also exceeds the state and county level as evidenced by the distribution of ESEA Title I and OEO programs.

Academically, Pontiac has the same problems that face all major urban cities. The state of Michigan has conducted an Educational Assessment Program for the past two (2) years. In each of these years the academic performance of Pontiac's fourth and seventh graders when compared state wide has ranked below the fifth percentile.

II. Overview of Project

In order to better meet student needs in the area of vocational education the Pontiac Adult-Student Learning System was created. It was designed to aid students in broadening their career horizons and possibly their aspirations.

The city and the school district made available to each high school student work experiences and career exploratory opportunities in each of the multitude of employee classifications now available, ranging from entry skill jobs through management. Students selected an area of interest and then were assigned on a one-to-one basis to spend five (5) to ten (10) hours per week for one (1) semester with an adult employee. The adult employee explained his/her job in terms of tasks performed, skills needed, academic preparation needed, personal skills needed, importance of the position in relation to the organizational structure, and career implications. The remainder of the semester was devoted to the student and adult jointly working on the tasks involved in that job slot. Curricular offerings in the high school were modified to relate to the assignment of each student.

Student assignments were made for the second semester of grade 10 or the first semester of grade 11. PALS assignments then continued for the remainder of the eleventh and twelfth grades if the student desired. Appropriate high school credit was granted for each semester of participation. After the initial PALS exposure, student also participated in coop or work-study programs.

Following the initial pilot year of operation, the program was expanded to include as many other employers in the Pontiac area as possible. This included large industry (GM Truck and Coach, Pontiac Motors, and Fisher Body), light manufacturing firms, small business, and other governmental agencies (county, state and federal).

A more flexible student day allowed the student to schedule basic classes at various times during the full day. This was accomplished through a closer coordination of the school district sponsored continuing education effort (Adult Education) and the current high school program.

During the first year, the program was limited to school district and city government job slots. The number of students was limited to approximately 100 from Pontiac's two high schools. The second and third years took full advantage of the scores of job slots available at these two institutions and in the private sector as well.

By moving part of the instructional program out of the school building and into the community a major step was taken in creating a bridge between the school and earning a living for young people. The commitment to participate in this project by city officials and industry representatives illustrated the high level of cooperation that exists between these agencies. The physical resources that became available for student exploration broadened his/her occupational aspirations, and hopefully, his/her opportunities for post high school employment.

Implications and/or Advantages for the Student

1. Student placement at all levels in all departments.

   1.1 entry level - learned skills

   1.2 skilled - learned skills, career possibilities

   1.3 professional - learned requirements, job functions, career possibilities

2. Expanded student horizons and goals by learning career implications and requirements of an employment area.

3. Expanded student choice for skills training beyond those available in the high schools or NEOVEC.

4. Preceeded coop or work study, thus gave the student better background for job selection.

5. Post high school placement chances greatly enhanced.

6. For all students - college bound
   post secondary
   employment
   adaptable for crash program for non-graduates

7. One semester exploratory - second semester optional for additional skill training if desired.

Implications and/or Advantages for the School District

1. Implemented relevent educational program by expanding to the real world.

2. Changed the teacher's role by having all teachers responsible for follow up and related academic instruction.

3. Changed the counselor's role by having them involved in career selection, personal skills, and placement.

4. Changed the function of data processing in the educational process.

   4.1 placement study and analysis

   4.2 custodial function - attendance

   4.3 informed teachers of student assignment

   4.4 student record package

5. Provided students with a customized academic program, one-to-one instruction, work experience, and career selection information.

6. Provided one-to-one tutoring in a large number of job titles for skill training and/or career exploration.

Implications and/or Advantages for the City

1. Students and parents gained new insights into the functions of city government.

Implications and/or Advantages for the City (Cont'd)

2. A positive public image was created for the city through word of mouth, local press releases, local and national dissemination of information, and project evaluation.

3. The city developed a bank of potential employees representing all racial groups and SES levels.

4. Staff moral was improved through individual and personal participation in the project, i.e.,

   -providing social service (Big Brother attitude)

   -opportunity to explain position functions and importance

III. Goals and Objectives

The Pontiac Adult-Student Learning (PALS) program has completed three years of operation. The primary goal of the project remains the same - to broaden the career horizons and aspirations of high school students in the City of Pontiac. The goal was reached by way of a two-pronged delivery system. Through classroom experience students (100 in the first year to the maximum of 488 in the second semester of the third year) explored career options in relation to their values, skills, and aspirations. They learned the process of decision making and applied it to career selection. Following this "decision" they were placed in an internship with an employer in their chosen vocation. The internship was designed to give students insight into ramifications of their choice.

The goals and the basic program remained essentially the same throughout the three years of the program. Some emphasis has changed from previous years with an accompanied change in evaluation emphasis. The variance of program concentration is operationally defined by the program goals and objectives. Progress toward the attainment of the outlined objectives will be the focus of the remainder of this report.

The goals of PALS which will be used in the evaluation design are:

1. Secondary level students will be given the opportunity to become aware of varied careers.

2. Secondary level students will be afforded the opportunity to have first hand experience with individuals in varied career fields.

3. Placement opportunities for secondary level students will be expanded.

4. Students will be provided an opportunity to explore a selected career field.

5. The program will enable students to evaluate their attitudes and levels of aspiration relative to varied careers.

The specific performance objectives that relate to these five (5) goals are:

1. Students will demonstrate growth in career awareness as evidenced by post test score being significantly higher than pre test score on a locally devised career awareness inventory.

2. Given the experience in the program, students will be able to list a minimum of five (5) occupations related to the career field to which they were assigned.

3. Student will give evidence of awareness of career decision making skills through submission of a career decision matrix form judged satisfactory in terms of
   a. listed alternatives
   b. advantages/disadvantages
   c. congruency of decision with self appraisal of interests and abilities.

4. Student participants will be assigned to an individual within a specific career field.

5. Student participants will carry out specific assigned activities within a given career field.

6. Students will have increased placement opportunities as evidenced by numerical increase of placements made in academic or job training areas related to career fields tapped by the project.

7. Students will indicate by questionnaire responses that the program provided activities which increased their awareness of careers.

8. Students will demonstrate an increase in aspiration level as indicated by pre-post gains on a locally devised level of aspiration test.

9. Students will show increase in attitude toward world of work as indicated by pre-post gain on the Crites Work Attitude Scale.

IV. Data Analysis and Conclusions

Over the three years of the project many activities have been conducted to achieve the goals of the PALS program. For evaluation purposes each of the goals were operationalized [illegible] veral program outcomes and accompanying evaluation questions. The body of the evaluation report reviews each of these evaluation questions, the answers to the questions, and the supportive data for each of the answers. The worksheets summarizing the evaluation questions addressed by the project are presented at the end of this report.

Outcome area: Teacher inservice training

Evaluation question: Was the inservice delivered to the teachers?

What teachers received the training?

Data analysis:

The purpose of the evaluation of this inservice was to measure the growth, in terms of gains, of the teacher participants in the career skills, communication skills, educational skills and physical skills. They were pre and post-tested; the data was recorded and summarized narratively and graphically.

The instruments used were developed from the Career Achievement Skills Training Program.

The career skills test was measured on a five-point scale. If the participant did not answer, they received a zero. If they answered, but gave a partially incorrect or incomplete reponse, they received a 1.

If they gave an implied answer, or showed a model or scheme, they received a 2. If they gave at least two explicit examples, they got a 3 which is a mastery or a minimum effective level. If they gave examples and scheme or system in answering the question, they got a 4. If they had all the steps in order and wrote a program for getting it right, they received 5.

In the human skills, discrimination scores, mastery was indicated by a low score. A score of .5 indicated minimum effective level while a discrimination score of 0 indicated an extremely effective level.

In the educational skills, the participants were asked to develop a lesson plan. A tally was made of the participants that used the teacher delivery system of ROPES - Review, Overview, Present, Exercise and Summarize.

The scales for the Physical skills were used from How to Help Yourself (Carkhuff, 1975, page 27). The minimum effective level was 3.0.

The most significant gains were noted in the educational areas. There was an overall gain of 85% (Table I). All of the areas showed gains.

In the human skills, Pontiac's Alternative Education participants overcame the lowest discrimination score of 1.0 and decreased it to a minimum effective level of .5 on the post-test as indicated in Table II. The largest gain of 46% was also made by the Alternative Education staff in the career area (Table II).

Inservice training may be for better or worse. The participants may grow from their experiences or fail to grow. The training was designed to move them from where they were to a minimum effective level of functioning. To do this, pre-tests were administered to all participants in the four skill areas. Pre-test scores were at a minimum effective level only in t[illegible]of the physical as noted by Graph I.

While all of the participants improved their skills, those initially functioning highest in the skills tended to increase their absolute functioning at least as much as those who began at a lower level.

The tablular summaries that follow are illustrated as a total group and by participants as they were assigned to schools. The data is based on four different skills modules: (1) educational (2) humanistic, (3) career and (4) physical.

Summary data for Pontiac Central's participants (Graph II) suggests a gain in communication skills of at least 45%. This data indicates that the participants are now better able to functionally give an effective response to their students. It is significant to note that an average gain of 22% was realized in the physical area. This growth in the physical area helped to assure success in the other skill areas.

As compared to the total group, (Graph I) the Pontiac Catholic group (Graph III) made gains of an average 4% to 70% in all skill areas. Although minimal gains were made in the physical areas, these participants were already functioning above a minimal level of 3. It can be noted

that they either maintained those high levels or increased those levels. This growth also becomes an additive factor in increasing their positive effect on their students.

Pontiac Northern's participants (Graph IV) indicates an average gain of 22% in communication skills. This data suggests that these participants gained enough to discriminate an effective response as well as respond to the student to facilitate growth.

The graphical data on the Alternative Education group (Graph V) shows that the participant's gains surpassed the minimum effective level of functioning in all skill areas. It is important to note the average growth in the career areas as compared to the total group's gains in Graph I.

While noticeable gains were made throughout, it is important to point out the total growth of the participants. Although growth was apparent at different levels, the participants reached an average minimal level of effectiveness in all skill areas according to the post-test data. Functionally, this indicates that the participants:

a. Know the career skills at a minimum effective level
b. Can communicate on an interchangeable level with students
c. Are at a minimum effective level in their own physical conditioning
d. Can develop lesson plans using an effective and systematic manner

Summary of Gains for Pontiac

Alternative Education's Participants by Skill Area

Table II

Career			Human						Educational						Phy		
			Communication			Discrimination			ROPES			Ext.			Ca		
Pre	Post	Gain	Pre	Post	Gain	Pre	Post	Gain	Pre	Post	Gain	Pre	Post	Gain	Pre		
1.6	3.9	46%	1.6	4.0	48%	1.0	.5	50%	2	7	86%	3.8	4.5	14%	2.6		

Summary of Gains for Pontiac

Northern's Participants by Skill Area

Table III

Career			Human						Educational						Ph		
			Communication			Discrimination			ROPES			Ext.			Ca		
Pre	Post	Gain	Pre	Post	Gain	Pre	Post	Gain	Pre	Post	Gain	Pre	Post	Gain	Pre		
2.5	3.0	12%	2.8	4.0	24%	.5	.4	20%	2	8	75%	3.0	3.6	12%	2.5		

Summary of Gains for Pontiac

Catholic's Participants by Skill Area

Table IV

reer		Human						Educational			Physical								
		Communication			Discrimination			ROPES			Ext.			Car.-Vas.			Dyn. Strength		
ost	Gain	Pre	Post	Gain	Pre	Post	Gain	Pre	Post	Gain	Pre	Post	Gain	Pre	Post	Gain	Pre	Post	Gain
3.0	4%	1.3	3.9	52%	.8	.5	38%	0	2	100%	4.0	4.5	10%	3.5	3.7	4%	4	4	0

Summary of Gains for Pontiac

Central's Participants by Skill Area

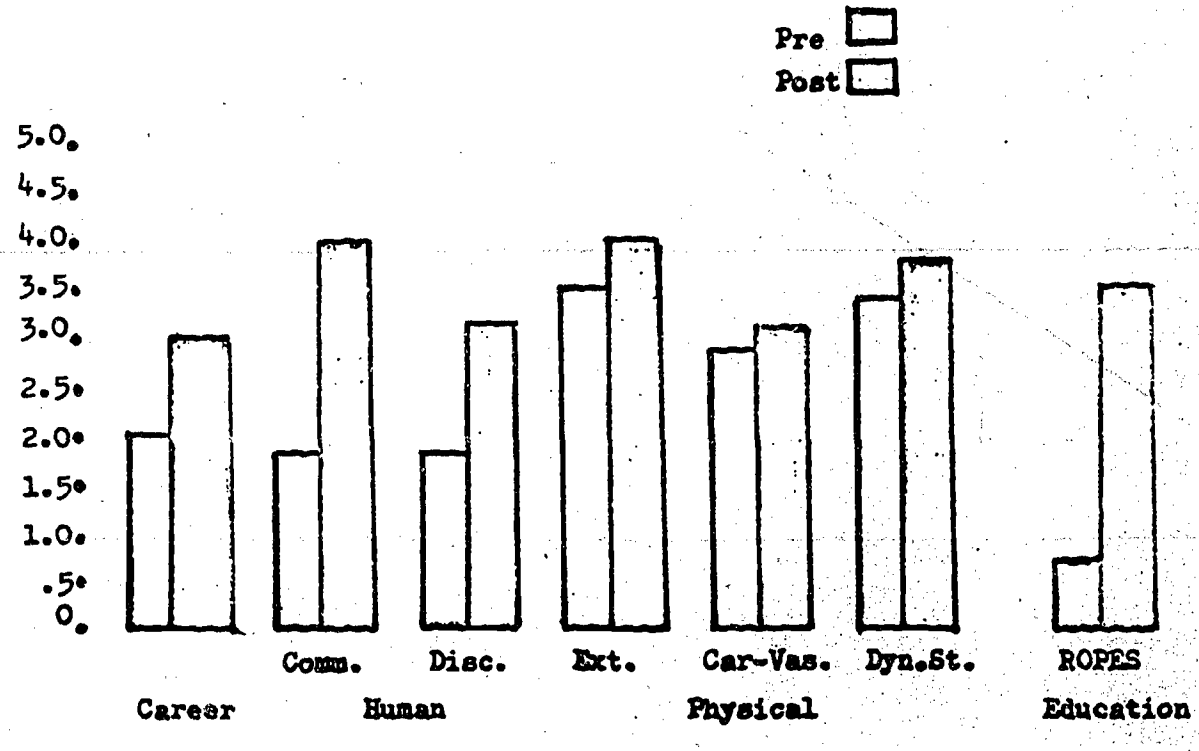
Table V

reer		Human						Educational			Physical								
		Communication			Discrimination			ROPES			Ext.			Car.-Vas.			Dyn. Strength		
ost	Gain	Pre	Post	Gain	Pre	Post	Gain	Pre	Post	Gain	Pre	Post	Gain	Pre	Post	Gain	Pre	Post	Gain
.7	16%	1.4	3.7	46%	.9	.5	45%	0	9	100%	1.8	3.0	24%	2.5	3.7	14%	1.8	3.2	28%

GRAPH I

SUMMARY OF INSERVICE GROUP DATA BY

SKILLS MODULES



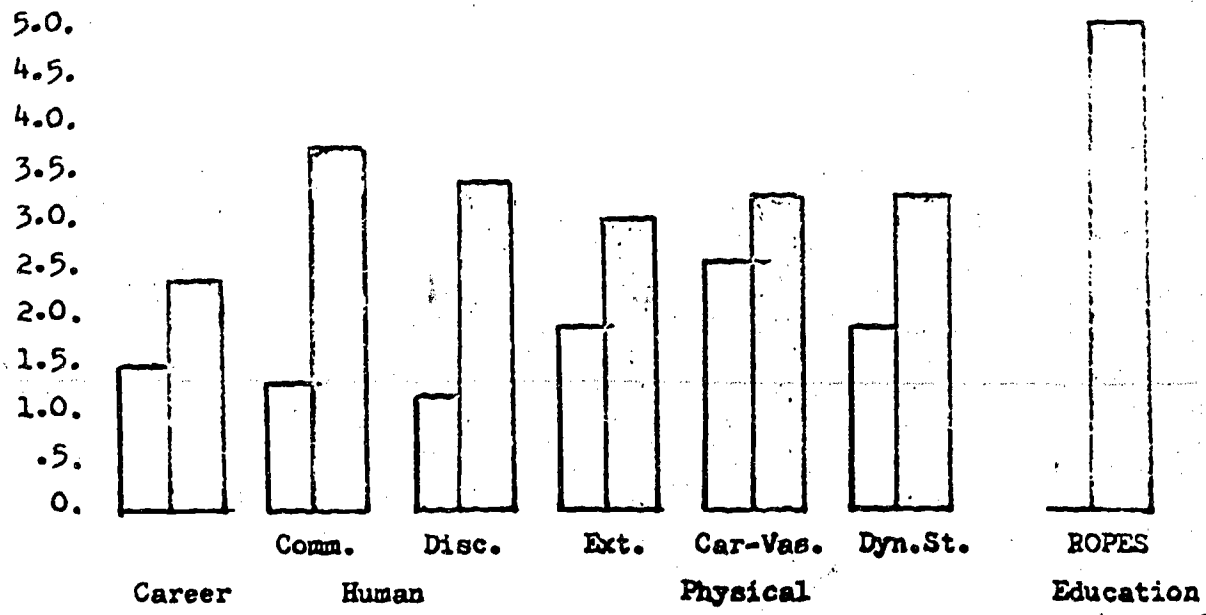
GRAPH II

SUMMARY OF DATA FOR

PONTIAC CENTRAL PARTICIPANTS BY SKILLS MODULE

Pre ☐

Post ☐



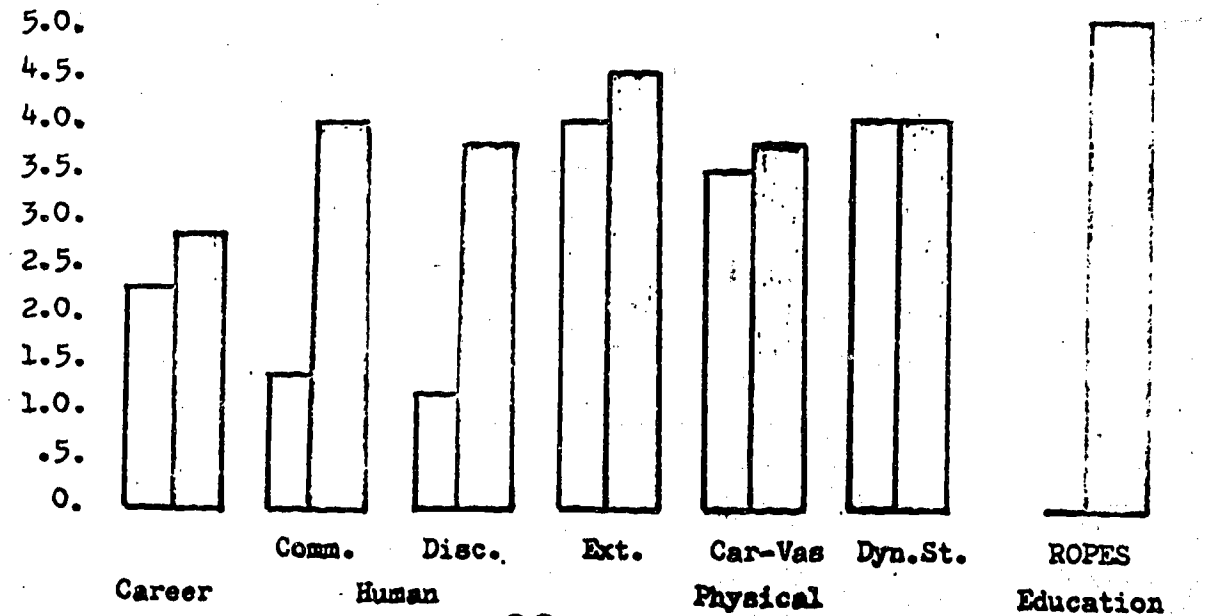
GRAPH III

SUMMARY OF DATA FOR

PONTIAC CATHOLIC PARTICIPANTS BY SKILLS MODULE

Pre ☐

Post ☐

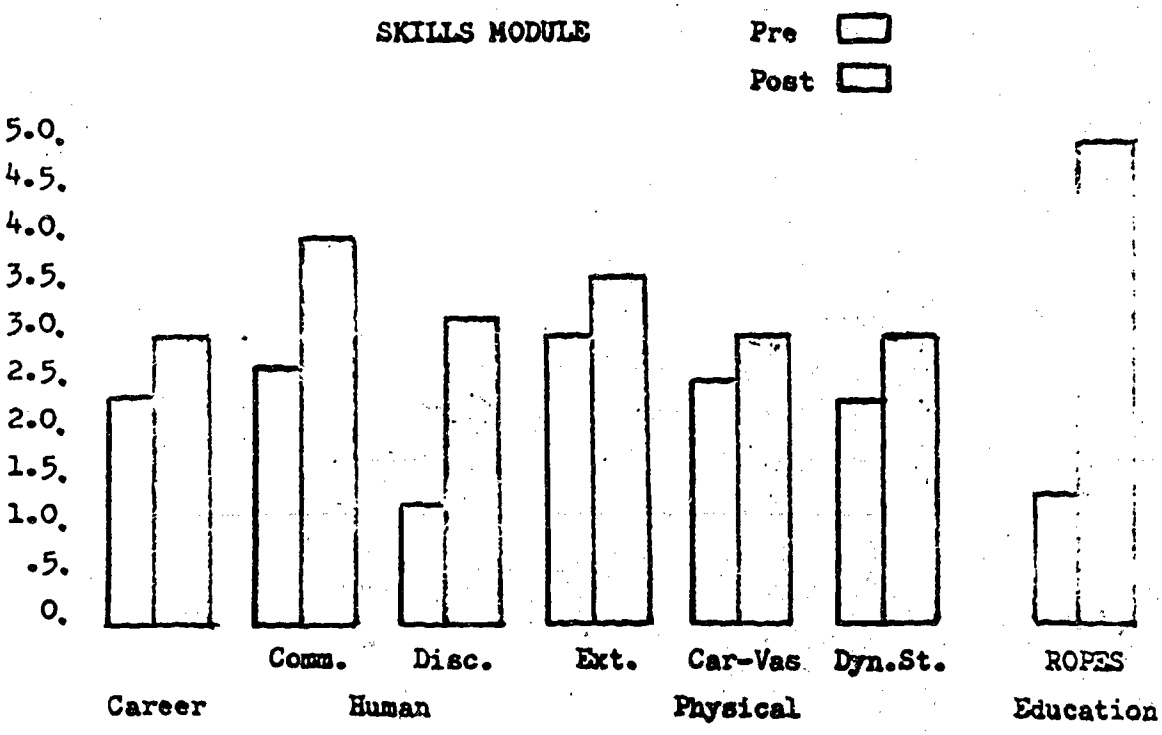


GRAPH IV

SUMMARY OF DATA FOR

PONTIAC NORTHERN PARTICIPANTS

SKILLS MODULE



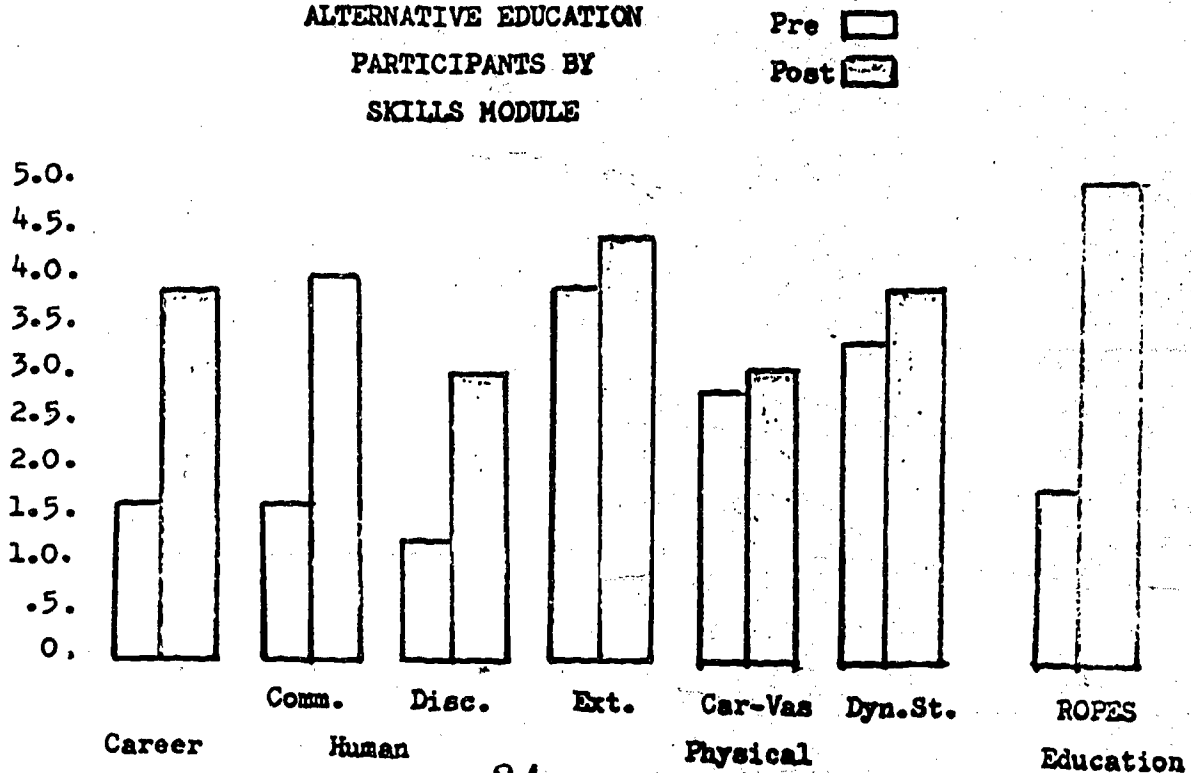
GRAPH V

SUMMARY OF DATA FOR

ALTERNATIVE EDUCATION

PARTICIPANTS BY

SKILLS MODULE



Conclusions from the data:

The training program was completed and the data clearly show gains in those areas addressed by the program. The gains were more dramatic in the educational area. The educational area is the most "knowledge" oriented portion of the program. Perhaps the gains were higher in this area because educators are more inclined to achieve in this area than they are in the physical area. The most plausible reason, however, for the observed difference is that gains in physical skills often require more time than gains in intellectual skills.

Outcome area: Delivery of "follow-up" for inservice participants

Evaluation question: Was the follow-up program for inservice participants delivered?

Data analysis:

The follow-up programs have been delivered. Teachers had options regarding the intensity of the follow-up program. They could have chosen to involve themselves in a group session one hour per week, an individual session for two hours per month, or a formal class on the subject three hours weekly. The follow-up sessions in this program are critical to the actual classroom implementation. The support provided in these kinds of sessions dramatically increases the quantity and quality of the implementation of education programs in general. They are especially effective in programs, such as PALS, where the teacher is being asked to implement something dramatically different from the traditional school program. The project director kept a log of these activities. The data from the log reveal the following information regarding the teacher participation in the three modes of inservice follow-up activities

during the first semester of the school year.

Follow-up Mode	Number of Participants	Hours of Training	Total Staff Hours
Formal Class	17	12	204
Weekly Meetings	15	15	225
Individual Meetings	20	2	80
Totals	52	29	509

Conclusions from the data:

The activities necessary for the "follow-up" program identified in the project proposal have been completed. There was not a formal evaluation design to examine the effectiveness of the follow-up activities. However there is much evidence from staff member observations that it was effective; in that they observed teachers implementing procedures they had learned in the follow-up program.

Outcome area: Pilot one semester placement program for 11th and 12th grades.

Evaluation question: Is group dissemination of college placement information more efficient and/or effective than one-to-one counseling?

Data analysis:

The project has implemented a classroom program to help young people place themselves in post-high school education programs. The PALS delivery system is ideal for this because of the heavy decision making emphasis. The central issue being investigated here is quite simple but has far reaching implications. If the classroom setting satisfies

The need for post high school career counseling, then a re-examination of the traditional, and expensive, one-to-one counseling must be made. The evaluation of the course is limited to the course itself. It is not valid to compare the success of the course to the present school counseling program. Those students enrolled in the placement course also had access to the school counselors; thus, it is impossible to sort out which activities or combination of activities had the greatest impact on the students. The ten students enrolled in this class participated in the activities outlined by the Project staff as necessary for completing the course of study.

Conclusions from the data:

Students did complete the course of study and all produced a post-high school career plan. It is not possible, in this context, to establish a clear cause effect relationship between the course of study and the plan. It is, however, probably safe to infer that the student's achievement is due primarily to the course of study.

Outcome area: Institute support of the project by business and industry.

Evaluation question: Are efforts made to maintain or increase placement of interns in business and industry?

Data analysis:

The list of placement stations in business and industry includes three-hundred (300) new stations over the life of the project.

Conclusions from the data:

During the first year of the project the placement stations were limited to jobs in the school district and the city government. Staff concluded

that the selection was too limited in view of the totality of the career options open to students in the "real world". Therefore, they embarked upon a program of "opening up" placement opportunities in the private business sector. The achievement of this goal is in evidence, since the majority of the new placement stations are in the private business sector.

Outcome area: Disseminate throughout district, state and nationwide the PALS curricula.

Evaluation question: Are project staff taking appropriate steps to apprise district staff, other Michigan agencies, and other publics of the activities and impact of the PALS project?

Data analysis:

Project staff have taken steps to keep all audiences of potential interest informed of the activities and impact of the program. The emphasis of dissemination efforts has been concentrated on the decision makers in the Pontiac district. This effort has paid off in the acceptance of the program as part of the regular school curriculum and the commitment of local resources to expansion of the program in Pontiac. The out-of-district dissemination activities have been confined to the traditional dissemination techniques of newsletters, speaking at educational gatherings, and guiding visitors through project activities.

Over the three years of the program project logs show a multitude of dissemination activities. It appeared futile to attempt to count and categorize the activities and apply some statistical analysis to the data.

Conclusions from the data:

The most cogent argument that appropriate dissemination activities have taken place is that the program is enjoying wide acceptance in the district. The data show that student enrollment and staff participation have increased over the years. Beyond that the observer must go to the staff's project-end report and analyze the activities listed and make a subjective judgment of the worthiness of the efforts to disseminate the program.

Outcome area: Pilot and research program for girls on choosing non-sex role stereotyped occupation.

Evaluation question: Are girls in the program presented with meaningful alternatives in non-sex role stereotyped placements? Does PALS training reduce sex-role stereotyped attitudes among participants?

Data analysis:

Student choices for internships have been collected for last year's group of young people. Fifty-three girls selected and were placed for internships in traditional male dominated jobs. This epresents approximately 1/3 of all the females placed during the 1974-75 school year. The jobs selected and the numbers selecting them are listed below.

JOB	FEMALE
Accountant	8
Administrator	7
Air Traffic Controller	2
Army Recruitor	1
Chemical Engineer	1
Computer Technician	5
Drafting Person	1
Forest Ranger	1
Housing Aide	3
Housing Inspector	2
Lawyer	5
Pharmacist	2
Physician	3
Police Officer	7
Veterinarian	5
	53

The project assessed the sex-role stereotyped attitudes toward careers by asking PALS students to react to forty-eight kinds of jobs: twenty-four male stereotyped, twenty female stereotyped and four with no stereotype. Students were asked to rate each job on a five point scale:

1. Have not given thought
2. Have given thought but no plans
3. Have plans but not sure
4. Have definite plans but don't know how to carry out
5. Have definite plans and know how to carry out

The compilation of the data reveal the following totals:

Male Stereotyped jobs	Mean	Standard Deviation
Males	2.342	.377
Females	2.337	.397
Female Stereotyped jobs	**Mean**	**Standard Deviation**
Males	3.653	.430
Females	3.614	.520
Neutral jobs	**Mean**	**Standard Deviation**
Males	2.990	.671
Females	2.862	.293

There is no real difference between sexes in attitude toward any of the three job categories. Both sexes for some reason rate the female stereotyped jobs higher than the male stereotyped jobs. Generally males rate slightly higher in attitude toward all three categories than do females; this could be attributed to slightly more career planning on the part of the males in the sample.

Conclusions from the data:

This is no evidence that the program fosters sex role stereotypic attitudes on the part of the participants. The evidence in fact supports the notion that experience in the program fosters a more objective view of jobs than is found in society at large.

Outcome area: Place PALS in the regular school day as a regular class.

Evaluation question: Were PALS classes placed in the regular school day? How many classes? How many days?

Data analysis:

Four hundred eighty-eight young people have registered for and completed the PALS class in the regular school day during the second semester of 1975-76 school year.

Conclusions from the data:

Seventeen classes completed ninty school days as a part of the regular school program. This objective or outcome area is completed.

Outcome area: Complete a follow-up of PALS students.

Evaluation question: Do PALS participants report career choices as satisfying? Rate of unemployment?

Data analysis:

A follow-up survey of 1975 Pontiac graduates was conducted by the Department of Research and Evaluation, Pontiac Schools, on behalf of the Michigan Department of Education. The total number of graduates surveyed was 841, and 450 responded, 54% return rate. At the time of the survey, September, 1975, the PALS program had been in operation for only two years and only 42 graduates were PALS participants.

Evidence to support the evaluation question is somewhat tempered by the small number of PALS graduates and slightly lower response rate from PALS graduates. Only about 40% (N=17) of the forty-two 1975 PALS graduates were identified from the survey. So small a number precludes any strong conclusions. Responses of the 17 PALS graduates who did respond will be presented but no attempt will be made to answer the evaluation question on the basis of these data. With the growing

number of PALS graduates, independent follow-up attempts can provide a more appropriate test of the long range impact of the training.

Six PALS graduates report they are employed. It could not be determined from the data where these graduates are employed. Seven graduates are unemployed, and four respondents did not indicate their employment status. When asked, "How satisfied are you with your present job?", three of the six employed PALS graduates stated they were "somewhat" or "very satisfied." The remaining three stated they were "not very satisfied" or "not satisfied at all." Half of the employed PALS graduates reported their hourly wage as between $2.00 and $3.00. The other half, three, reported their hourly wage as between $3.00 and $4.00 per hour.

Ten 1975 PALS graduates are full time students. One graduate is a part-time student. Two are attending vocational schools, two attend business/trade schools, and six graduates are enrolled in two or four year liberal arts colleges. One PALS graduate did not reveal where she/he was attending school. The data did not indicate major areas of training or study.

Conclusions from the data:

From the proportion of PALS graduates identified from the 1975 Pontiac Graduate Survey, there is not sufficient data to draw a valid conclusion concerning the hypothesis that PALS graduates will experience a lower rate of unemployment that non-PALS graduates and will be more satisfied with their career choices. A survey designed specifically for the follow-up of PALS participants will provide more conclusive data to test this hypothesis.

Outcome area: Continue career classes and increase number of students in program.

Evaluation question: Was career class delivery continued? What is the rate of increased participation?

Data analysis:

The classes are continuing and, as has been cited elsewhere, have been expanded. Four hundred eighty-eight students are enrolled for the second semester at the two high schools. There are almost five times as many enrolled in the second semester as there were for the entire first year of the program.

Conclusions from the data:

The career class has continued. The rate of student participation has increased 500% over the first year of the program.

Outcome area: Involve parents in PALS program.

Evaluation question: Were efforts made to disseminate information about PALS to parents?

Data analysis:

Invitations were sent to parents of PALS enrollees to come to a meeting regarding the program. The meeting was attended by fourteen parents of PALS students. Staff explained goals and purposes of the program and elicited parent help and cooperation in achieving the identified ends. Names and numbers of parents attending the meeting are enumerated in the staff year end report.

Conclusions from the data:

Staff made an effort to inform parents of the program. Though the response of the parents was small it is not atypical.

Outcome area: Research decision making process.

Evaluation question: Is PALS able to teach decision making? Is the regular PALS program more effective than alternative delivery mode?

Data Analysis:

Although project staff believe that students learn a process of decision making as a result of their involvement in the PALS program, an objective analysis of the data does not fully support that conclusion. The experimental and comparison groups were pre and post-tested on the Career Development Inventory. Three subtests and a total score were computed. A difference score was calculated for each of these subtests and the total score.

An analysis of variance was computed for each of these difference scores comparing the experimental and control groups. Tables 1 - 4 summarize the results of these analyses.

TABLE 1

Analysis of Variance of

Total Career Development

Inventory Scores (Post-Pre)

Source of Variance	Sum of Squares	DF	Mean Square	F	Significance of F
Main Effects	6376.36	2	3188	1.35	.26
Group	3616.22	1	3616	1.53	.22
Volunteering	3336.15	1	3336	1.41	.24
2-way Interactions	109.99	1	109.99	.05	.99
Group Volunteering	109.99	1	109.99	.05	.99
Explained	6486.38	3	2162.12	.92	.99
Residual	209975.5	89	2359.28		
Total			2352.85		

TABLE 2

Analysis of Variance

of Career Development Inventory

(Subsection Planning) (Post-Pre)

Source of Variance	Sum of Squares	DF	Mean Square	F	Significance of F
Main Effects	1853.58	2	926	4.8	.01
Group	109.31	1	109	.57	.99
Volunteering	1809.54	1	1809.54	9.56	.003
2-way Interactions	138.4	1	138.4	.73	.99
Group Volunteering	138.4	1	138.4	.73	.99
Explained	1991.95	3	663.98	3.5	.02
Residual	16840.22	89	189.22		
Total	18832.17	92	204.7		

TABLE 3

Analysis of Variance

Career Development Inventory

(Subtest B) (Post-Pre)

Source of Variance	Sum of Squares	DF	Mean Square	F	Significance of F
Main Effects	2642.44	2	1321.22	.73	.99
Group	2641.03	1	2641.03	1.46	.23
Volunteering	33.96	1	33.96	.02	.99
2-way Interactions	44.51	1	44.51	.03	.99
Group Volunteering	44.51	1	44.51	.03	.99
Explained	2687.0	3	895.67	.49	.99
Residual	160337.94	89	1801.55		
Total	163024.94	92	1772.01		

TABLE 4

Analysis of Variance

Career Development Inventory

(Subtest C) (Post-Pre)

Source of Variance	Sum of Squares	DF	Mean Square	F	Significance of F
Main Effects	94.85	2	47.42	3.08	.05
Group	2.93	1	2.93	.19	.99
Volunteering	88.23	1	88.23	5.73	.018
2-way Interactions	29.12	1	29.12	1.9	.17
Group Volunteering	29.12	1	29.12	1.9	.17
Explained	123.97	3	41.32	2.7	.05
Residual	1370.30	89	15.39		
Total	1494.27	92	16.24		

As can be seen in Table 1, there are no significant differences between the experimental and comparison groups and between volunteering and not volunteering for the program on the Career Development Inventory (CDI). There are also no significant differences between the experimental and comparison groups on the three subtests of the CDI (Tables 2, 3, 4). However, as can be seen in Tables 2 and 4, the main effect (Volunteering) is significant at less than the .05 level for the subtest planning and subtest C.

Apparently this tends to support the conclusion that students that volunteer to be in a career planning class are better able to make these kinds of decisions as a result of their experience in the classroom.

Table 5 presents the mean difference scores (post-pre) for the two significant subtests.

TABLE 5

Mean scores for

Volunteering - Not-Volunteering

on CDI Subtest A & C

Test	Mean	
	Volunteers	Non Volunteers
Subtest A (Planning)	5.6	-3.38
Subtest C	1.15	-.91

Outcome area: Refine curriculum to meet the needs of high school teachers.

Evaluation question: How can PALS curricula better serve the needs of high school teachers? (Are some modes of instruction superior?)

Data Analysis:

Classrooms were randomly assigned to three groups described as process, activity and control. The process group was taught the PALS activities in a conceptual and sequential framework; the activity group was taught the same skills but in no particular order or context; the control group was not taught the skills at all. (For a complete description of the groups see the Staff Final Report). Project staff has asserted that the skills taught in the program had to be presented in a conceptual framework by trained teachers. Detractors from this position stated that the presentation of the activities was the important event, the sequencing or relationship of the activities was of secondary importance. This experiment was designed to gather evidence to support one of the two positions.

Evaluation Results:

The three groups were given the Career Maturity Inventory at the conclusion of the instruction. The mean scores were computed and an analysis of variance technique was used to compare the scores for their statistical significance.

The students in the process classrooms achieved a higher total mean career maturity score at a statistically significant level. Prob. = .001.

TABLE 6

Analysis of Variance

for Total Battery Score

(Career Maturity Inventory)

Source of Variation	Sum of Squares	DF	Mean Squares	F	Significance of F
Between groups	7449	2	3724	24.69	.000
Within groups	14932.94	99	150.84		
Total	22382.25	101			

TABLE 7

Mean Scores for

3 Groups on Total Battery

of Career Maturity Inventory

Group	Mean	Standard Deviation
Process	54.15	12.59
Activity	34.05	1[illegible]
Control	34.42	14.68
Total	39.92	14.89

Conclusions from the data:

A plausible conclusion is that the process group was a higher achieving group at the outset of the program. Since no pre-test was given, grade point average could be considered a valid measure of achievement.

TABLE 8

Comparison of Mean

Grade Points for the Group

Process	1.9
Activity	1.5
Control	1.8

Though the process group has the highest GPA, it is not significantly higher than the control group. Therefore, the most plausible explanation is that the process group did achieve at a higher rate than the other two. It appears, in answer to the evaluation question, the most efficacious mode of instruction is the "process" approach.

Student outcome area: Senior High School familiarization

Evaluation question: Does treatment (PALS program) increase student attitude toward himself over that of his peers?

Data analysis: Comparison of positive responses to questions 37 and 38 of the Assessment of Career Development (ACD) on randomly selected PALS students and comparison students. A chi square comparison was used to determine statistical difference between the two groups.

Note: This is an alteration from the original design which stated mean scores would be computed and a t test would be performed. The data are nominal in discrimination and the chi square is the more appropriate test.

Evaluation results: The two questions for evaluating student attitudes toward work are displayed below with the student responses. Note that for statistical analysis the low response frequency was eliminated. A 5% error probability was selected as the highest acceptable level.

37. Do you feel you will be able to complete the necessary steps for at least one of the jobs?

	Experimental	Control
Yes	24	22
No	9	6
Probably not	0	2
chi square = .001	Not significant	

38. Would you say that your job future is ...

	Experimental	Control
Bright?	20	16
Dark?	2	2
Uncertain?	11	12
chi square = .2789	Not significant	

Conclusions from the data: The PALS students did score higher on the two attitude items than students in the control group. The observed difference was not large enough so that a statistical test would show that the differences are probably real. Although the Federal guidelines identified these two items as measures of self concept, the validity of these items for this purpose can be argued. It would be wrong to conclude from these data that PALS students do not have a higher self concept. They do score higher than non-PALS students, but there is no statistical evidence to support the conclusion that the differences are real.

Student outcome area: Senior High School familiarization

Evaluation question: Does treatment (PALS program) increase student's awareness and knowledge about work over those of his peers?

Data analysis: A comparison of experimental and control groups on two subscores of the Career Maturity Inventory will be done. Subscores 1, Knowing Yourself, and Subscore 4, Looking Ahead, are displayed below. A 5% error probability was selected as the highest acceptable level.

		Experimental	Control
Subscore 1	Mean	11.11	9.73
	Standard Deviation	4.53	4.11
	N	45	30
	t = 1.37	Df = 73	N.S.
Subscore 4	Mean	9.51	4.23
	Standard Deviation	5.95	5.40
	N	45	30
	t = 3.98	Df = 73	Significant

Additionally, mean scores from a Subscore one from the Assessment of Career Development will be compared for both experimental and control groups.

		Experimental	Control
Occupational Knowledge	Mean	32.88	32.13
	SD	8.73	10.10
	N	34	30
computed t = .89		Df = 52	N.S.

Conclusions from the data: Once again, the PALS group scored higher on the measures than the control group. The PALS students scored significantly higher (statistically significant .001 level) than the control group on the Career Planning portion. This great difference is not so surprising when one considers that planning the future is the main thrust of the program. These data offer conclusive evidence that young people are learning the planning skills measured by the CMI at a higher rate than Pontiac students at large.

Outcome area: Senior High School familiarization

Evaluation question: Do treatment group (PALS) students demonstrate a more positive attitude toward work than students in the comparison group?

Data analysis: A comparison of the PALS group and comparison group scores on the Career Maturity Inventory attitude scale.

		Experimental	Comparison
CMI Attitude Scale	Mean	28.80	29.97
	Stand. Dev.	8.40	5.55
	N	45	30
computed t = .73		Df = 73	N.S.

Conclusions from the data: It is evident that there is little difference in attitudes toward work between the PALS students and the student body at large. In this case, the control group scores slightly higher than the PALS group. This difference is not statistically significant, however. Also, this score is below the national mean (35) for this age group. A need clearly exists to foster more positive attitudes toward work among Pontiac students. The real

question here is: Why do PALS students' attitudes toward work differ little from the population at large? The data yield no clues; one inviting hypothesis is that the young people in the PALS program have fewer fantacies about the workplace, as a result of their experience. This reality has caused more uncertainty in their minds. An uncertain response on the CMI attitude scale reduces the score. If this hypothesis is correct then the CMI attitude scale is an improper measure to evaluate the impact of the program. In any case, staff needs to examine this issue closely to determine the harmony between this goal and the PALS delivery system.

Student outcome area: Senior High School familiarization

Evaluation question: What is the relationship between achievement of interpersonal skills and achievement knowledge of jobs, knowledge of job requirements, and career planning knowledge and involvement.

Data analysis: Four separate correlation coefficients will be computed to determine the relationship between the two knowledge subscore, the two career planning subscores on the ACD, and the student grades in the PALS course. (Grades are the instructor's rating of student interpersonal skills). A 5% probability of error was determined to be the highest level that would be acceptable.

knowledge of job characteristics and grades	r = .68	Df = 32	Sign.
knowledge of preparation requirements & grades	r = .41	Df = 32	Sign.
career planning knowledge and grades	r = .47	Df = 32	Sign.
career planning involvement and grades	r = .002	Df = 32	N.S.

Conclusions from the data: There is a significant relationship between success in the PALS curriculum and knowledge of job characteristics, knowledge of preparation requirements, and career planning knowledge. There appears to be no relationship between success in the course and career planning involvement as measured by the Assessment of Career Development. The strong relationship between what students are learning in the PALS program and the three subtest scores gives validity to the objectives of the program. The lack of relationship between career planning involvement and grades in the course is a bit disconcerting.

The test items appear to be valid measures of student attitudes toward planning, as well as an honest appraisal of the degree of involvement the student has had in planning his career. It is not a question of whether students do well in this area (they score higher than the control group) but a question of whether course grades do reflect this area of achievement; these data suggest they do not. Staff should closely investigate this area and determine if the grading procedures can be more sensitive to this outcome area, and if so, take steps to make it happen.

Student outcome area: Senior High School exploration

Evaluation question: Do students in the post-treatment group have greater communication and interpersonal skills than students in a comparison group?

Data analysis: PALS and NON-PALS' students were subjected to a simulated interview by an independent interviewer. A comparison was made between the numbers of students hired who were PALS-trained students and the number of untrained students hired by the interviewers. (An extensive account of the design and implementation of this experiment is described in Part 17 of the 1974-75 final evaluation report).

Relationship between training received and decision-to-hire for PALS Pilot evaluation

	Hired	Not Hired	Total
PALS trained	9	3	12
Not PALS trained	1	10	11
Total	10	13	23

$X2 = 7.76$ $\bar{P} < .005$

Conclusions from the data: There were a statistically significantly higher number of PALS trained students hired in this simulation. Since an exhaustive effort was made to control for all other relevant variables (sex, kind of job, age, etc.) one can infer that the observed difference between hiring is due to the interpersonal

Skills taught in the PALS program probably were a major influence on the students' behavior in the interview which resulted in the subsequent hiring by the interviewer.

Student outcome area: Senior High School exploration

Evaluation question: Do students in the post-treatment group have greater interpersonal skills than students in a comparison group?

Data analysis: PALS students and a randomly selected comparison group were submitted to a simulated interview situation (described in Number 5 and Part 17 of the 1974-75 final evaluation report). The interviewers were asked to rate the students on each of 11 behaviors observed during the interview. Mean ratings were computed for the PALS trained group and the comparison group on each of the eleven dimensions. A t test was computed for each pair of means to determine the probability of a real difference between each pair. The data from this portion of the experiment is displayed on the following page.

MEAN SCORES FOR PALS-TRAINED AND "CONTROL" GROUPS ON INTERVIEWER-RATED BEHAVIORS

	Mean Scores for PALS-CAST	Mean Scores for CONTROL	DIFFERENCE	t
Interviewer's Rating of Student's "Dress, Grooming, Etc."	3.67	2.80	.87	3.15**
Interviewer's Rating of Student's "Voice"	4.33	2.89	1.44	4.62**
Interviewer's Rating of Student's "Use of English"	3.83	3.00	.93	2.80**
Interviewer's Rating of Student's "Physical Health-Vigor"	4.25	3.20	1.05	3.91**
Interviewer's Rating of Student's "Personality"	4.17	2.90	1.27	4.07**
Interviewer's Rating of Student's "Mental Reactions"	4.17	3.00	1.17	3.92**
Interviewer's Rating of Student's "Social Poise"	4.00	3.11	.89	3.04**
Interviewer's Rating of Student Interest During Interview	3.00	2.40	.60	3.67**
Interviewer's Rating of Student's Feedback During Interview	2.90	2.50	.40	1.81**
Interviewer's Rating of Student's Organization	2.90	1.90	1.00	3.40**
Interviewer's Overall Evaluation of Student's Performance	3.42	2.50	.92	1.96*

* Significant at .05
** Significant at .01
NS Not Significant

Conclusions from the data: The interviewers rated PALS students higher on all eleven skill areas rated. The data strongly suggest that the PALS intervention affected the students' behavior in the interview setting and led to a high degree of success.

Student outcome area: Senior High School exploration

Evaluation question: Do students in the post-treatment (PALS students) have more skills in associating their abilities with probable job success?

Data analysis: A comparison of experimental and control group mean scores from subtests I and 3 of the Career Maturity Inventory. A 5% level of error was determined to be the highest that was acceptable.

		Experimental	Control
Know Yourself (Part I CMI)	Mean	11.11	9.73
	S.D.	4.53	4.11
	N	45	30
computed t = 1.36		Df = 73	N.S.
Choosing a job (Part 3 CMI)	Mean	9.04	6.30
	S.D.	5.27	4.99
	N	45	30
computed t = 2.28		Df= 73	Sign.

Conclusions from the data: The answer to the evaluation question is mixed. Yes, students in the PALS program know more about choosing a job than students in the population at large. PALS students do achieve a higher average score in the Know Yourself section of the CMI; but the difference is not large enough to be certain the PALS group really are higher on this dimension. These data do strongly suggest that PALS students do learn to associate their abilities with probable job success.

Student outcome area: Senior High School exploration

Evaluation question: Do students in the post-treatment group (PALS student) have a greater ability to relate their interests and values to types of work?

Data analysis: Mean scores from parts 1 and 3 of the Career Maturity Inventory will be computed for the experimental and control groups. The group scores will be compared and t tests will be computed to determine the statistical probability of real differences between the groups on this dimension.

		Experimental	Control
Know Yourself (part 1 CMI)	Mean	11.11	9.73
	S.D.	4.53	4.11
	N	45	30
computed t = 1.36		Df = 73	N.S.
Choosing a Job (part 3 CMI)	Mean	9.04	6.30
	S.D.	5.27	4.99
	N	45	30
computed t = 2.28		Df = 73	Sign.

Conclusions from data: The same test subscores are used to evaluate students on this dimension as in outcome 7. Similarly, the answer is mixed. PALS students score statistically significantly higher in one case, and higher in the other, but not at a statistically significant level. Again, there does appear to be sufficient data to warrant the conclusion that PALS students learn to relate their interests and values to a type of work.

Student outcome area: Senior High School exploration

Evaluation question: Do students in the post-treatment group have a greater knowledge of the process of career planning?

Data analysis: The experimental and control group mean scores from part 1 of the Career Maturity Inventory will be compared. A t test will be computed to determine the probability of real differences between the groups. A 5% probability of error was determined to be the highest acceptable.

		Experimental	Control
Know yourself (Part I CMI)	Mean	11.11	9.73
	S.D.	4.53	4.11
	N	45	30
computed t = 1.36		Df = 73	N.S.

Conclusions from the data: PALS students score higher on the subtest measuring career planning skills. It is surprising that the difference is not great enough to be statistically significant. Staff should closely examine the CMI subtest to ascertain if it fairly measures the career planning skills as they are taught in the PALS program. These data do not support the conclusion that PALS' students have a greater knowledge of the process of career planning.

Student outcome area: Senior High School exploration

Evaluation questions:

1. Do students in the post-treatment group have more knowledge of the process of locating career information?
2. Do students in the post-treatment group have a greater involvement in career decision making?

These two questions were designed to be answered by comparing PALS to non-PALS' students on subscores 4 and 5 of the Assessment of Career Development (ACD). The ACD scores on these two subtests were invalidly compiled; therefore, no analysis was possible and no conclusions can be drawn from the ACD relative to these questions. The staff's subjective assessment of student achievement in these two areas is very positive. They report major gains on the part of PALS' students in both locating career information and in the student's involvement in decision making.

Student outcome area: Senior High School exploration

Evaluation question: What is the relationship between success in the PALS program (as measured by final grade) and achievement on the Career Maturity Inventory subtests 1 and 3.

Data analysis: A correlation coefficient will be computed for two sets of data: classroom final grades and scores on subtest 1 of the CMI and classroom final grades and scores on subtest 3 of the CMI. A 5% probability of error was determined to be the highest acceptable level.

Know yourself (Part 1 CMI) and grades r = .37
Df = 36
Sign.

Choosing a job (Part 3 CMI) and grades r = .50
Df = 30
Sign.

Conclusions from the data: There is statistically significant evidence that there is a strong relationship between the teacher's judgment of success in the PALS program and student's knowledge of himself and his skill at choosing a job. These are two important areas in the curriculum and these data suggest that the skills are being taught and that staff are evaluating these skills when they make judgments of success.

Side effects: Although it was not a part of the evaluation design, CMI Section 5 -- Problem Solving -- was given to the PALS and control group students. The PALS students, it should be noted did significantly (statistically significant at .05 level) better than the control group. Problem solving is a high order cognitive skill and it appears that the PALS program has a positive effect on students in this area, at least as it is measured by the CMI.

Student outcome area: Senior High School exploration

Evaluation questions:

1. Do students in the post treatment group have greater job interviewing skills than non-treated students?
2. What is the relationship between interpersonal skill attainment and interviewer's rating of interview skill?

Data analysis: The data for the answers to these questions was gathered in the simulated interview situation referred to in numbers 5 and 6 of this report. The Chi square table in Number 5 displays the comparison of PALS and non-PALS student's frequency of being hired in the simulation. A significant relationship (.67 Pearson-product moment correlation) was computed between the interviewer's rating of the student and independently arrived at rating of the student's interpersonal skills.

Conclusions from the data: PALS students are hired more frequently than non-PALS students in the simulation situation. It appears that the reason for the differences in hiring practice is due to the PALS' students higher level of interpersonal skills, since the data show a high relationship between interpersonal skills and interviewer rating.

Summary of the evaluation:

The picture overall is a very positive one. Students apparently are pleased with the program, employers rate the students' skills generally high, and most important, students are learning the skills taught in the PALS program. This is evidenced by the statistically significant differences between the PALS group and control group on several of the dimensions measured in the evaluation. Further on the positive side is the strong relationship between student achievement and the staff rating of them. This suggests that the goals of the staff are in resonance with the stated goals of the project.

The project has gathered some especially revealing information over the three years:

1. There is strong evidence that career skills should be presented in a conceptual framework rather than as a random presentation of activities (page 35).
2. The skills taught by the PALS program have a practical value in obtaining a job (page 41).
3. The inservice training program for teachers is effective in that they do learn how to impart the career skills to their students (page 11).
4. Business and industry will commit itself to and become a part of this kind of career education program (page 22).
5. The program tends to neutralize sex role stereotypic attitudes of both sexes toward careers and jobs (page 24).
6. Reaffirmed the difficulty and impracticality of gathering data relative to the long range effects of this kind of program (page 27).

The significant data is not limited to those areas listed above; they are presented only because those six (6) areas embrace many of the central issues of career education as it was developed in the PALS project.

V. EVALUATION DESIGN WORKSHEETS

EVALUATION DESIGN WORKSHEET

Outcome Area	Evaluation Question	Design	Data Sources	Instrumentation	Sampling	Data Analysis
Deliver in-service to 20 high school teachers	Was the in-service delivered to the teachers? What teachers received the training?		Program records			Examination of records and attendance of teachers attending in-service
Delivery follow-up for in-service participants	Was the follow-up programs for service participants delivered?		Program records			Tabulation of individual monitoring hrs., attendance at weekly monthly sessions
Pilot one sem. placement program for 11 & 12 grades	Is group dissemination of college placement information more efficient and/or effective than one to one counseling?	Disseminate college placement information in a group setting	Students in target schools		Follow-up random sample of target group and other college bound students in same courses	Compare number admitted to college & degree of satisfaction with other college students
Institute support project for business & industry	Are efforts made to maintain or increase placement in business and industry?	Contact new businesses & industries and increase number of placements in existing ones.	Area businesses and industries	Logs	Selected area businesses & industries	Tabulation of number of internship by area. Growth analyses.

Evaluation Question	Design	Data Sources	Instrumentation	Sampling	Data Analysis
	Tabulate no. of visits and/or visitors, request for information, presentations made at other sites	Program records	Logs		Tabulation of meetings, visits etc.
Is PALS able to teach decision making? Is the regular PALS program more effective than alternative delivery mode?	Pre/post comparison of target groups	Students in CMI, ACD experimental groups		Solomen 4-group design	ANOVA and COVAR. Soloman 4-group design
Are girls in the program presented with meaningful alternatives in non-sex-role sterotyped placements? Does PALS training reduce sex-role-sterotyped attitudes among participants	Examination of records of placements test/retest on sex-role bias attitude instrument	Program Records	Program designed or standardized instrument	Comparison of target and control group	Post/post design ANOVA
Was PALS classes placed in the regular school day? How many classes? How many days?		Program Records		Frequency of classes and where classes were held	Tabulation and frequency distribution

Evaluation Question	Design	Data Sources	Instrumentation	Sampling	Data Analysis
Do PALS participants report career choices as satisfying? Rate of unemployment?		12th grade followup questionnaire	Program designed instrument	All former PALS participants	Chi square test between PALS and non-PALS
Was career class delivery continued? What is the rate of increased participation?	Keep tabulation of new enrollees	Program Records		Comparison between last year and 1975/76	Frequency tabulation of students in program
How can the PAL curriculum better serve the needs of high school teacher?	Evaluate different modes of delivery of the PALS program.	Program Records	Not appliable		
Was efforts made to disseminate information about PALS to parents?	Meet with parents. Tabulate number of parents attending meetings. Parent feedback	Project Logs	Program designed questionnaire		Frequency Tabulation
How can the program be extended to meet the needs of special students? How is "special student" defined?		Students in target schools		Economic deprived and slow learners in target schools	

EVALUATION DESIGN WORKSHEET

Related Evaluation Questions	Design	Data Sources	Instrumentation	Sampling	Data Analysis
Treatment: Does the treatment increase student attitudes toward himself over those of his peers?	Treatment & comparison group post & post test comparisons of difference	Students in the target schools	Assessment of Career Development (ACD) items 37 & 38	Random sample of 30 students each from the treatment group and school population at large	Mean and standard deviation will be computed for each group. A test for difference between the mean scores of the groups will be computed (items 37 & 38)
Treatment: Does the treatment increase students' awareness and knowledge about work over those of his peers?	Treatment & comparison group post post test comparison of difference	Students in the target schools	Assessment of Career Development (ACD) and Career Maturity Inventory (CMI)	Random sample of 30 students each from the treatment group and population at large	Means and standard deviations will be computed for each group on the following subscores of the instruments named. t tests will be computed to determine the probability of "real" differences CMI part 1 ACD subscore 1 CMI part 4 ACD subscore 4

NOTE: Pretest not possible due to program contamination to treatment population.

Related Evaluation Questions	Design	Data Sources	Instrumentation	Sampling	Data Analysis
Treatment: Do the treatment group students demonstrate more positive attitudes toward work than students in the comparison group?	Treatment and comparison group post-post test comparison of differences	Students in the target schools	Career Maturity Inventory Attitude Scale (CMI)	Random sample of 30 students each from the treatment group and school population at large	Mean and standard deviation will be computed for each group. A t test for differences between the mean scores of the groups will be computed
What is the relationship between achievement of interpersonal skills and achievement on the five previously described measure?					Rank order correlation between instructional leader ranking of students on interpersonal skills and the students' subtest scores
Treatment: Do students in the post treatment group have greater communication skills than students in comparison group?	Treatment and comparison group post-post test comparison	Students in the target schools	Locally designed structured interview	Random sample of 20 students each from the treatment group and school population at large	Chi square comparison the differences in the frequency interviewers select students for hypothetical position

Related Evaluation Questions	Design	Data Sources	Instrumentation	Sampling	Data Analysis
Treatment: Do students in the post treatment group have greater interpersonal skills than students in a comparison group?	Treatment and comparison group post-post test comparison	Students in the target schools	Locally designed structured interview	Random sample of 20 students each from the treatment group and school population at large	t test for difference in interviewer's rating of subjects' interpersonal skills
Treatment: Do students in the post treatment group have better decision making skills than students in a comparison group?	Treatment and comparison group post-post test comparison	Students in the target schools	Locally designed structured interview	Random sample of 20 students each from the treatment group and school population at large	Chi square comparison of the difference in the frequency student in the comparison and treatment groups meet criteria in a decisio making simulation.
Relational: What is the relationship between training program and decision making ability					Rank order of correlation of instructional leader' ratings of student skills and student achievement of decision making criteria.

Relevant Evaluation Questions	Design	Data Sources	Instrumentation	Sampling	Data Analysis
Treatment: Do students in the post treatment group have more skills in associating their abilities with probable job success?	Treatment and comparison group post post test comparison	Students in the target schools	Career Maturity Inventory Parts 1 & 3	A random sample of 30 students each from the treatment group and school population at large	Mean and standard deviations will be computed for each grou A t test for differenc between the two mean scores will be compute
Treatment: Do students in the post treatment group have a greater ability to relate their interests and values to types of work?	Treatment and comparison group post post test comparison	Students in the target schools	Career Maturity Inventory Parts 1 & 3	A random sample of 30 students each from the treatment group and school population at large	Mean and standard deviations will be computed for each grou A t test for differenc between the two mean scores will be compute
Treatment: Do students in the post treatment group have a greater knowledge of the process of career planning?	Treatment and comparison group post post test comparison	Students in the target schools	Career Maturity Inventory Part 1	A random sample of 30 students each from the treatment group and school population at large	Mean and standard deviations will be computed for each grou A t test for differenc between the two mean scores will be compute

Related Evaluation Question	Design	Data Sources	Instrumentation	Sampling	Data Analysis
Treatment: Do students in the post treatment group have more knowledge of the process of locating career information?	Treatment group and comparison group post-post test comparison	Students in the target schools	Assessment of Career Development Subscores 4 & 5	A random sample of 30 students each from the treatment group and school population at large	Mean and standard deviations will be computed for each group A t test for difference between the mean score will be computed
Treatment: Do students in the post treatment group have a greater involvement in career decision making?	Treatment group and comparison group post-post test comparison	Students in the target schools	Assessment of Career Development Subscore 5	A random sample of 30 students each from the treatment group and school population at large	Mean and standard deviations will be computed for each group A t test for difference between the mean score will be computed
Relational: What is the relationship between the success in the treatment program and achievement on the five measures previously described?					Rank order correlation of instructional leaders' rating of students and student achievment on the measures

Related Evaluation Questions	Design	Data Source	Instrumentation	Sampling	Data Analysis
Outcome: Do students in the post treatment group have work planning abilities?	Tabulation of employer perceptions of the student	Employer supervisor of student intern	Project designed questionnaire	All employers will be sent a questionnaire and/or interview	Tabulation and reporti of employer perception
Outcome: Do students in the post treatment group have work adaptability skills?	Tabulation of employer perceptions of the student	Employer supervisor of student intern	Project designed questionnaire	All employers will be sent a questionnaire and/or interview	Tabulation and reporti of employer perception
Outcome: Do students in the post treatment group have positive attitudes toward work quality?	Tabulation of employer perceptions of the student	Employer supervisor of student intern	Project designed questionnaire	All employers will be sent a questionnaire and/or interview	Tabulation and reporti of employer perception
Outcome: Do students in the post treatment group have a positive attitude toward taking responsibility for their own behavior?	Tabulation of employer perceptions of the student	Employer supervisor of student intern	Project designed questionnaire	All employers will be sent a questionnaire and/or interview	Tabulation and reporti of employer perception