DOCUMENT RESUME

ED 166 870 EC 113 361

AUTHOR Emerson, Debby H.; And Others
TITLE Project S.P.I.C.E.: Special Partnership in Career Education. Final Report.
INSTITUTION Volusia County Schools, Daytona Beach, Fla.
SPONS AGENCY Office of Career Education (DHEW/OE), Washington, D.C.
BUREAU NO 554AH70701
PUB DATE Sep 78
GRANT G0077C0050
NOTE 71p.; For the implementation guide and teaching modules see EC 113 362-368 ; Parts may be marginally legible due to small type and photos

EDRS PRICE MF-$0.83 HC-$3.50 Plus Postage.
DESCRIPTORS *Career Awareness; *Career Education; Community Involvement; Consultants; *Curriculum Development; Decision Making; Economic Education; *Educable Mentally Handicapped; Job Skills; Parent Participation; Peer Teaching; *Program Evaluation; Responsibility; Self Concept; Teaching Methods
IDENTIFIERS *Project SPICE; *Special Partnership in Career Education

ABSTRACT

The final report discusses Project SPICE (Special Partnership in Career Education) which produced a career awareness curriculum consisting of an implementation guide, and six teaching modules intended for use with educable mentally handicapped students (ages 11-to-13 years). Noted are the following program objectives (based on the National Standard Career Education Model): self awareness, career/education awareness, decision-making/beginning competency, economic awareness, employability skills, and rights and responsibilities. Suggestions are given for establishing peer tutoring, soliciting community career consultants, involving parents, incorporating career education into on-going activities and classes and gaining school/community support. An evaluation of the project is described in which two groups (one test, the other control) both containing both EMH (32 Ss) and non-handicapped (56 Ss) students were given pre and post tests to measure the objectives. Among findings reported is that the test group had a better understanding of occupational choice, valuing, personal finance, knowledge of occupational titles, and knowledge about a career. Changes and problems in the project and dissemination are outlined. Copies of Project SPICE newsletters and a newspaper article are appended. (PHR)

PROJECT S.P.I.C.E.
SPECIAL PARTNERSHIP IN CAREER EDUCATION
FINAL REPORT
SEPTEMBER, 1978

THE SCHOOL BOARD OF VOLUSIA COUNTY, FLORIDA

Clinton M. Rouse

CAREER EDUCATION COORDINATOR and PROJECT S.P.I.C.E. DIRECTOR

Debby H. Emerson

PROJECT S.P.I.C.E. COORDINATOR

Frank S. Elliott

PROJECT S.P.I.C.E. RESOURCE TEACHER

Dr. John E. Bailey, III

PROJECT S.P.I.C.E. EVALUATOR

Dr. Marcella Kysilka

TECHNICAL ASSISTANT

ACKNOWLEDGEMENTS

Many individuals contributed, either directly or indirectly, to the planning, development, implementation and evaluation of Project S.P.I.C.E. In a project of such large magnitude and short duration, it is seldom possible to acknowledge the efforts of all the persons who contributed to the project's success. Nonetheless, it is only appropriate to mention those whose efforts were essential to the project.

The administration and staff of the two pilot schools were extremely cooperative and helpful. Special appreciation is extended to Ms. Elinor Danglise, Ms. Linda Shelton and Mrs. Ruth Clifton, teachers of the project students, and to Mr. Henry M. Whites, Sr., Principal of Edith L Starke Elementary School in DeLand and Mr. Robert A. Smith, Principal of George Marks Elementary School, also in DeLand.

Westside Elementary School in Daytona Beach was the comparison school for the project. Mr. John P. Vodenicker, Principal, and Mrs. Joyce Gettel, Mrs. Amye Hawthorne, Mrs. Vivian Watson, Mrs. Patricia Pensak and Mr. Ben Broxton, teachers of comparison students, made many valuable contributions to the project.

Throughout the project, Mr. Gerald W. Elbers of the U. S. Office of Career Education provided timely advice and assistance. He was particularly helpful to the project staff in refining the primary and subordinate objectives for the project, and in developing a strategy for reporting project results. Most importantly, perhaps, he believed in the project.

Special appreciation is also acknowledged to the State of Florida, Department of Education, Mr. Ralph D. Turlington, Commissioner, for granting permission to reprint selected pages from the Employability Skills Series. These materials were developed by the Career Education Center of Florida State University and published by the Division of Vocational Education, Joe D. Mills, Director.

And, finally, none of the foregoing could have been brought to fruition without the tireless efforts of Mrs. Susan Bradley who typed the original drafts of the Final Report, the Guide to Program Implementation and the six Teaching Modules, Mrs. Carole Keough, who typed the final drafts, and Ms. Susan Horvath, Career Education Specialist with Volusia County Schools, who spent many hours reading and editing the final copy. Also, a special thank you to Mrs. Barbara Renner, Staff Assistant for Volusia County Schools, who always found the answers to our most difficult problems.

FINAL PROJECT PERFORMANCE REPORT

Project S.P.I.C.E.: Special Partnership In Career Education: A Career Education Program for Educable Mentally Handicapped Students

September, 1978

Submitted by:

Clinton M. Rouse

Clinton M. Rouse, Director

CAREER EDUCATION PROGRAM

PROJECT PERFORMANCE REPORT

1. Project Number: 5S4AH70701

2. Grant Number: G0077C0050

3. Nature of Report: Final

4. Project Title: Project S.P.I.C.E. Special Partnership in Career Education: A Career Education Program for Educable Mentally Handicapped Students

5. Period Covered by this Report: 07/01/77 through 06/30/78

6. Category of Project: Methods and techniques for special populations: educable mentally handicapped

7. Name of Project Director: Clinton M. Rouse

8. Name and Address of Grantee:

Volusia County Schools
P. O. Box 1910
Daytona Beach, FL 32015

(904) 255-6475 Ext. 259

TABLE OF CONTENTS

MAJOR ACTIVITIES

Project Objectives

The purpose of Project S.P.I.C.E. (Special Partnership in Career Education) was to design a practical, replicable, transportable career awareness curriculum for intermediate age educable mentally handicapped students. Incorporated into this curriculum were: peer tutoring; community career consultants; on-site visitations; parental involvement.

The curriculum was designed to meet the following student objectives derived from the National Standard Career Education Model:

1) Students will demonstrate increased knowledge of educational training necessary for different types of careers (Educational Awareness).
2) Students will demonstrate increased knowledge of the variety of occupations found in the world of work (Career Awareness).
3) Students will demonstrate increased knowledge of the American Economic System (Economic Awareness).
4) Students will identify and demonstrate selected skills required in the successful performance of at least three (3) occupations found in the community (Beginning Competency).
5) Students will demonstrate the ability to apply information and values to the process of making decisions in the selection of the three (3) occupations for skills development (Decision Making).
6) Students will develop and demonstrate work habits which contribute to career success (Employability Skills).

7) Students will identify and demonstrate a minimum of five (5) characteristics about self (Self Awareness).

8) Students will identify and demonstrate at least five (5) personal rights and corresponding responsibilities (Attitudes and Appreciations).

These eight objectives are the distillation of the thirty-two student performance objectives in the proposal. The thirty-two objectives needed to be refined in order to be measured more accurately.

Curriculum Development

Six career education modules and a guide for implementing career education into an existing curriculum have been designed. The six career education modules are:

1) Self Awareness (Objective 7)

2) Career/Educational Awareness (Objectives 1, 2)

3) Decision Making/Beginning Competency (Objectives 4, 5)

4) Economic Awareness (Objective 3)

5) Employability Skills (Objective 8)

6) Rights and Responsibilities (Objective 8)

Each module identifies the objectives to be met, provides directions on the use of the module, outlines appropriate activities for the module objectives and specifies means of assessing student achievement. Module activities were designed and selected by project teachers and coordinator. Some of the activities were original, some commercial products, others were adaptations of existing materials designed by the Florida State Department of Education. Assessment techniques for each module include both an informal assessment (evaluating the quality of pupil participation)

and a formal assessment (administration of a test).

The Project S.P.I.C.E. Guide to Program Implementation, designed to help teachers incorporate career education into their existing program, includes information on what career education is and is not, and suggestions for how to begin a program, secure cooperation from administrators, teachers, community personnel and parents; how to establish peer tutoring; how to secure financial help; and how to handle the logistics of a program.

Curriculum Effectiveness

In order to determine whether the materials designed for Project S.P.I.C.E. would meet the objective of a practical, replicable, transportable career awareness curriculum, a two group, pre-post test research design was established to measure the effectiveness of the Project S.P.I.C.E. materials and program. Both summative and formative evaluation procedures were used to measure project effectiveness. (See Evaluation section)

Pretesting of both project and comparison groups was completed in November, 1977, while post-testing for both groups was completed in May, 1978.

Peer Tutoring

Peer tutoring was an integral part of Project S.P.I.C.E. Educable mentally handicapped students were paired with non-handicapped classroom dents for tutorial purposes. Tutoring was done with respect to both academic areas and career education activities. Each tutoring session was supervised by an adult, either a teacher or staff member. Teachers and project personnel

trained students prior to tutoring sessions. Training consisted of informing students of the purpose of the tutoring session, procedures to follow while tutoring, and expected behavior in a tutoring session. Both EMH and non-handicapped students participated as tutors, depending upon the skills they possessed and needed. Tutoring logs were kept and indicated a total of 551 hours of tutoring during the year.

Peer tutoring was considered to be a successful strategy of Project S.P.I.C.E. The EMH student discovered a peer learning situation in which he could participate successfully and the regular student learned acceptance of the EMH student as part of his peer group. Both students learned to work and achieve together.

Community Career Consultants/On-Site Visitations

Early in the project, a community career consultant resource campaign was launched by the project director and coordinator. The DeLand Area Chamber of Commerce provided a list of its membership to start the campaign. A total of forty-two (42) contacts were completed. Of this number, 36 community resource people actually participated in the project, either through in class visitations or on-site visitations. There were six in-class visitations by community career consultants and thirty-two on-site visitations by students. Each student in the project (a total of 54) participated in at least 3 on-site visitations.

Prior to a visitation, either on or off campus with a community career consultant, consultants were oriented to the purpose of the project and given suggestions regarding information to share with and questions to expect from the students.

Students were briefed prior to the visitations. Questions were established to ask the consultants, and guidelines for expected behavior were established. Students were also trained to use cassette recorders and cameras for their on-site visitations.

Certificates of participation and letters of appreciation were given to all community career consultants. Community career consultants were enthusiastic about, and very supportive of, Project S.P.I.C.E. They have expressed approval of the DMI student as a potential employee.

Special Student Projects

Since it was impractical to schedule every student involved in the project for each on-site visit, students who made the on-site visitations were held responsible for sharing their information with the rest of the students. Student projects ranged from oral presentations, to bulletin board displays, to slide-tape presentations. As a result, project students learned to use cameras, audio cassettes, posters and demonstrations as effective communication devices, and have demonstrated an increase in self confidence and positive attitudes toward self and others.

Parental Involvement

From the on-set of the Project S.P.I.C.E. program, project personnel were determined to secure parental participation. Parents did become involved in the project in the following ways:

1) Community career consultants
2) Student project consultants
3) Individual advisors to their own children, particularly in units on self awareness and economics.

Weekly Planning Activities

Two types of weekly planning activities were organized-- planning by project teachers and personnel, and large group presentations for all project students. The teachers' planning time was used to update and organize activities for the coming weeks. This time was also used for sharing of ideas, materials, and implementation techniques. Large group presentation time for students was used for films, consultant visitations, student on-site visitation reports and training sessions.

PARTICIPANT SUMMARY

DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
OFFICE OF EDUCATION
WASHINGTON, D.C. 20202

CAREER EDUCATION PROGRAM

PARTICIPANT SUMMARY

NOTE. Participants include those DIRECTLY served by the project or, in the case of most parents and persons in the business/labor/industry community, who actively assist in project implementation. "Actively assist" includes efforts such as serving as resource persons, serving on Advisory Groups, providing work experience, etc.

FORM APPROVED
OMB NO. 51-R1187

NUMBER OF PARTICIPANTS (see NOTE above) WHO ARE	RACE/ETHNICITY (all Participants including Handicapped, Gifted and Talented, and Low Income)						OF THE TOTAL (column (6)) NUMBER WHO ARE			OF THE TOTAL (column (6)) NUMBER WHO ARE	
	AMERICAN INDIAN OR ALASKAN NATIVE (1)	ASIAN OR PACIFIC ISLANDER (2)	BLACK/ NEGRO (3)	CAUCASIAN/ WHITE (4)	HISPANIC (5)	TOTAL (sum of columns (1) through (5)) (6)	HANDICAPPED (7)	GIFTED AND TALENTED (8)	LOW INCOME (9)	MALE (10)	FEMALE (11)
STUDENTS											
ELEMENTARY (K-6)			23	32		55	20			30	25
MIDDLE/JUNIOR HIGH (7-9)											
SENIOR HIGH (10-12)											
2-YEAR COLLEGE											
4-YEAR COLLEGE											
ADULTS (non-matriculated)											
SUB-TOTAL			23	32		55	20			30	25
EDUCATIONAL PERSONNEL											
TEACHERS				4						1	3
COUNSELORS											
ADMINISTRATORS			1	3						3	1
MEMBERS OF THE BUSINESS/ LABOR/INDUSTRY COMMUNITY			1	33							
PARENTS				6							
OTHER (specify)											
TOTAL			24	79		55					

OE FORM 467, 3/76

EVALUATION

Design

This project employed an evaluation design incorporating pre and post-treatment testing of the project group and a comparison group. Neither the project students nor the comparison students were randomly assigned to their treatments. In both cases intact classes were used. Teachers were, in all cases, volunteers; however, selection of the teachers was judgmental without random elements. A variety of outcome measures were used. Measures were included covering project goals. Additional measures were used in order to detect possible side-effects of the project treatment, both negative and positive. A teacher self-report measure of the content of classroom instruction was employed in an attempt to provide evidence that could link any differences in outcomes with classroom processes.

Analysis

The basic statistical analysis was a multivariate analysis of variance. This technique provides a statistical test for an entire domain of variables. This technique was used to compare the post-test results and teacher process reports of the project and comparison groups. A univariate analysis of variance was conducted to compare the pre-test results for each variable of the project and comparison groups. A correlated t-test was used to test the difference between pre and post-test scores for the combined project and comparison groups.

Data Collection

Due to delays in project initiation, pre-treatment data collection was not completed until November, 1977. Post-testing was completed, on

schedule by May 19, 1978. All testing of regular students was done using paper and pencil methods. Testing of EMH students combined paper and pencil tests, where possible, with individual oral administration of tests. All testing was conducted by the project staff. Testing was done in the students' normal classroom environment during regular class time. Only students with complete pre and post-test data were used in the analyses reported. A total of 47 project students had complete data, including 17 EMH students and 30 regular students. Forty-one comparison students were used, including 15 EMH students and 26 regular students.

Results

Univariate analysis of variance revealed only one outcome measure which had a significant difference between the project and comparison groups. This test was the work habits test. Adjustment for this result will be discussed in a subsequent section. All other outcome measures resulted in F-ratios which did not reach statistical significance. Given this result no statistical adjustments were made in post-test comparisons between the project and comparison group scores.

Table 1 presents the results from the correlated t-tests of the pre-post tests of the combined project and comparison groups. For most of the variables, there is a significant positive change, indicating growth in knowledge or attitude.

The result of the multivariate analysis of variance for the post-test scores of the project and comparison groups is contained in Tables 2-5. The test was a 2 X 2 design using student status (EMH

and regular) and treatment (project and comparison). This design produces tests of the student status, treatment and interaction effects. All three of these effects reached multivariate significance. The univariate tests of the individual variables is contained in Tables 2 - 4. The means and standard deviations for each of the groups in the design is contained in Table 5.

The results of the multivariate analysis of variance for the teacher self-report of class content is contained in Tables 6 - 9. The same design as described above was used for this test. The student status, treatment and interaction effects achieved multivariate statistical significance in this test as well. The interaction effect is reported in Table 6 along with the univariate tests for interaction for each content variable. Similar results are reported in Tables 7 - 8 for the treatment and student status effects. The means and standard deviations for each variable by group are reported in Table 9. The data are coded "1" for a teacher report of activity in the content area and "2" for an absence of activity. Thus group means approaching 1.0 are evidence of high reported activity while group means approaching 2.0 are evidence of no reported activity. There were a total of 67 teacher self-reports received. Of these 30 were from project teachers (21 from teachers of EMH students and 9 from the regular classroom teacher). Comparison group teachers provided 37 reports (33 and 4 respectively).

Discussion

The overall multivariate tests indicate that there was a significant difference in both student outcomes and teacher reported process between the project and comparison groups. However, the extent

and direction of these differences are the basis on which judgements of the project's worth must be made.

Project Goals

There are a group of outcomes which can be considered to be clear project successes. These outcomes are choosing an occupation, valuing, personal finance, knowledge of a career and knowledge of occupational titles. There is a clear evidence of project impact in each of these areas. There was no difference between project and comparison groups on the pre-test. The correlated t-test showed that the combined groups had grown; however, the post-test comparisons showed significant differences between groups, favoring the project students. This evidence is further supported by the teacher self-reports of content coverage. In each case the project teachers report more attention given to each of these content areas.

There are two additional outcome areas which were project goals for which the evidence of success is more limited. In the area of work habits, the project students evidenced initial superiority. They maintained this superiority in the post-testing. However, the correlated t-test of pre and post-test results for the total group showed no significant change. Also, there was no significant difference in the teacher self-reports of content coverage in this area. Thus the most probable conclusion is th - the project had little impact. The project students had an initial advantage which they maintained but which was not enhanced by the project treatment. The test of student knowledge of their rights and responsibilities also showed a significant advantage for the project students over the comparison group. However the teacher content reports do not

show any significant differences in this area. Due to late project initiation a test of this area was not available for pre-testing so it cannot be determined whether the project students had an initial advantage. Thus it is possible that the project contributed to student knowledge in this area through vehicles that are not tapped by the content instrument. One specific example is posters on this subject in the project classrooms. However, it is also possible that the project students had more initial knowledge.

There are two outcome areas in which there is little evidence of the project treatment contributing more to the students than that available through comparison treatment. In both cases, there is evidence that at least part of this problem was a poor match between the content of the evaluation instrument and that of the project treatment. The best evidence for project success lies in the area of educational awareness. This was measured by three instruments. T project students evidenced superior knowledge of occupations requiring the most and the least education and training, but only at less than the .10 level. Moreover, there was no significant difference in these scores between the pre and post-testing for the combined groups. A related instrument, knowledge of high school courses required for various occupations, revealed no significant difference between the project and comparison groups although there was a significant positive change between the pre and the post-testing. The teachers did report a significant difference in the content coverage in this area. A possible reason for this lack of measurable difference may lie in the match between the instrument measuring knowledge of courses and the information provided the project students. The project students

received information obtained from local employers while the test was based on responses from a state-wide group of employers. Inspection of the two lists reveals discrepancies which may have contributed to the lack of significant differences in this area. The nature of the evidence certainly does not allow a strong claim for project success. A similar problem exists for the test concerning knowledge of the economic system. The combined groups achieved significant growth in this area as measured by the pre and post-testing; however, there was no significant difference between groups on the post-test, despite higher reported content coverage by the project teachers. A review of the content of the test and the project's economic education materials showed very little agreement in content coverage. Thus it is likely that the failure to achieve significant results was due to a lack of a match between the specific contents of the test and the project materials.

Side-Effects

In addition to the measures designed to test specific project goals, four additional measures were included to test for possible side-effects of the project. Perhaps the most important of these measures were two relating to basic skills. School records were examined to obtain student reading and mathematical computation scores. Univariate analysis of variance revealed no significant difference in these scores between the project and comparison groups. The post-testing included criterion referenced tests of the students word attack (reading) and operations and properties (computation) skills. There was no significant difference in the two groups' word attack

skills. However, the project students achieved a significant superiority on the operations and properties test. Since the project did not specifically treat mathematics, no claim can be made for any direct project impact. The favorable result is suggestive. It can be hypothesized that students saw the relevancy of their work. An alternative hypothesis would be superior teaching in the project school unrelated to the project treatment. The attitude toward school measure showed no significant difference during pre-testing but showed a significant difference favoring the project on post-testing. The project students also showed a significant advantage in their self-reported perceptions of their knowledge of general career information. A number of normal school content areas were included on the teacher content report to determine if there was a movement away from any of these areas as a result of increased emphasis on project goal areas. The teacher content reports do not provide any evidence of such a shift. The areas covered include science, history, geography, English, art, music and physical education. The only significant difference in the teacher reports between treatment groups was a slightly greater report of physical education by the project teachers. There was no significant difference between treatment groups in the other content areas covered.

From the data collected there is no evidence of any negative side-effects of the project. The project students scored similarly in their word attack skills while they showed a significant superiority in their knowledge of mathematical operations and properties. The project teachers did not report diverting time from other traditional subjects in order to meet project objectives. On the other hand, it is likely that the project did contribute to the more positive attitudes toward

school shown by the project students and to their increases in self-reported knowledge of general career information.

Process Data

The process data collected has largely been examined in reporting on project outcomes and side effects. Two additional process instruments were used. They are student self-reported career planning activities and communications about careers. In both cases project students showed no significant differences on the pre-test while reporting significantly more on the post-test. Combined with the teacher data reported earlier, this evidence strongly supports a claim that the project was having an impact on what happened to the students.

Summary

There is strong and persuasive evidence that the project has a significant positive impact on the students in the areas of occupational choice, valuing, personal finance, knowledge of occupational titles, and knowledge about a career. It is also likely that it resulted in more positive student attitudes toward school and increased student perceptions of their own knowledge of general career information. While there is some positive evidence, a strong case cannot be made for significant positive impact in the areas of work habits, student knowledge of their rights and responsibilities, educational awareness and knowledge of the economic system. In no case did the project students show less growth in these areas, but there was not the strong combination of pre-test equivalence, growth between pre and post-testing, post-test superiority and process evidence that made for a strong claim of success

for the other elements. There was no evidence of any negative side-effects. Project teachers did not report less attention to other traditional subjects. A criterion-referenced basic skills test found equivalent word attack (reading) skills and superior knowledge of mathematical operations and properties among the project students. While there is no evidence to base a strong claim that the project produced this result, it certainly counters any claim that the project negatively impacted basic skills learning.

Table 1

Correlated t-test of Pre and Post-test Scores

Test Name	Mean*	Standard* Deviation	t	Significance
Work Habits	.69 .70	.26 .19	-.03	N.S.
Personal Finance	.53 .67	.19 .13	-5.4	.001
Choosing an Occupation	.57 .63	.26 .20	-2.0	.05
Valuing	23.1 25.9	4.9 6.1	-2.9	.006
Attitudes Toward School	27.0** 24.4	7.3 7.6	3.6	.001
Occupational Titles	20.5 26.3	10.0 18.3	-3.5	.001
Education & Training Preparation - Most	4.3 4.6	1.9 2.0	-1.4	N.S.
Education & Training Preparation - Least	3.2 3.6	2.2 2.1	-1.7	N.S.
Knowledge of the Economic System	12.5 13.5	3.7 2.8	-2.7	.007
Career Planning Checklist	55.5** 49.1	13.1 15.1	3.3	.001
Communications About Careers	48.7** 43.9	11.5 13.5	2.7	.009
Knowledge About A Career	79.3** 73.1	22.3 23.3	2.5	.02
Knowledge of General Career Information	48.6** 43.4	9.8 11.2	2.6	.01
Courses for Careers	6.3 11.5	5.6 5.3	-6.7	.001

*Pre-test scores are listed first with post-test scores directly underneath.
**These tests are scored in a way that results in decreasing scores for more positive results.

Table 2

Outcomes - Interaction Effect

Multivariate tests of significance (S = 1, M = 8 1/2, N = 32)

TEST NAME	VALUE	APPROX. F	HYPOTHESIS D.F.	ERROR D.F.	SIGNIF. OF F
PILLAIS	.48241	3.23755	19.00000	66.00000	.00021
HOTELLINGS	.93202	3.23755	19.00000	66.00000	.00021
WILKS	.51759	3.23755	19.00000	66.00000	.00021
ROYS	.48241				

Univariate F-Tests with (1, 84) D. F.

VARIATE	HYPOTHESIS SUM OF SQ.	ERROR SUM OF SQ.	HYPOTHESIS MEAN SQ.	ERROR MEAN SQ.	F	SIGNIF. OF F
WORK 2	.01793	2.21016	.01793	.02631	.68133	.41147
PERFIN 2	.02965	1.35201	.02965	.01610	1.84232	.17832
CHOOSE 2	.21774	2.70381	.21774	.03219	6.76448	.01099
RIGHTS	81.64617	326.84600	81.64617	3.89102	20.98321	.00002
VALUES	121.39507	3213.33816	121.39507	38.25403	3.17339	.07846
WA 2	222.39462	7553.28326	222.39462	89.92004	2.47325	.11956
OPP 2	6.28386	12633.61267	6.28386	150.40015	.04178	.83853
ATT 2	50.87246	2764.45068	50.87246	32.91013	1.54580	.21722
TITLE 2	274.35249	20082.69729	274.35249	239.07973	1.14754	.28713
M3A2	1.86351	265.28145	1.86351	3.15811	.59007	.44455
M3B2	4.96083	226.28854	4.96083	2.69391	1.84150	.17841
M42	.11233	653.37964	.11233	7.77833	.01444	.90463
M52	265.47114	16976.70483	265.47114	202.10363	1.31354	.25501
M62	287.26894	12700.86154	287.26894	151.20073	1.89992	.17175
M72	1229.89811	35387.54615	1229.89811	421.28031	2.91943	.09121
M82	28.75762	8151.18733	28.75762	97.03794	.29635	.58762
M9I12	9226.43836	3917655.58733	9226.43836	46638.75699	.19783	.65762
M9I32	32.24832	6183.69095	32.24832	73.61537	.43807	.50987
M102	121.94944	2097.52579	121.94944	24.97055	4.88373	.02983

Table 3

Outcomes - Treatment Effect

Multivariate Tests of Significance (S = 1, M = 8 1/2, N = 32)

TEST NAME	VALUE	APPROX. F	HYPOTHESIS D.F.	ERROR D.F.	SIGNIF. OF F
PILLAIS	.62009	5.66984	19.00000	66.00000	.00001
HOTELLINGS	1.63223	5.66984	19.00000	66.00000	.00001
WILKS	.37991	5.66984	19.00000	66.00000	.00001
ROYS	.62009	5.66984	19.00000	66.00000	.00001

Univariate F-Tests with (1, 84) D. F.

VARIATE	HYPOTHESIS SUM OF SQ.	ERROR SUM OF SQ.	HYPOTHESIS MEAN SQ.	ERROR MEAN SQ.	F	SIGNIF. OF F
WORK 2	.73810	2.21016	.73810	.02631	28.05254	.00001
PERFIN 2	.17223	1.35201	.17223	.01610	10.70085	.00155
CHOOSE 2	.70037	2.70381	.70037	.03219	21.75866	.00001
RIGHTS	81.86934	326.84600	81.86934	3.89102	21.04057	.00002
VALUES	1168.73900	3213.33816	1168.73900	38.25403	30.55205	.00001
WA 2	.30655	7553.28326	.30655	89.92004	.00341	.95358
OPP 2	853.56985	12633.61267	853.56985	150.40015	5.67533	.01946
ATT 2	345.38147	2764.45068	345.38147	32.91013	10.49469	.00172
TITLE 2	5539.47021	20082.69729	5539.47021	239.07973	23.16997	.00001
M3A2	9.67685	265.28145	9.67685	3.15811	3.06412	.08369
M3B2	7.82601	226.28854	7.82601	2.69391	2.90507	.09200
M42	4.47375	653.37964	4.47375	7.77833	.57516	.45034
M52	1434.18895	16976.70483	1434.18895	202.10363	7.09630	.00926
M62	1107.30415	12700.86154	1107.30415	151.20073	7.32340	.00824
M72	4888.88079	35387.54615	4888.88079	421.28031	11.60482	.00101
M82	665.97354	81 1.18733	665.97354	97.03794	6.86302	.01044
M9I12	4635.52253	3917655.58733	4635 52253	46638.75699	.09939	.75334
M9I32	14.20427	6183.69095	14.20427	73.61537	.19295	.66160
M102	42.29186	2097.52579	42.29186	24.97055	1.69367	.19668

Table 4

Outcomes - Student Status Effect

Multivariate Tests Of Significance (S = 1, M = 8 1/2, N = 32)

TEST NAME	VALUE	APPROX. F	HYPOTHESIS D.F.	ERROR D.F.	SIGNIF. OF F
PILLAIS	.87735	24.84905	19.00000	66.00000	.00001
HOTELLINGS	7.15352	24.84905	19.00000	66.00000	.00001
WILKS	.12265	24.84905	19.00000	66.00000	.00001
ROYS	.87735	24.84905	19.00000	66.00000	.00001

Univariate F-Tests with (1, 84) D. F.

VARIATE	HYPOTHESIS SUM OF SQ.	ERROR SUM OF SQ.	HYPOTHESIS MEAN SQ.	ERROR MEAN SQ.	F	SIGNIF. OF F
WORK 2	.20212	2.21016	.20212	.02631	7.68196	.00687
PERFIN 2	.00826	1.35201	.00826	.01610	.51318	.47575
CHOOSE 2	.01427	2.70381	.01427	.03219	.44321	.50740
RIGHTS	158.50212	326.84600	158.50212	3.89102	40.73532	.00001
VALUES	24.30050	3213.33816	24.30050	38.25403	.63524	.42769
WA 2	7104.37920	7553.28326	7104.37920	89.92004	79.00774	.00001
OPP 2	7515.52225	12633.61267	7515.52225	150.40015	49.97018	.00001
ATT 2	1867.28402	2764.45068	1867.28402	32.91013	56.73889	.00001
TITLE 2	3800.46865	20082.69729	3800.46865	239.07973	15.89624	.00014
M3A2	85.25774	265.28145	85.25774	3.15811	26.99642	.00001
M3B2	161.28826	226.28854	161.28826	2.69391	59.87141	.00001
M42	35.93200	653.37964	35.93200	7.77833	4.61950	.03449
M52	759.62372	16976.70483	759.62372	202.10363	3.75859	.05590
M62	1341.55400	12700.86154	1341.55400	151.20073	8.87267	.00378
M72	2969.75449	35387.54615	2969.75449	421.28031	7.04936	.00948
M82	1681.52469	8151.18733	1681.52469	97.03794	17.32853	.00008
M9I12	504569.34951	3917655.58733	504569.34951	46638.75699	10.81867	.00147
M9I32	367.67464	6183.69095	367.67464	73.61537	4.99454	.02808
M102	294.18746	2097.52579	294.18746	24.97055	11.78138	.00093

Table 5

Post Test Group Means & Standard Deviations

TEST	STUDENTS	PROJECT $\overline{X}$	PROJECT SD	COMPARISON $\overline{X}$	COMPARISON SD	TOTAL $\overline{X}$	TOTAL SD
Work Habits	EMH	.735	.163	.514	.112	.696	.191
	REGULAR	.807	.155	.646	.19		
Personal Finance	EMH	.726	.126	.583	.122	.669	.134
	REGULAR	.705	.135	.644	.119		
Choosing an Occupation	EMH	.794	.088	.483	.114	.632	.204
	REGULAR	.671	.214	.567	.207		
Rights & Responsibilities	EMH	9.765	1.786	5.267	2.052	5.886	2.731
	REGULAR	5.100	1.936	4.615	2.080		
Values	EMH	23.588	5.523	19.400	6.717	22.341	7.214
	REGULAR	26.967	6.327	17.885	6.108		
Word Attack Skills	EMH	30.706	8.579	26.533	12.106	16.864	13.078
	REGULAR	8.933	8.403	11.385	9.542		
Mathematical Operations	EMH	12.235	6.600	19.267	5.994	27.739	15.540
	REGULAR	31.967	13.127	37.885	16.046		
Attitude Toward School	EMH	14.471	4.875	19.467	2.615	24.489	7.602
	REGULAR	25.567	6.033	30.731	7.023		
Knowledge of Occupational Titles	EMH	23.235	9.464	12.067	10.250	26.739	18.476
	REGULAR	40.333	21.432	21.808	12.423		

Table 5 (con't)

Post Test Group Measures & Standard Deviations

TEST	STUDENTS	PROJECT $\bar{X}$	PROJECT SD	COMPARISON $\bar{X}$	COMPARISON SD	TOTAL $\bar{X}$	TOTAL SD
Education/Training Preparation - Most	EMH REGULAR	3.471 5.800	1.179 1.710	3.200 4.923	1.207 2.348	4.648	2.040
Education/Training Preparation - Least	EMH REGULAR	1.824 5.100	.809 1.561	1.867 4.154	.640 2.361	3.636	2.145
Knowledge of Economic System	EMH REGULAR	12.941 14.200	1.713 3.718	12.400 13.808	1.595 2.608	13.534	2.824
Career Planning Activities Check-list	EMH REGULAR	39.412 48.900	14.496 10.584	52.133 54.385	18.864 14.675	49.239	14.945
Communications About Careers	EMH REGULAR	33.000 44.633	11.726 9.171	44.933 49.035	16.731 12.873	43.739	13.321
Knowledge About Careers	EMH REGULAR	69.000 64.200	23.176 17.617	93.800 73.423	24.745 19.205	72.898	22.610
Knowledge of General Career Information	EMH REGULAR	45.941 37.967	11.360 7.920	52.933 42.577	9.975 10.723	43.420	11.000
Considering Courses For Careers	EMH REGULAR	16.059 9.967	4.575 5.493	11.533 10.346	5.617 4.223	11.523	5.420

Table 6

Teacher Process - Interaction Term

Multivariate Tests of Significance (S = 1, M = 8, N = 22)

TEST NAME	VALUE	APPROX. F	HYPOTHESIS D.F.	ERROR D.F.	SIGNIF. OF F
PILLAIS	.50154	2.57134	18.00000	46.00000	.00508
HOTELLINGS	1.00618	2.57134	18.00000	46.00000	.00508
WILKS	.49846	2.57134	18.00000	46.00000	.00508
ROYS	.50154	2.57134	18.00000	46.00000	.00508

Univariate F-Tests with (1, 63) D. F.

VARIATE	HYPOTHESIS SUM OF SQ.	ERROR SUM OF SQ.	HYPOTHESIS MEAN SQ.	ERROR MEAN SQ.	F	SIGNIF. OF F
CON 1	.07923	2.59127	.07923	.04113	1.92631	.17005
CON 2	.66963	5.52922	.66963	.08777	7.62976	.00751
CON 3	.03347	12.84848	.03347	.20394	.16409	.68679
CON 4	.66696	10.77922	.66696	.17110	3.89809	.05273
CON 5	.29111	12.93759	.29111	.20536	1.41759	.23827
CON 6	.52593	7.87013	.52593	.12492	4.21001	.04435
CON 7	.31570	9.48052	.31570	.15048	2.09790	.15246
CON 8	.07650	11.70274	.07650	.18576	.41181	.52338
CON 9	.14943	11.30800	.14943	.17950	.83245	.36504
CON 10	.05007	12.19589	.05007	.19359	.25866	.61282
CON 11	.06056	13.52092	.06056	.21462	.28218	.59714
CON 12	.00308	14.11688	.00308	.22408	.01376	.90698
CON 13	.63273	10.13528	.63273	.16088	3.93298	.05171
CON 14	.35154	13.32143	.35154	.21145	1.66250	.20198
CON 15	.45432	13.02309	.45432	.20672	2.19778	.14319
CON 16	.94766	15.41991	.94766	.24476	3.87177	.05351
CON 17	1.32974	11.75325	1.32974	.18656	7.12772	.00964
CON 18	.98296	11.21753	.98296	.17806	5.52051	.02194

Table 7

Teacher Process - Treatment Effect

Multivariate Tests of Significance (S = 1, M = 8, N = 22)

TEST NAME	VALUE	APPROX. F	HYPOTHESIS D.F.	ERROR D.F.	SIGNIF. OF F
PILLIAS	.68783	5.63078	18.00000	46.00000	.00001
HOTELLINGS	2.20335	5.63078	18.00000	46.00000	.00001
WILKS	.31217	5.63078	18.00000	46.00000	.00001
ROYS	.68783				

Univariate F-Tests with (1, 63) D.F.

VARIATE	HYPOTHESIS SUM OF SQ.	ERROR SUM OF SQ.	HYPOTHESIS MEAN SQ.	ERROR MEAN SQ.	F	SIGNIF. OF F
CON 1	.00329	2.59127	.00329	.04113	.07994	.77831
CON 2	1.44218	5.52922	1.44218	.08777	16.43217	.00014
CON 3	.15509	12.84848	.15509	.20394	.76044	.38650
CON 4	4.80453	10.77922	4.80453	.17110	28.08047	.00001
CON 5	1.85534	12.93759	1.85534	.20536	9.03464	.00380
CON 6	2.43728	7.87013	2.43728	.12492	19.51029	.00004
CON 7	1.46304	9.48052	1.46304	.15048	9.72220	.00274
CON 8	2.55694	11.70274	2.55694	.18576	13.76493	.00044
CON 9	.07026	11.30880	.07026	.17950	.39141	.53382
CON 10	2.15860	12.19589	2.15860	.19359	11.15062	.00141
CON 11	1.50256	13.52092	1.50256	.21462	7.00110	.01027
CON 12	.60510	14.11688	.60510	.22408	2.70042	.10530
CON 13	.52544	10.13528	.52544	.16088	3.26608	.07550
CON 14	.08344	13.32143	.08344	.21145	.39462	.53215
CON 15	.12516	13.02309	.12516	.20672	.60547	.43941
CON 16	.28912	15.41991	.28912	.24476	1.18126	.28124
CON 17	.25746	11.75325	.25746	.18656	1.38007	.24451
CON 18	1.31518	11.21753	1.31518	.17806	7.38631	.00848

Table 8

Teacher Process - Student Status Effect

Multivariate Tests of Significance (S = 1, M = 8, N = 22)

TEST NAME	VALUE	APPROX. F	HYPOTHESIS D.F.	ERROR D.F.	SIGNIF. OF F
PILLAIS	.74831	7.59791	18.00000	46.00000	.00001
HOTELLINGS	2.97310	7.59791	18.00000	46.00000	.00001
WILKS	.25169	7.59791	18.00000	46.00000	.00001
ROYS	.74831				

Univariate F-Tests with (1, 63) D.F.

VARIATE	HYPOTHESIS SUM OF SQ.	ERROR SUM OF SQ.	HYPOTHESIS MEAN SQ.	ERROR MEAN SQ.	F	SIGNIF. OF F
CON 1	.19188	2.59127	.19188	.04113	4.66512	.03459
CON 2	4.53808	5.52922	4.53808	.08777	51.70692	.00001
CON 3	3.67938	12.84848	3.67938	.20394	18.04112	.00007
CON 4	.46571	10.77922	.46571	.17110	2.72185	.10396
CON 5	1.21445	12.93759	1.21446	.20536	5.91386	.01788
CON 6	.80846	7.87013	.80846	.12492	6.47166	.01343
CON 7	.91985	9.48052	.91985	.15048	6.11256	.01613
CON 8	.08173	11.70274	.08173	.18576	.43997	.50956
CON 9	.11330	11.30880	.11330	.17950	.63119	.42990
CON 10	1.71484	12.19589	1.71484	.19359	8.85833	.00413
CON 11	.02043	13.52092	.02043	.21462	.09520	.75868
CON 12	.05105	14.11688	.05105	.22408	.22781	.63480
CON 13	.34834	10.13528	.34834	.16088	2.16527	.14614
CON 14	1.01971	13.32143	1.01971	.21145	4.82243	.03178
CON 15	.00938	13.02309	.00938	.20672	.04536	.83203
CON 16	.00002	15.41991	.00002	.24476	.00009	.99259
CON 17	.27148	11.75325	.27148	.18656	1.45522	.23220
CON 18	.90224	11.21753	.90224	.17806	5.06717	.02788

Table 9

Teacher Process - Group Means and Standard Deviations

TEST	STUDENTS	PROJECT		COMPARISON		TOTAL	
		$\bar{X}$	SD	$\bar{X}$	SD	$\bar{X}$	SD
Reading	EMH	1.048	.218	1.000	.000	1.045	.208
	REGULAR	1.111	.333	1.250	.500		
Mathematics	EMH	1.238	.436	1.030	.174	1.239	.430
	REGULAR	2.000	.000	1.250	.500		
Science	EMH	1.667	.483	1.000	.000	1.478	.503
	REGULAR	1.545	.506	1.000	.000		
Career Awareness	EMH	1.238	.436	1.000	.000	1.478	.503
	REGULAR	1.697	.467	2.000	.000		
Educational Awareness	EMH	1.476	.512	1.111	.333	1.582	.497
	REGULAR	1.758	.435	1.750	.500		
Economics	EMH	1.429	.507	2.000	.000	1.77	.420
	REGULAR	1.909	.292	2.000	.000		
Personal Finances	EMH	1.476	.512	2.000	.000	1.761	.430
	REGULAR	1.848	.364	2.000	.000		
Job Skills	EMH	1.476	.512	1.444	.527	1.687	.467
	REGULAR	1.848	.364	2.000	.000		
Work Habits	EMH	1.190	.402	1.222	.441	1.224	.420
	REGULAR	1.212	.415	1.500	.577		

Table 9 (con't)

Teacher Process - Group Means and Standard Deviations

TEST	STUDENTS	PROJECT		COMPARISON		TOTAL	
		$\bar{X}$	SD	$\bar{X}$	SD	$\bar{X}$	SD
Values	EMH	1.238	.436	1.000	.000	1.403	.494
	REGULAR	1.636	.489	1.250	.500		
Choosing An Occupation	EMH	1.476	.512	1.556	.527	1.857	.478
	REGULAR	1.758	.435	2.000	.000		
Student Rights	EMH	1.190	.402	1.333	.500	1.328	.473
	REGULAR	1.394	.496	1.500	.577		
History	EMH	1.571	.507	2.000	.000	1.776	.420
	REGULAR	1.848	.364	1.750	.500		
Geography	EMH	1.523	.512	2.000	.000	1.672	.473
	REGULAR	1.667	.479	1.750	.500		
English	EMH	1.381	.498	1.222	.441	1.284	.454
	REGULAR	1.212	.415	1.500	.577		
Art	EMH	1.524	.512	1.333	.500	1.538	.502
	REGULAR	1.545	.506	2.000	.000		
Music	EMH	1.524	.512	2.000	.000	1.716	.454
	REGULAR	1.788	.415	1.500	.577		
Physical Education	EMH	1.381	.498	2.000	.000	1.687	.467
	REGULAR	1.788	.415	1.750	.500		

CHANGES and PROBLEMS

Changes

In collaboration with the project evaluator, the project staff sharpened and refined project objectives, processes and evaluation procedures.

1) The revised project goal is a synthesis of the two principal objectives in the proposal.
2) The eight student performance objectives which served as the basis for module development are a distillation of the original thirty-two objectives identified in the proposal.
3) The six project components were clearly defined, using a common format which included objectives, activities and evaluation rather than making references to processes as was indicated in the proposal.
4) The program summary treats each of the eight student performance objectives, specifying the components and processes which relate to each objective and indicating both formative and summative evaluation procedures for each objective.
5) The Project S.P.I.C.E. timeline had to be changed due to internal problems at the local level. There was a delay in the process of identifying and appointing project personnel; consequently, many activities which were to be completed early in the academic year, were postponed several weeks. Most of the problems which developed during the project were attributed to this delay; however, the project was back on schedule by December 1, 1977.

6) Due to compliance with Public Law 94-142, the physical location of the project and comparison groups was changed. Project non-handicapped students were housed at Edith I. Starke Elementary School and project EMH students were housed at Edith I. Starke and George Marks Elementary School in DeLand, Florida. Comparison EMH and non-handicapped students were housed at Westside Elementary School in Daytona Beach, Florida. Although this did not effect the implementation of the project, some problems resulted in this move and are discussed below.

7) The total number of students participating in the project was reduced from 25 to 20 EMH and 37 to 35 non-handicapped students. These reductions were due to factors beyond the control of the project personnel.

Problems

1) Project S.P.I.C.E. did not get started as scheduled. The final notification of project approval was July 16, 1977. Notification for positions (coordinator and resource teacher) could not be released until teachers returned to duty August 21, 1977. Project personnel were not actually hired until after school was in progress (September 16, 1977). The meeting with the project evaluator at that time indicated a need to revise project objectives before the project could begin; consequently, pre-testing of the students could not start until October 1st, and the community career consultant resource campaign did not get underway until mid-October-- an

overall set-back in operations of approximately six weeks.

2) Peer tutoring in academic areas was discontinued in February, 1978. Since the physical location of the students involved in the project was changed to comply with PL 94-142, the seven mile distance between the two locations became an increasing burden for teachers, and project personnel. Making arrangements for transportation, supervision, and finding available tutoring time became a logistical problem. Peer-interaction was thus limited to on-site visitations, student group meetings and project presentations.

3) Community career consultants were scheduled January - April. Although the desire to have consultants participate earlier was strong, two reasons caused the delay: the late project start, so that contacts were not completed until late fall; the desire of the consultants to start after the holidays when the contacts were made.

4) The Beginning Competency objective focused on academic rather than technical skills. This perhaps was a failure of proper orientation of the community career consultants, who stressed academics rather than technical skills.

5) The proposal indicated active participation of the Project Advisory Committee in Project S.P.I.C.E. The committee was to discuss project implementation, problems, solutions, etc. Due to the delay in starting the project, the Project Advisory Committee was not well established and became operational only after major problems were already resolved; however, two committee meetings were held and proved beneficial.

DISSEMINATION ACTIVITIES

Several types of activities were engaged in by the project personnel to disseminate the Project S.P.I.C.E. program.

1) Orientation meetings were held for project teachers and teachers in the project schools. These meetings were held during the first month of the project. The objectives, delivery system and related materials and methods were discussed. Time was allowed for questions and answers.
2) An orientation for parents of project students was held during an evening meeting at Starke Elementary School. The details of the project were discussed including the ways in which parents could help to provide career education experiences in the home. This meeting was held early in the year. The handbook, Career Education and Your Child: A Guide for Parents, by Dale Melton was mailed to each parent of the project students. Subsequent to this meeting, written permission was obtained for all project students to participate in the program.
3) A meeting was held with the Parent-Teacher Group (PTG) of Starke Elementary School in March. Discussion of Career Education and an update on activities of Project S.P.I.C.E. were included. Project personnel emphasized the importance of parent involvement in Project S.P.I.C.E. and the students' education. Copies of the pamphlet, Career Education, published by Southern Bell were distributed.

4) A newsletter was prepared and published during the project (3 issues). The newsletters contained information concerning events and activities in the project. Contributions to the newsletters came from the project director, coordinator, students, teachers, evaluator, and from parents and community career consultants. Newsletters were distributed to all schools in the district, district career education personnel in Florida, and State Career Education Coordinators. (See Appendix). Positive responses and inquiries were received from many persons.

5) Project information has also been presented to a general session of the fall Florida State Career Education Conference, which was held in Sarasota, Florida, October 25-28, 1977.

6) After receiving the letter requesting participation in the project, the Daytona Beach Morning Journal contacted project personnel for the purpose of reporting project activities in the newspaper. The project coordinator was interviewed and arrangements were made for a photographer to photograph students during an on-site visitation. (See Appendix).

7) The project director and coordinator planned and conducted a six hour workshop entitled, "Affective Approaches to Career Education" for special education teachers in Volusia County. Twenty-seven special education teachers attended the workshop. Included in the day's activity was a presentation of project material, objectives and delivery system.

8) Project S.P.I.C.E. personnel met with the Parent-Teacher Group of Taylor Junior-Senior High School in Pierson, Florida to present the project. Discussion of career education in general and the ways in which parents could help their children followed the presentation. Copies of Career Education and Your Child: A Guide for Parents were distributed.

9) A presentation was made to the Volusia County Council for Exceptional Children. The delivery system, components, objectives and activities of Project S.P.I.C.E. were discussed. Slides of on-site visits taken by the project students were shown. Examples of resource letters, tutoring logs, parents' guide book, parent assessment and project brochures were distributed.

10) A slide tape program was presented to the Spring meeting of the Florida State Career Education Conference, Sarasota, Florida, April 18-20, 1978. A discussion on implementation procedures followed the presentation.

11) A slide-tape presentation was made at the Summer Workshop for Vocational Education Teachers, University of Florida, Gainesville, Florida. A discussion of program implementation and the differences between career education and vocational education followed the presentation.

12) A slide-tape presentation was made for a Workshop on "Vocational Education and the Handicapped Student," held at Florida Technological University, Orlando, Florida in

July, 1978. A discussion on how to obtain and use community career consultants followed the presentation.

SPECIAL ACTIVITIES

All of the activities incorporated into Project S.P.I.C.E. have been discussed in other po ions of this report. Several stand-out as being extremely helpful in eliminating prejudicial problems. The peer tutoring has certainly helped students to understand and appreciate their similarities and differences. The on-site visitations and in-class consulting by community career consultants have been positive means of helping the community understand and appreciate the problems of the handicapped. Community career consultants were also eager to point out that they did not engage in discriminatory practices in the hiring of employees. Jobs which had specific physical requirements were discussed and the reasons for those requirements were emphasized.

CAREER EDUCATION PROGRAM

PROJECT PERFORMANCE REPORT

1. Project Number: 554AH70701

2. Grant Number: G0077C0050

3. Nature of Report: Final

4. Project Title: Project S.P.I.C.E. Special Partnership in Career Education: A Career Education Program for Educable Mentally Handicapped Students

5. Period Covered by this Report: 07/01/77 through 06/30/78

6. Category of Project: Methods and techniques for special populations: educable mentally handicapped

7. Name of Project Director: Clinton M. Rouse

8. Name and Address of Grantee:

Volusia County Schools
P. O. Box 1910
Daytona Beach, FL 32015

(904) 255-6475 Ext. 259

REPORT ABSTRACT

Objectives

The purpose of this project was to design a practical, replicable, transportable career awareness curriculum for intermediate aged educable mentally handicapped students. Project S.P.I.C.E. (Special Partnership in Career Education) was designed to meet the objectives of the National Standard Career Education Model: Educational Awareness; Career Awareness; Economic Awareness; Beginning Competency; Employability Skills; Self Awareness; Decision Making; Attitudes and Appreciations.

In addition to designing a curriculum to satisfy the above mentioned objectives, Project S.P.I.C.E. was also designed to incorporate the following activities into the curriculum: peer tutoring between EMH and non-handicapped students; community career consultants; on-site visitations; parental involvement.

Curriculum

The Project S.P.I.C.E. curriculum consists of six career education modules and a guide for setting up the program or a similar program. The six modules are:

I. Self Awareness: This module consists of five units entitled, "Me and My Family," "Me and My Ability," "Me and My Interests," "Me and My Values," "Me and My Looks."

II. Career/Educational Awareness

III. Decision-Making/Beginning Competency: This module consists of three units, "Thinking About Yourself," "Occupation

Information," "Selecting an Occupation."

IV: Economic Awareness:

This module contains four units. "Paychecks and Taxes," "Spending Your Money," "Banking," "Supply and Demand."

V. Employability Skills:

This module contains four units entitled "Making Time Count," "Know Your Job," "Work Habits," "Doing the Job Right."

VI. Rights and Responsibilities

Each module identifies the National Standard for Career Education Model as well as specific student performance objectives. In addition, guidelines are given for the organization and use of the module and appropriate evaluation are included.

A curriculum implementation guide is also included in the Project S.P.I.C.E. materials. This guide explains the rationale behind the Project S.P.I.C.E. curriculum and provides sensible guidelines for the development and implementation of a similar program into an existing public school curriculum. Specific suggestions are given for establishing peer tutoring, soliciting community career consultants, involving parents, incorporating career education into on-going activities and classes, and seeking school/community support.

Evaluation

The effectiveness of Project S.P.I.C.E. was measured by using a two group pre-post test research design. Project S.P.I.C.E. students consisted of 17 educable mentally handicapped students and 30 non-

handicapped students. The comparision group consisted of 15 educable mentally handicapped students and 26 non-handicapped students. Students attended schools in DeLand, Florida. The non-handicapped students were sixth graders, while the EMH students ranged in age from 11 years to 13 years.

Pre-testing was completed in November, 1977, and post-testing was completed in May, 1978. A variety of tests were used to measure the objectives of the National Standard Career Education Model. In addition, data was gathered from teachers to determine the impact of Project S.P.I.C.E. on the classroom activities. Tests were also administered which measured mathematics (computational) and reading (word attack) skills to determine which side effects Project S.P.I.C.E. may have had on the basic skill development.

Results

Multivariate analysis of variance was used to compare post-test results and teacher process reports for the project comparison groups of students. A correlated t-test was used to test the difference between pre and post-test scores for the combined project and comparison groups.

The correlated t-test indicated a significant change for the combined project/comparison groups for pre-post test scores in all variables except work habits and knowledge of education and training for occupations.

The multivariate analysis indicated significant differences in both student outcomes and teacher reported process between the project and comparison groups. The group outcomes which were considered project successes were in: choosing an occupation, valuing, personal finance, knowledge of a career and knowledge of occupational titles. Areas

which indicated no significant differences between project and comparison groups were work habits, student knowledge of their rights and responsibilities, educational awareness, and knowledge of the economic system. In no case did the project students show less growth in these areas than the comparison group.

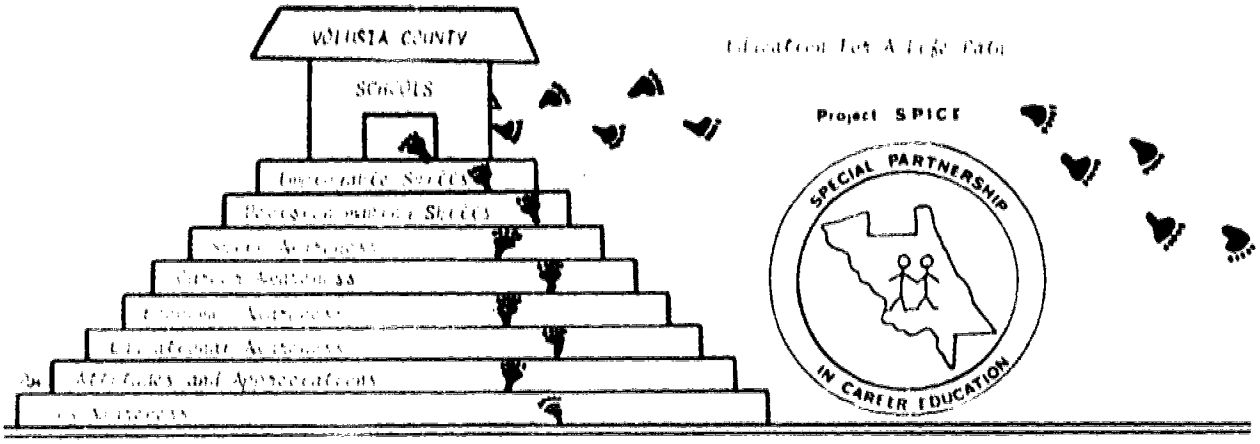
Additional data suggested possible positive project impact on students' computational skills, attitudes toward school and general career information.

From the data collected, there was no evidence of any negative side effects of the project.

Summary

The developers of Project S.P.I.C.E. believe they have produced a practical, replicable, transportable curriculum to be used for educable mentally handicapped students. The materials have proven to be successful in many areas of career awareness and have not been detrimental to the on-going activities of the classroom.

Project S.P.I.C.E. materials are not considered to be complete. However, Project S.P.I.C.E. is a beginning.



Career Education EMH Program, 809 West Euclid Avenue, DeLand, FL 32720 (904) 734-0933

PROJECT S P I C E

SPECIAL PARTNERSHIP IN CAREER EDUCATION

Project SPICE is Volusia County's Career Education Program for Educable Mentally Handicapped Students. Funded as a demonstration project through the U.S. Office of Education's Career Education Program, Project SPICE is designed to develop and demonstrate the most effective methods and techniques for providing appropriate career education experiences for intermediate age educable mentally handicapped students.

The fundamental premise of Project SPICE is that the career awareness information level and the career expectations of educable mentally handicapped students will be significantly increased and broadened as those students engage in intensive career awareness learning activities with their non-handicapped age-group peers. Through this "mainstreaming" process, educable mentally handicapped students are provided an enriched learning environment which has a positive effect on their self-concept and on their attitudes toward learning. Non-handicapped students from the regular school program will experience corresponding growth as a result of their participation in the project.

As educable mentally handicapped students and non-handicapped students work and learn together, mutual understanding and acceptance develops between them. They begin to appreciate the unique talents and abilities of each other and develop positive attitudes toward each other. These attitudes contribute to improved performance in school for both groups of students.

Project SPICE is designed to encourage greater community involvement in the educational program. As community members participate in project activities, they develop a better understanding of the total school program and the unique learning needs and abilities of educable mentally handicapped students.

Students participating in Project SPICE are located in two elementary schools in DeLand. The educable mentally handicapped students are assigned to special education classes at Edith I. Starke Elementary School and George Marks Elementary School while the non-handicapped students are sixth graders at Starke Elementary. For purposes of project evaluation, comparable groups of students at Westside Elementary School in Daytona Beach will be tested both at the beginning and the end of the project. The same testing instruments and procedures will be used with these students.

Project Objective

The principal objective of Project SPICE is to develop a model career education program for ten to thirteen year-old educable mentally handicapped students. This model program will be made available to other schools and school districts and will provide a guide for the development of similar programs throughout the state and nation.

Student Objectives

Performance objectives for project students are derived from the eight elements of the National Standard Career Education Model and have been adapted for educable mentally handicapped students. These objectives, and the career education element to which each relates, are:

1. The project student will demonstrate increased knowledge that different career directions require varying types of education and training. (Educational Awareness)

2. The project student will demonstrate increased knowledge of the variety of occupations found in the world of work. (Career Awareness)

3. The project student will demonstrate increased knowledge of the American Economic System. (Economic Awareness)

4. The project student will know and be able to demonstrate selected skills required in the successful performance of at least three occupations in the project community. (Beginning Competency)

5. The project student will develop and demonstrate work habits which contribute to career success. (Employability Skills)

6. The project student will know and be able to demonstrate a minimum of five characteristics about self. (Self-Awareness)

7. The project student will demonstrate the ability to apply information and values to the process of making decisions in the selection of the three occupations for skills development. (Decision Making)

8. The project student will know and be able to demonstrate at least five personal rights and the corresponding responsibilities of each. (Attitudes and Appreciations)

PROJECT COMPONENTS

1. PEER TUTORING

Throughout the project, educable mentally handicapped students and students from the regular school program are paired for a wide variety of learning experiences. The project coordinator, resource teacher and classroom teachers meet regularly to develop pairing procedures which will best meet the needs of both educable mentally handicapped and regular students. Peer tutoring is used in improving basic academic skills, planning career-oriented on-site visits, developing student projects, and many other project activities.

While peer tutoring involves pairing an educable mentally handicapped student with a non-handicapped student, it is not assumed that the non-handicapped student will always be the tutor. Peer tutoring is a reciprocal process and must be carefully structured so that both students benefit from the experience.

2. COMMUNITY CAREER CONSULTANTS

Community Career Consultants are the link between project students and the real world of work. Their participation in project activities is vital to the success of the project. They visit classrooms to talk with students about their occupation or business, to explain the educational and training requirements for various occupations, to help students understand the personal characteristics which contribute to career success and to provide other information of interest to students. They also assist project personnel to identify and validate the skills which are generally required to secure and maintain employment in occupations found in the DeLand area.

Community Career Consultants are identified in cooperation with the DeLand Chamber of Commerce and other business, civic and professional organizations in the DeLand area.

3. CAREER-ORIENTED ON-SITE EXPERIENCES

Community Career Consultants also act as sponsors or hosts for student career-oriented on-site experiences. These experiences usually follow a classroom visit by a Community Career Consultant. The consultant and the classroom teacher prepare the students for the on-site experience and then plan appropriate follow-up activities. On-site experiences usually involve two to four students, working in pairs. Through such experiences, project students develop a practical, realistic view of the world of work, and the role they may eventually assume in that world. Each project student is scheduled for at least five on-site experiences during the project year.

4. CLASSROOM INSTRUCTION

All special activities of Project SPICE are designed to augment and

reinforce regular classroom instruction. Project students are more highly motivated to learn basic skills and other academic subject matter because they now perceive the relationship between school and the real world of work. Project teachers are discovering that students are more enthusiastic about school and more receptive to learning.

In addition to using state adopted textbooks and other instructional materials, project staff and teachers are adapting several career-oriented instructional kits and modules for use with educable mentally handicapped students. The Valuing Approach to Career Education, a multi-media instructional program, is being used in both regular and special education classes.

STUDENT PROJECTS

Project SPICE students are developing a variety of skills by planning and carrying out special projects related to on-site experiences and other project components. A typical project developed by two students is a sound-on-slide program about a day they spent in a local manufacturing plant. Included in the program are slide photographs taken by the students and interviews with several workers in the factory.

Students may develop their own ideas for special projects or they may select an idea from a list developed by project staff and teachers. A contract agreement between the students and the teacher helps students to develop a greater sense of responsibility and to experience the satisfaction of a job well done.

Completed student projects are presented by the two students who developed them to the total group of project students. These presentations are made each week when all project students are brought together for a weekly sharing session. In this manner, every student will be able to share a variety of career awareness experiences through projects developed by their classmates.

PARENT PARTICIPATION

Career education experiences at school must be reinforced by appropriate experiences in the home. Parent involvement in Project SPICE is essential. Parents serve on the Project Advisory Committee and meet regularly with project personnel and teachers to discuss specific home-based activities for project students. Parents are encouraged to assign chores and other home-related responsibilities to students and to keep a record of student progress in such tasks. Parents are also encouraged to include students in family budgeting and financial planning. Through these and other home-related activities, parent participation in Project SPICE is an integral aspect of the project.

Project SPICE

Director:	Clinton M. Rouse	Classroom Teachers:	Elinor Danglise
Coordinator:	Debby H. Emerson		Ruth Clifton
Resource Teacher:	Frank Elliott		Linda Shelton
Evaluator:	John E. Bailey, III		

SPICE NEWSLETTER

EDUCATION FOR A LIFE PATH

Vol. I No.2 March 1978 Susan Horvath, Editor
Career Education EMH Program, 409 West Euclid Avenue, DeLand, FL. 32720 (904) 734-0933

From The Coordinator--

In planning and implementing project activities, I am very pleased with the attitudes of the students--EMH and non-handicapped. At the beginning of the project, I was apprehensive about the reception of the EMH by the non-handicapped; I anticipated the EMH rejecting the non-handicapped student's help. But my apprehension evaporated with the initial meeting of the students.

The sixth graders and the EMH students, whether in class or on-site, are working together with no difficulties. Their acceptance of each other as students and friends has enabled the project activities to be carried out. They are learning from each other. The students readily give help when assistance is needed. They are excited about learning and are becoming more career oriented. All students are learning that they are individuals with their own abilities, aptitudes and interests.

The community business people and parents of project students are receiving the students with enthusiasm. The parents are excited that their children are having the opportunity to investigate various occupations. They are expressing (through assessment forms, checklists, and personal comments) how important they feel career education is to their child.

The community career consultants are also expressing optimism about participating in the project. They are not accepting students into their establishments as EMH and non-handicapped, but as students preparing for their futures. The consultants are pleased at being able to assist the students in this preparation. Consultants are saying that this is the best method for students to further their education and to become employable. "If I can have a positive effect on one student, I feel I have made a good contribution to Project SPICE."

In planning the career awareness program, the involvement of community career consultants has been outstanding. Consultants were obtained through the cooperation of the DeLand Chamber of Commerce. Mr. Dal Ritchey, Executive Director, provided project personnel with a list of members. From this list, letters were mailed, along with a description of the project and the career education concept, need for their participation in the project and a questionnaire. When questionnaires returned, personal contact was made to appoint a time and date for either an on-site visit or a consultation in the classroom.

One of the most important considerations in obtaining community career consultants is to be certain they understand what is expected of them, detailing the kinds of information to be shared with the students as well as an estimation of the amount of time required and how many students will be involved.

The community career consultant can be a valuable source of information not only for career awareness but also educational, economic and employability awareness. The consultant's working knowledge of the everyday workday can have a greater impact on a student than information gained solely in the classroom. One area of discussion that has been very beneficial to the students is "getting along with others." The students are hearing from all consultants that the mainstay of

any job is "getting along with people." At the end of many interviews, consultants have asked, "What did you learn today?" Most often an EMH will respond, "I've got to get along with other people."

During interviews with consultants, the students are discovering the reasons for learning the basic academic subjects such as reading, math, and language arts. This was made very clear to one EMH student as he watched the manager of the Leland Camera Shop receiving money from a customer and making change. When the students returned to the classroom, his first comment to the teacher was, "Ms. Clifton, I've got to learn money. Teach me money now!" At that moment, the student had the enthusiasm and reason for learning how to use money.

As the children watched the Publix Supermarket baker at work, one EMH student was spellbound. Usually a very quiet child, he returned to the classroom very excited and exclaimed, "Mrs. Shelton, I want to be a baker. I'd like to work with the dough and make bread and cookies!"

The success of Project SPICE is due to the total commitment of the project special education teachers and the regular classroom teacher to the concept of career education. This commitment has allowed the activities of the project to be implemented in the classroom with little difficulty. By being enthusiastic about the concept of career education and peer interaction, the teachers have prepared the students to be receptive to, and excited about, participating in project activities.

With this commitment from teachers and students, the avenues are open for successful interaction of students. To date, the interaction of educable mentally handicapped and non-handicapped students has proven to be a productive method of providing career awareness information. The educable mentally handicapped students have discovered a learning situation in which they can participate with regular students and be successful. They, along with their non-handicapped peers, have discovered there are few differences between them. As one non-handicapped student remarked, when asked how she felt about the peer interaction sessions, "They're just like the regular kids! Some of them do better than some kids in our class." The acceptance of the educable mentally handicapped by the non-handicapped has provided a greater opportunity for both students to learn. By working together, they are building a more concrete view of not only the world of work, but also how they may function together in their world.

Debby H. Emerson
Project Coordinator

Ricky Shaw, Starke Elementary School Student (left), and George Kirchhoff, George Marks Elementary School Student

From A Classroom Teacher--

According to the project classroom teacher, the interaction between project EMI and non-handicapped students is spectacularly praiseworthy.

The regular 6th Grade students have demonstrated their ability to relate to EMI students in various ways. When interviewed, one 6th Grader said, "Working with EMI students is no different from studying with kids from another regular class." The regular class has elected to have two EMI students join the school patrol as a Special Patrol Unit. When a field trip was planned for the Science class, it was the students who asked if the EMI students could join the group. Because the well-planned SPICE projects are so interesting and extraordinary, the monthly Student Council Publication has a SPICE Column describing SPICE happenings. The developing ability for young non-handicapped students to relate to handicapped peers can rate only as an asset throughout their adult lives.

Since the SPICE project is geared mainly to career education, the regular students are being exposed to a multiplicity of professions by way of filmstrips, discussions, team field trips, interviewing, taping and labeling slides of people at work. If these students were not enrolled in the SPICE project, their regular class schedules would not include such vast exposure to available careers. Because each career is analyzed according to life values, each student views the various careers in a way which makes the analysis personally meaningful.

Elinor Danglise
6th Grade Teacher

From A "Starke Trek" Correspondent--

In teams, students in the SPICE program from Ms. Linda Shelton's, Ms. Elinor Danglise's (Starke Elementary) and Ms. Ruth Clifton's (George Marks Elementary) classes made slides and tape recordings of several Starke school staff members--

Henry N. Whitten, Sr. - Principal
Babye C. Ashley - Secretary
Letha Johnson - Lunchroom Manager
Lillia V. Allen - Assistant
Bobbie D. Baugh - Assistant
Judith M. Duffy - Assistant
Barbara W. Giles - Assistant
Betty H. Jackson - Assistant

as well as Tony Taylor, Owner-Manager of the DeLand Camera Shop, and Judy Bradley, Rancher at Horsefeathers Ranch in Barberville. Presentations of this kind are made at Tuesday SPICE get-togethers. Florence Davison, Owner of DeLand Secretarial Services and Bob Smith, Personnel Director of Sherwood Medical Industries of DeLand, addressed SPICE students on alternate Tuesdays.

Jody Tessensohn
6th Grade Student

From A Community Career Consultant--

On January 24, I had the distinct pleasure of addressing informally about 60 EMI and sixth grade students at Starke Elementary School, between 11 and 13 (at which age they begin vaguely to consider their futures) regarding the advantages of becoming secretaries from whence any career could take off. What I do and have done intrigued them inasmuch as I stressed that it is easy and fun. My theme really was that "typing is great fun and you must be a good speller to do it well."

Keeping my talk down to the level of 12 year olds was a real challenge, and being able to reach them very gratifying indeed. Many intelligent questions were raised, and when I displayed the facility of shorthand, this appeared to be a highlight.

Generally, it did not seem to interest the boys. However, from my vantage point, you could see a few of them think it over when I remarked that at one time I worked for an Executive Vice President of a large Wall Street Bank who had commenced his

business career as a court stenographer! That made 'em think a minute. The girls, too, were impressed, you may be sure.

If out of those 60 children, ten (10) learn to spell properly, and two (2) become good secretaries, it would seem to me that the [illegible] program served its purpose.

Florence Dayton
Secretary, Session

[illegible]

We key word in the project [illegible] is "partnership." Originally the term partnership was conceived to describe the unique relationship between the mentally handicapped and non-handicapped students participating directly in the project. These partnerships are the cornerstone of the project and have proven to be an extremely effective instructional strategy.

Teachers of both the handicapped and non-handicapped students enthusiastically agree that the interaction between these students has been beneficial to both groups. In Project [illegible], peer tutoring is not simply a non-handicapped student helping a mentally handicapped students with difficult subject matter. It is a dialogue; a two-way communication process, which almost always results in greater learning for each student.

The partnership between students is amplified through career-oriented on-site experiences and the projects developed by students after such visits. Students are always paired for these experiences. Together, they take photographs, interview workers and record other information. Each team is very business-like about these experiences because they realize they must faithfully report what they have seen and learned to the rest of the students in the project.

In addition to the partnership between Project [illegible] students, new partnerships are emerging as project implementation continues. One of the most significant of these is the cooperation between regular classroom teachers and special education teachers in the pilot schools. They are sharing information and planning together for numerous instructional activities, many of which go far beyond the specific goals and objectives of the project. Teachers in the pilot schools who are not directly involved in the project have expressed considerable interest in Project [illegible] activities. Many have requested that their students be permitted to participate in activities related to the project. This is being accomplished to some extent. Community Career Consultants frequently return to the [illegible] to make presentations to non-project students.

Without question, the most productive and significant emerging partnership in Project [illegible] is the cooperative and collaborative relationship between the community of Miami and the project schools. This partnership is significant, not only as a vital component of the project, but also as a foundation upon which future cooperative efforts can be based. The many contributions by Community Career Consultants have demonstrated once again that the community is eager to help schools provide career education programs for students. All we have to do is let them know that we need them.

Clinton M. House
Project Director

[illegible]

[illegible]

Title VI of the Civil Rights Act of [illegible] states: "No person in the United States shall, on the ground of race, color, or national origin, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving federal financial assistance." Title IX of the Education Amendments of [illegible], Public Law [illegible], states: "No person in the United States shall, on the basis of sex, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any education program or activity receiving federal financial assistance." Therefore, career education projects supported under Sections [illegible] of the Education Amendments of [illegible], like every program or activity receiving financial assistance from the U. S. Department of Health, Education, and Welfare, must be operated in compliance with these laws.

The material in this publication was prepared pursuant to a grant from the Office of Education, U.S. Department of Health, Education, and Welfare. However, points of view or opinions expressed do not necessarily represent policies or positions of the Office of Education.

This public document was promulgated at a cost of $ [illegible] or $.[illegible] per copy.

SPICE NEWSLETTER

[illegible]

Vol. 1 No. [illegible] [illegible] 1978 Susan J. Horvath, Editor
[illegible] Holly Hill, Fl. 32017 (904) 253-1400

[illegible]

On the last visit in which Marilyn participated, she confidently walked into the photography studio. She asked questions, listened and watched the workers performing their duties. Marilyn engaged in a conversation with the book-keeper. The bookkeeper asked Marilyn, "What do you plan to do when you finish

school?" Marilyn answered, "I want to be a nurse's aide. I visited a convalescent home and saw them working, I like to work with people and I want to be a nurse's aide."

As the conversation continued, it was not apparent to the bookkeeper that this student was labeled EMH. Marilyn had entered the "outside world" and was able to talk with an adult about her interests, abilities and future plans.

For Marilyn, Project S.P.I.C.E. was a success. The adamant stand of "I don't need to work" had changed to a hopeful "I want to be a nurse's aide."

Debby H. Emerson
Project Coordinator

From a Parent--

Dear Ms. Emerson:

My daughter, Jennifer Irza, has just completed what she describes as her best year of school and I believe the S.P.I.C.E. Program was in part, responsible for her feeling this way.

She explains the program has been beneficial to her by allowing her an opportunity to work with others of different capabilities and it has also helped her realize now which direction her future education should take to enable her to achieve the type of employment she will choose before long.

All too often young people have an unrealistic view of the actual job skills and requirements needed due, in part, I believe, to the influence of television, movies, books, etc. Various professions, such as medicine and law, are romanticized by them and all of the hard work and study involved are either glossed over or seldom mentioned. The S.P.I.C.E. Program offers a more realistic view of what these young people can expect from their career choices.

Also, I believe that S.P.I.C.E. has helped the children realize that not everyone is suited for a profession and that service personnel and craftsmen perform vital services for our community and work in these should be considered.

I can only hope that the S.P.I.C.E. Program will continue and eventually extend to all grades.

Sincerely,

Barbara Irza

Project S.P.I.C.E. student, Albert Corley, on site interviewing Linda Bell, Southern Bell Plant Assigner.

From The Students--

The following are samplings of notes that the coordinator received from the students during the final group meeting of Project S.P.I.C.E.

"Thank you for all the time that you have taken to give us the opportunity to meet people and learn what they do and what you need to learn while you are in elementary school. I am truly grateful I could be in Project SPICE."

Jeffrey Merrill

"Thank you for the SPICE Program. I really learned a lot about working with others and my career. 6th grade just

wouldn't be 6th grade without SPICE."
Kelly Parker

"I am glad that I'm in the SPICE Program. You and my other teachers especially taught me to be partners with everybody." Sherry Dunn

"Thank you for taking the time to take us on field trips and all the other things you have done for us."
Theresa Carter

"I'm glad I'm in the Project SPICE. You've been very helpful to me and I thank you." Shellby McBride

"Thank you for helping and taking us places and helping in the SPICE Program. It's very fun to work with people your own age. Thanks a lot." Mark Monteith

"Thank you for taking us on our field trips." Richard Shaw

"Thank you very much for your help in the SPICE Program. For the past year I have found other jobs in which I have an interest. Working with EMH kids was really an adventure. It was great and I learned a lot." Pam Russell

Project S.P.I.C.E. students (from left to right) Lorraine Gibson, Trude Coyle, Jody Tessensohn and Jay Wood, in conference with Julian Stenstrom, Public Relations Manager of Cardinal Industries.

From the Evaluator--

The Use of Criterion-Referenced Tests

Criterion-referenced tests (CRTs) measure what a student has accomplished rather than his or her relationship to other students. This promises a number of advantages to both instructors and evaluators. For instructors criterion-referenced tests offer much clearer descriptions of what is to be learned as well as strong diagnostic information. For program evaluators CRTs allow the testing to be focused clearly on the important outcomes expected of the program rather than the blunt measurements that are obtained using standardized norm-referenced tests.

There is no such thing as a free test. Development of CRTs takes time and money. The actual testing of students takes time. The use of CRTs has to be cost and time effective. Some current CRTs attempt to avoid the problem of testing time by using relatively small numbers of test questions per learning objective. However, this technique presents the serious possibility that students will be incorrectly judged to have mastered a particular skill or competency. Tests with 10-20 items per objective avoid this problem but take much more time to administer.

To counter this problem, Project SPICE has adopted the use of a placement test approach. Learning objectives within a broad area, e.g., word attack skills, are arranged hierarchically. Skills that are easiest are placed first while more difficult skills are placed last. This ordering is done based on actual student test data rather than by attempting to simply judge what "should" be harder. Once the skills are ordered hierarchically, a placement test is constructed. On the placement test each objective is tested in order, but with only two items. After the student is roughly placed based on his or her placement test results, the student is tested using the actual criterion-

referenced test for the objective. If the student can master that objective, testing continues up the scale until an objective is found on which the student needs instruction. Conversely, if the student has not mastered the objective on which he or she has been placed, testing is continued down the line until an accurate placement has been achieved. This technique can reduce the testing load by up to 90%. In addition the placement test serves as a continuing check on the accuracy of the ordering of the learning objectives.

Limitations - This technique is limited to subject matter areas where the content can reasonably be ordered in a hierarchical fashion. However, this ordering need not be strictly logical. If a subject is typically taught in a particular sequence, even though there are other equally valid ways, this technique can be used. The caution would be to allow for students that have acquired some of the skills outside of the course or who come from a different school. In each case, there might be sub-skills that had not been mastered even though ones higher in the hierarchy had been mastered.

Although not universally applicable, the placement test approach to the use of criterion-referenced tests has considerable promise as a means to reduce the time and cost involved in testing.

John E. Bailey, III
Project Evaluator

The major objective of Project S.P.I.C.E. was to develop a replicable career education program for intermediate-age (10-12 year old) educable mentally handicapped students. The primary vehicle for the delivery of the project treatment was a series of interaction strategies involving non-handicapped students. Educable mentally handicapped students were not "mainstreamed" in the strictest sense, but they were involved in many mutually beneficial learning experiences with non-handicapped students.

The project treatment has proven to be highly effective. Project students demonstrated significantly greater gains in six performance objective areas than did non-project students. They also achieved significantly greater improvement in criterion-referenced basic skills tests involving mathematical operations and properties. These objectively determined project results are very satisfying to the project teachers and staff. The most gratifying project outcomes, however, may have been the observable sensitization of the non-handicapped students to the fundamental human similarities between them and their special needs peers, and the discernible growth in self-concept and confidence among the EMH students.

The project staff is currently putting the finishing touches on a user's guide and six instructional modules. These materials will provide systematic procedures, techniques and strategies to teachers or other persons who may be interested in adopting or adapting Project S.P.I.C.E. activities to their own teaching/learning situation. The next issue of the SPICE NEWSLETTER will provide information as to how these materials may be obtained.

Clinton M. Rouse
Project Director

NOTE: We regret the mistake in the last issue of the NEWSLETTER. The person pictured as Tony DuBose, Publix Supermarket Bakery Manager, was in fact Chris Ellis, known in the business as Bakery 3rd Man. Sorry Chris and Tony! The Editor

Project SPICE Personnel

Director:	Clinton M. Rouse	Classroom Teachers:	Elinor Danglise
Coordinator:	Debby H. Emerson		Ruth Clifton
Resource Teacher:	Fran S. Elliott		Linda Shelton
Evaluator:	John E. Bailey, III		

The material in this publication was prepared pursuant to a grant from the Office of Education, U. S. Department of Health, Education, and Welfare. However, points of view or opinions expressed do not necessarily represent policies or positions of the Office of Education.

The public document was promulgated at a cost of $ 19.11 or $.03185 per copy.

Children Learn About Job World Firsthand

By MARIPAT FLOYD
From the West Volusia Bureau

DELAND—It could have been any four youngsters visiting Southern Bell Telephone Company here Wednesday. But two of the children were mentally retarded, and the visit was part of a new career education program that pairs retarded youngsters with normal sixth graders and introduces them to the job world firsthand.

"We're trying to acquaint the kids with as many employers in the DeLand area as we can," explained Debbie Emerson, coordinator of project SPICE—Special Partners in Career Education. She said the 25 retarded children and the 30 sixth graders visit businesses, interviewing and tape recording the employers and taking pictures of the company. No more than four children go on each trip, and those four must come back and make a presentation to the class, sharing what they've learned.

The 25 children are termed educable mentally handicapped, which means that "They're mentally retarded, slow learners." Some of them also have physical handicaps, including hearing loss, speech defects or language disorders.

Working with a sixth grade partner, the slow children learn about the job world and are also tutored in academic subjects by their partner.

It's a two way street, Mrs. Emerson said. "The regular children are beginning to realize that an EMH child is no dummy; he may have trouble learning, but that's no big deal. The EMH children learn how to get along with normal children their own age, while the normal children learn the EMH ones aren't much different than they are."

Taking what they learn on field trips and teaching it to their classmates is also good for the children, she said. "They learn to cooperate with each other, and they learn that part of any job is getting along with other people."

The program "introduces them to the job world early, rather than waiting until they're high school seniors and then having them ask, 'What am I going to do?' It emphasizes self awareness, such as 'which job would I like and be good at', and also economic awareness, such as how much each job pays and what fringe benefits are included. We feel that if we start now, that just by introducing terms like fringe benefits and health insurance, it will help the child and the concepts will come later."

A federal grant of $50,000 pays for the program through June, Mrs. Emerson said, and is quite an honor for Volusia. "We were competing for part of $150,000 that was available nationwide and Volusia is one of only seven selected to receive money."

The grant called for programs presenting new and innovative ideas in career education for mentally handicapped children, she said. "In the long run, we want to be able to produce a model that any school can use."

Before SPICE, the retarded children were kept in separate class and didn't mix with normal children. They still attend special education classes at Starke Elementary and George Marks Elementary here, but also work with the regular Starke sixth graders.

"The EMH children are delighted with this arrangement," she said. "They say, 'I'm doing the same thing that other sixth graders are doing.' They may not be doing it on the same level, but they are doing similar activities. It gives them the self image that they're succeeding."

The Starke sixth graders have responded well to the program also, she added. "It's amazing how children can teach one another. For instance, they'll lower their vocabulary to help an EMH student understand, without even being told to do it. It just happens. And it reinforces their own learning to have to explain it to someone else."

The children are supervised at all times and the special tutoring isn't taken away from the regular classtime, she said. "It's in addition to it."

Going out to businesses in the community also seems to make the children's studies a little more meaningful, she said.

News Journal photo by Jay Voll

STRAIGHT TALK ABOUT JOBS—Sixth graders and retarded youngsters are learning what it takes to get a job by visiting DeLand businesses and talking to employers. Wednesday, four of them got the straight scoop from Gordon Rothermel, head of Southern Bell's DeLand office.

DAYTONA BEACH MORNING JOURNAL

gram and the unique learning needs and abilities of educable mentall handicapped students.

Students participating in Project SPICE are located in two elementar schools in DeLand. The educable mentally handicapped students are assigned to special education classes at Edith I. Starke Elementary School and George Marks Elementary School while the non-handicapped students are sixth graders at Starke Elementary. For purposes of pr ject evaluation, comparable groups of students at Westside Elementar School in Daytona Beach will be tested both at the beginning and the end of the project. The same testing instruments and procedures wil be used with these students.