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ABSTRACT

In 1969 the Cincinnati Public Schools received a grant from the Ohio State Department of Vocational Education to develop interdisciplinary career orientation materials for junior high school pupils. The preliminary social studies materials were taught in grades seven and eight for one year, then revised. During 1970-1971 each social studies teacher in the project selected activities from the new manual, Man: His Life and Work; twenty-one teachers in four schools were involved. Each activity was prepared for use under one of the following topics: American History, Urban Living, Ohio History, and Social Sciences. Objectives were coded to the categories of Bloom's taxonomy. In March, 1971 teachers were asked to report the mean achievement of their classes on the activities they taught using a standard form (Appendix A). The mean achievement was then determined for each teacher and each activity; it was then possible to determine mean achievement for topic categories, categories in Bloom's taxonomy, and by income level of school. A T-test of independent means was then applied to the results to determine if differences in income level affected mean achievement or achievement by category of the taxonomy. The mean achievement for the 269 activities was 84 with no significant difference between low-income and average income schools. Teachers taught more activities in American History and Urban Living, and preferred activities from the cognitive categories. Inservice teacher training was suggested. (Author/SBE)

AN ANALYSIS OF THE CAREER ORIENTATION PROJECT IN SOCIAL STUDIES
1970-1971

In 1969 the Cincinnati Public Schools received a grant from the Ohio State Department of Vocational Education to develop career orientation materials for junior high school pupils. During the summer of 1969 teachers from seven disciplines, including social studies, prepared separate activity manuals for use in the 1969-1970 school year. The materials from the separate disciplines were interrelated to achieve interdisciplinary cooperation. Activities were developed which could be taught in the context of the regular curriculum and which would contribute to the following project goals:

- Provide meaningful career information in the context of specific subject matter instruction
- Strengthen pupil interest in all subject areas
- Provide a classroom atmosphere which would foster pupil motivation and encourage learning by discovery
- Encourage pupil investigations which would lead to greater self-understanding
- Provide activities for pupil participation which simulate many roles in careers.

After teaching the materials to pupils in grades seven and eight for one year, further revision was necessary. Committees of teachers in the separate disciplines were selected to revise and improve the materials. The social studies committee consisted of seven teachers and a supervisor. After numerous meetings and much individual work, the social studies committees completed the manual, Man: His Life and Work, for teachers of seventh and eighth grade social studies who were in the project schools.

During the 1970-1971 school year each social studies teacher in the project selected activities from the new manual according to his or her own interests and teaching plans. After each activity, teachers evaluated and recorded pupil success in achieving the activity objectives. At the end of the third school term they reported the cumulative results to the social studies supervisor.

Design

Four junior high schools were selected to participate in the project. The schools selected were Merry, Campbell, Gamble, and Dater. Of the schools selected, Merry and Campbell can be considered schools with a larger number of pupils from low-income families, and Gamble and Dater can be designated as schools with a larger number of pupils from middle-income families.

For purposes of the experiment in social studies, 21 teachers of the four schools were involved. Using the mean achievement percentages of each teacher's classes, mean achievement was found for each activity, topic category of activity (See Appendix), and each appropriate category from Bloom's Taxonomy of Educational Objectives.

The t-test of independent means was the statistic used. This test was applied to the results to compare achievement on the activities by income level of school and by cognitive category in the taxonomy.

Procedures

In preparing the teaching manual for use in 1970-1971, the social studies committee wrote a behavioral objective for use with each activity. Each activity was prepared to be used under one of the following topics: American History, Urban Living, Ohio History, and Social Sciences. Teachers selected and taught the activities at their own discretion. Objectives were coded to the categories of Bloom's taxonomy.

At the end of the third term (March, 1971) teachers were asked to report the mean acheivement of their classes on the activities they taught using the Record of Pupil Progress form from the career manual. (See Appendix A)

The mean achievement was then determined for each teacher and each activity. Using this information it was then possible to determine mean achievement for topic categories, categories in Bloom's taxonomy, and by income level of school.

A t-test of independent means was then applied to the results to determine if differences in income level affected mean achievement or achievement by category of

Bloom's taxonomy. Additional data compiled were a comparison of activities taught with those available by topic, comparison of activities not taught by more than one teacher with the number available by topic, total activities taught, and mean achievement level (or mean level of difficulty) for the career manual.

Results

Mean pupil achievement on the objectives for the activities in the manual ranged from 65 to 100, based on the index number of 100. The mean achievement level for the 269 activities taught was 84. For a breakdown of pupil achievement by activity, consult Appendix B.

Pupil achievement by topic is shown in Table 1.

Table 1

Topic	Mean Achievement
American History	84
Urban Living	83
Ohio History	85
Social Sciences	83

The comparison of pupil achievement by categories in Bloom's taxonomy and school income level revealed results as shown in Table 2.

Table 2

Level/Category		Mean of Activities Taught: Low Income Schools	Mean of Activities Taught: Average Income Schools
Cognitive	1 - Knowledge	86	87
	2 - Comprehension	80	84
	3 - Application	88	94
	4 - Analysis	80	95
	5 - Synthesis	90	81
	6 - Evaluation	64	75
Affective	2 - Responding	95	95
	3 - Valuing	83	65
	4 - Organization	77	-

Because of apparent differences between low and high income school achievement, the t-test was used to determine if the differences were significant by category. The test indicated that the differences were not significant at the .05 level in any of the categories except Cognitive 3 (application); in the Cognitive 3 category significance was found at the .02 level.

The t-test was then applied to the differences in overall pupil achievement by income level of school. Results indicated no significant difference between pupil achievement in low income schools compared with the average income schools at the .05 level.

Comparing activities taught with activities available revealed the following data:

Table 3

Topic	% of all Taught	% in Manual
American History	62	53
Urban Living	25	19
Ohio History	9	19
Social Sciences	4	9

The comparison of activities not taught by more than one teacher with level of difficulty in Bloom's taxonomy gave the following data:

Table 4

Level/Category		# in Category	% of Category Not Taught
Cognitive	1 - Knowledge	36	36
	2 - Comprehension	50	34
	3 - Application	9	44
	4 - Analysis	10	50
	5 - Synthesis	8	12
	6 - Evaluation	2	50

When activities taught in low and average income schools were compared by category of Bloom's taxonomy, the following data were obtained:

Table 5

Level/Category	Total Activities Taught In Low Income Schools	Average Income Schools
Cognitive 1 - Knowledge	49	35
2 - Comprehension	51	42
3 - Application	15	12
4 - Analysis	13	10
5 - Synthesis	13	12
6 - Evaluation	4	3
Affective 2 - Responding	1	3
3 - Valuing	3	2
4 - Organization	1	- 0 -
	150	119

Discussion

In this experiment a committee of social studies teachers prepared objectives and teaching activities to improve pupils' interest in learning and knowledge of careers. The materials were put in a manual and given to 21 teachers in four schools. During the 1970-1971 school year the activities were taught with each teacher selecting activities which seemed desirable for his lesson plans. The mean achievement level for all activities taught in the experiment was 84 out of 100. This implies that, in general, the manual was quite successful in teaching these pupils to reach objectives related to career orientation.

Although teachers in the project were not told, the committee preparing the manual had recommended that activities with a mean achievement less than 60 should be removed or replaced. Since the lowest level of mean achievement was 65, it was determined that all activities would be left in the manual.

It was felt before the experiment that pupils would achieve higher on some topics such as American History. The data collected did not support this belief as pupil achievement by topic was very consistent, as indicated in Table 1.

Some teachers who prepared the material felt that pupils from average income schools would do consistently better in achieving the objectives. This belief was not supported by the data. However, pupils in average income schools did do better on the objectives categorized at Cognitive 3 (Application). The general lack of significant difference and the non-linear relationship in the data suggest an interesting conclusion. Pupils in low income schools achieved as well in this project as pupils in average income schools on all levels of cognitive and affective objectives, with the exception of those objectives categorized as involving application skills. When overall achievement in low income and average incomes schools was compared, no significant difference was found. Thus the implication is strong that the activities in the manual are effective with pupils from all income levels.

Before the experiment it was assumed that teachers would have an equal interest in all topics. However, the data in Table 3 indicates that this was not true. Teachers selected and taught more activities in American History and Urban Living than Ohio History and the Social Sciences, in proportion to the amount available from which they could choose. A curriculum implication from this data is that if curriculum needs dictate that more interest and time be devoted to the other topics, some changing of the activities or inservice training is needed.

Do teachers choose activities to teach that systematically attempt to develop skills from different cognitive categories? From the data in Tables 4 and 5 the indication is that the teachers preferred teaching activities from cognitive categories 1 and 2 which attempt to reach knowledge, comprehension, and interpretation objectives. Several reasons can be suggested as to why teachers tended to select the

activities in these categories. First, the systematic development of thinking skills was not emphasized in orienting teachers to the use of the manual. Second, since career orientation and pupil interest were the important objectives emphasized in orienting teachers to the use of the manual, it is not surprising that teachers chose activities with those criteria in mind.

Recommendations

1. Since the social studies career manual has been used successfully in schools with a large number of low income pupils and schools with a large number of average income pupils, the use of the manual should be expanded to other junior high schools.

2. Evaluation of pupil achievement of activity objectives should be a function of each teacher.

3. Consideration should be given to using the evaluation and reporting system prepared for this project in the ongoing evaluation and development of other curriculum materials.

4. Teachers who used the career manual in the experimental year should be given a copy of the data from the experiment.

5. Interdisciplinary cooperation should be encouraged in developing further curriculum projects.

6. In-service training should be provided for social studies teachers using the manual. The amount of time provided for in-service training should depend on whether the teacher has participated in the project.

APPENDIX A

RECORD OF PUPIL PROGRESS IN CAREER ORIENTATION

Directions: In the blanks provided below please estimate the success of your classes in achieving the objective. For example, if all pupils successfully completed the first activity, write 100% in the blank. Leave blank the activities you do not use in class. This will provide a useful record for future planning of lessons and revising activities.

American History

1. _____	13. _____	25. _____	37. _____	49. _____
2. _____	14. _____	26. _____	38. _____	50. _____
3. _____	15. _____	27. _____	39. _____	51. _____
4. _____	16. _____	28. _____	40. _____	52. _____
5. _____	17. _____	29. _____	41. _____	53. _____
6. _____	18. _____	30. _____	42. _____	54. _____
7. _____	19. _____	31. _____	43. _____	55. _____
8. _____	20. _____	32. _____	44. _____	56. _____
9. _____	21. _____	33. _____	45. _____	57. _____
10. _____	22. _____	34. _____	46. _____	58. _____
11. _____	23. _____	35. _____	47. _____	59. _____
12. _____	24. _____	36. _____	48. _____	60. _____

Urban Living

1. _____	5. _____	9. _____	13. _____	18. _____
2. _____	6. _____	10. _____	14. _____	19. _____
3. _____	7. _____	11. _____	15. _____	20. _____
4. _____	8. _____	12. _____	16. _____	21. _____
			17. _____	22. _____

Ohio History

1. _____	5. _____	9. _____	13. _____	18. _____
2. _____	6. _____	10. _____	14. _____	19. _____
3. _____	7. _____	11. _____	15. _____	20. _____
4. _____	8. _____	12. _____	16. _____	21. _____
			17. _____	22. _____

Social Sciences

1. _____	3. _____	5. _____	7. _____	9. _____
2. _____	4. _____	6. _____	8. _____	10. _____

APPENDIX B

SUMMARY TABLE OF PUPIL PROGRESS ON CAREER ORIENTATION OBJECTIVES IN SOCIAL STUDIES

In the table below the consolidated record of pupil progress on career orientation activities in social studies is reported. The activity number category corresponds with the activity and objectives in Man: His Life and Work - A Career Orientation Manual for Teachers of Seventh and Eighth Grade Social Studies (1970). In the second category the number of teachers who taught the activity is reported.

Pupil success in achieving the activity objectives is reported in the last three categories. Pupil success is reported as a consolidated percentage of all classes who were taught the activity. A total of twenty-two teachers in four junior high schools participated in the experiment.

Each teacher taught an average of twelve activities from the categories of American History, Urban Living, Ohio History and Social Sciences. No restriction was placed on which activities were to be selected.

AMERICAN HISTORY

Activity #	Teachers Who Taught Activity	Lowest % of Success Reported	Highest % of Success Reported	Mean % Success
1	3	80	100	93
2	7	60	98	87
3	7	50	100	86
4	3	85	100	91
5	3	83	100	91
6	5	30	100	77
7	6	80	100	93
8	5	75	100	91
9	3	40	100	75
10	4	30	95	65
11	5	55	100	88
12	2	80	100	90
13	1	74	74	74
14	5	90	100	96
15	2	50	80	65
16	2	80	90	85

AMERICAN HISTORY (continued)

Activity #	Teachers Who Taught Activity	Lowest % of Success Reported	Highest % of Success Reported	Mean % Success
17	1	97	97	97
18	3	74	100	83
19	2	95	100	97
20	3	74	97	88
21	2	50	100	75
22	1	72	72	72
23	- 0 -	-	-	-
24	1	100	100	100
25	4	65	100	80
26	1	82	82	82
27	4	75	100	80
28	3	50	100	82
29	6	60	100	88
30	3	40	100	75
31	3	50	100	80
32	2	80	100	90
33	3	100	100	100
34	6	50	100	86
35	- 0 -	-	-	-
36	2	80	95	87
37	2	50	84	67
38	- 0 -	-	-	-
39	- 0 -	-	-	-
40	1	65	65	65

AMERICAN HISTORY (concluded)

Activity #	Teachers Who Taught Activity	Lowest % of Success Reported	Highest % of Success Reported	Mean % Success
41	2	90	98	94
42	- 0 -	-	-	-
43	1	100	100	100
44	1	80	80	80
45	3	75	100	85
46	1	75	75	75
47	1	75	75	75
48	1	90	90	90
49	- 0 -	-	-	-
50	5	50	100	84
51	3	80	95	86
52	3	50	90	75
53	1	75	75	75
54	3	80	90	85
55	2	50	100	75
56	4	50	100	75
57	1	75	75	75
58	2	80	100	90
59	6	50	100	86
60	3	50	98	76
61	1	98	98	98

URBAN LIVING

Activity #	Teachers Who Taught Activity	Lowest % of Success Reported	Highest % of Success Reported	Mean % Success
1	3	30	100	70
2	5	75	100	90
3	- 0 -	-	-	-
4	3	71	90	80
5	5	50	91	73
6	4	50	95	70
7	4	25	100	62
8	2	90	100	95
9	3	90	100	93
10	7	90	100	95
11	4	50	100	82
12	4	33	95	73
13	1	100	100	100
14	4	50	100	80
15	- 0 -	-	-	-
16	2	70	80	75
17	4	60	100	84
18	2	75	100	87
19	2	85	100	92
20	6	80	100	94
21	3	100	100	100
22	- 0 -	-	-	-

OHIO HISTORY

Activity #	Teachers Who Taught Activity	Lowest % of Success Reported	Highest % of Success Reported	Mean % Success
1	4	30	95	70
2	2	80	96	88
3	1	85	85	85
4	3	90	100	93
5	- 0 -	-	-	-
6	- 0 -	-	-	-
7	2	85	100	92
8	1	75	75	75
9	- 0 -	-	-	-
10	2	80	100	90
11	- 0 -	-	-	-
12	- 0 -	-	-	-
13	1	100	100	100
14	2	70	90	80
15	1	80	80	80
16	- 0 -	-	-	-
17	- 0 -	-	-	-
18	1	100	100	100
19	- 0 -	-	-	-
20	- 0 -	-	-	-
21	- 0 -	-	-	-
22	- 0 -	-	-	-

SOCIAL SCIENCES

Activity #	Teachers Who Taught Activity	Lowest % of Success Reported	Highest % of Success Reported	Mean % Success
1	3	60	100	78
2	1	100	100	100
3	- 0 -	-	-	-
4	3	75	95	83
5	5	33	100	71
6	2	50	93	71
7	1	100	100	100
8	1	100	100	100
9	- 0 -	-	-	-
10	- 0 -	-	-	-

APPENDIX C

ILLUSTRATIVE PAGE FROM THE CAREER MANUAL

ACTIVITY TITLE

BUILDING THE CUMBERLAND ROAD

Job Families

Construction

Resources or Materials

Outline maps or raw materials such as a box of dirt, clay, wood scraps or plaster

Period in History

Ohio (1790-1820) 1811

Related Disciplines

Industrial Arts

Type of Objective

Cognitive--2.20

Objective

Pupils will be able to list differences between road building jobs today and those involved in building the Cumberland Road. They will also be able to compare the effects of early and present day roads on the way people live.

Description of Activity

Travel and transportation in early America was often difficult and limited to major rivers. However, in 1811 the government began constructing the Cumberland (National) Road from Cumberland, Maryland across Ohio to Vandalia, Illinois. Soon other roads and turnpikes were built which charged tolls to help pay for their construction.

Using a box of dirt, clay, wood, or with paper maps, pupils could be asked to recreate the National Road. The class might also be asked to write an essay or orally discuss the following questions:

- How did improvement in means of travel, such as the National Road, affect our country's growth? How are expressways of today affecting our way of life?

- What difficulties were involved in building early Ohio roads?

- What types of jobs were available to men who wanted to work on early roads? What types of jobs are available to those who want to construct roads today? How is the equipment used in road building jobs today different from that in 1811?

- What job families in addition to construction are affected by road building? How?

Some teachers might wish to take a field trip to a construction site to observe jobs, equipment, and effects.