

Student Learnings from Sociology Project Materials According to Teacher Preparation in Sociology

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IT WOULD appear that the flurry of activity surrounding the social studies curriculum is moving from a developmental and revisionist stage to one of implementation and evaluation. Many of the projects are completed or near completion and the question facing schools is simply, "What do we do with it?" A subquestion especially appropriate to revised curricula in those disciplines less established in the schools is, "What can teachers do with it?" There is considerable evidence that length of teacher preparation in a subject bears little relationship to student mastery of the subject.¹ However, the revised curricula, compiled by an impressive list of scholars, are much more demanding than the previously unchallenged

¹ In a review of research on teacher preparation, Seymour Metzner of the City University of New York states, "The plain fact is that there is not a single study that, after equating for pupil intelligence and socioeconomic status, has found the length of teacher preparation variable to be even peripherally related to pupil gain, let alone being of major importance in this educational outcome." (Seymour Metzner. "The Teacher Preparation Myth: A Phoenix Too Frequent." *Phi Delta Kappan* 50 (2): 106; October 1968.) Support for this position can be found in: Eugene Auerbach. "Liberal Arts Opposition to Professors of Education." *School and Society* 87 (2162): 473-74, 479; November 21, 1959; and Donald P. Hoyt. "College Grades and Adult Accomplishment: A Review of Research." *Educational Record* 47 (1): 70-75; Winter 1966.

and unexceptional textbooks.² In sociology this is clearly the case.

Sociological Resources for the Social Studies (SRSS), a curriculum project of the American Sociological Association (funded by the National Science Foundation), has, since 1965, been producing materials of a sociological bent for the secondary school social studies curriculum. A major activity of SRSS is the development of some 30 short (two-week) units, called episodes, which emphasize a sociological perspective and which are intended for use in several social studies

² In 1966 the five secondary school textbooks in sociology which were then available were analyzed. Fifteen topics which most sociologists would consider central to their discipline were studied. The percent of total subject matter pages devoted to those topics was reported for each text. A few examples: only one text gave stratification over five percent (5.1); the text having the most subject matter pages on social change accorded that topic 4.0 percent; the scientific method never received over 2.8 percent. The four topics which received the most extensive coverage in at least one of the texts were: education (20 percent); human ecology/population (14 percent); culture (13.6 percent); and the family (13.2 percent). Three of these four reported coverages were in one book. (William M. Hering, Jr. "An Analysis of the Five Secondary School Textbooks in Sociology." Ann Arbor, Michigan: Sociological Resources for the Social Studies, 1966.)

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courses as well as in a sociology course. Over 50 sociologists have played a part in their development.

From February 1967 through June 1969, 18 of these episodes were taught in varying numbers to 13,315 students by 518 teachers in 22 states. Because many of these teachers had meager preparation in sociology and because there has been a considerable increase in summer and in-service institutes in sociology, this comparison of teacher preparation and student performance was made. With no randomization in selection of classes, students, or teachers, a statistical test of significance is probably inappropriate. Even if this were not the case, no such test could be applied since numbers in some cells were so small. Since this study was completed an additional 14 episodes have been evaluated, but results are not yet available.

Test Population

Although a stratified random sample of classes was sought, the number of substitutions and withdrawals eliminated that possibility. The population was, however, well-balanced in terms of socioeconomic level, geographic distribution, verbal ability level, and educational aspiration of students. Types of schools included rural, small urban, suburban, and metropolitan. No private schools tested the episodes, and nearly all students were 11th and 12th graders. In each school only one class was permitted to evaluate a particular episode. Because schools exercised autonomy in selecting classes for the evaluation, several episodes which appeared to be more difficult were under-represented by lower-ability students. Eight episodes were evaluated from February to June 1967, four from October to May 1968, and six from October to May 1969.

The purpose of the study was to evaluate student performance on the episodes. No attempt was made to secure a sample of teachers representing various levels of preparation. Participating teachers were asked to complete a questionnaire which included a question about their preparation in sociology.

Mean verbal ability level of classes (in centile rank for 12th grade)	Pretest ¹		Post-Test ²	
	Classes	Students	Classes	Students
75 and above	74	1690	57	1451
50-74	228	6246	189	5278
30-49	134	3502	106	2823
below 30	82	1877	54	1225
Total	518	13,315	406	10,775

¹ Pretest figures include all classes which completed The Psychological Corporation's Standardized Verbal Abilities Test.

² Post-test figures include only those classes for which data on teacher preparation were available.

Table 1. Number of Classes Which Studied 18 Units in Sociology, 1967-69

Table 1 provides details on the size of the test population.

Method

Every student who studied an episode also completed a Standardized Verbal Abilities Test developed by The Psychological Corporation. Because classes, not students, were being evaluated, mean verbal ability scores were obtained for each class. Classes were then assigned to the appropriate quartile. The division of classes is seen in Table 1. In addition to the Verbal Abilities Test, a 35-item multiple choice test was administered to both stimulus and control groups. Although some attempt was made to include test questions which measured critical thinking abilities or important concepts of sociology, almost all questions referred to specific sociological content mentioned in the episode.

Episodes were matched so that students serving as the control group for one episode served as the stimulus group for another. Thus the same test was used for pre- and post-measures, but administered to different classes. From these pre- and post-test scores, class norms were derived. For each of the four ability levels, class pretest norms were multiplied by the number of students in the class, and the result was divided by the total number of students at that ability level. This created a mean pretest score for each of the four ability levels.

Teacher preparation in sociology was the most difficult factor to retrieve from the evaluation data. Several teachers failed to return a questionnaire or failed to answer the specific question about their preparation in sociology. Questionnaires for the first

Mean verbal ability level of class (in centile rank for 12th grade)		Teacher preparation in sociology		
		Major or equivalent	Three or more courses	Less than three courses
75 and above	Episodes	2	13	16
	Classes ¹	2	26	29
	Students	30	702	719
	Gain ²	2.28	4.67	4.45
50-74	Episodes	10	18	18
	Classes ¹	15	90	84
	Students	435	2464	2379
	Gain ²	4.16	3.72	3.81
30-49	Episodes	4	16	16
	Classes ¹	5	54	47
	Students	165	1416	1242
	Gain ²	6.29	2.61	2.72
below 30	Episodes	3	11	15
	Classes ¹	3	22	29
	Students	77	481	665
	Gain ²	3.92	1.72	3.02

¹ Although in three of the ability levels there were only five or fewer classes (and episodes) taught by the most prepared teachers, these were included for comparison. This small N should be considered in any comparisons.

² Post-test norm of classes in this cell minus pretest norm of classes for this verbal ability level.

Table 2. Student Performance on Units in Sociology According to Teacher Preparation in Sociology

eight episodes asked the teachers to check one of three categories of preparation: "less than three courses," "three or more courses," "sociology as a major." Questionnaires for the remaining ten episodes were more specific; they asked how many hours in sociology the teacher had completed. With this information teachers were sorted into three groups: "less than three courses," "three or more courses," and "sociology major or equivalent." For this study a course was considered to be three hours. Thirty or more hours were considered to be equivalent to a major in the field.

This was the weakest link in the study. It was impossible to determine what types of courses teachers were reporting. Also, some teachers may have acquired over 30 hours of sociology but not elected to major in that field. Consequently, they would have been placed in the medium preparation category because they checked "three or more courses."

Data on teacher preparation were available for 406 of the 518 participating teachers. Each of these was then assigned to one of twelve cells representing three levels of teacher preparation and crosscut by four levels of mean verbal ability. Post-test norms for each class were multiplied by the number of students in that class and the total for each cell divided by the number of students in that cell. The pretest norm for each ability

level was subtracted from the post-test norm for each cell at that level. This produced a gain for each level of teacher preparation according to mean verbal ability level of students. Table 2 is a composite of all 18 episodes. When a pretest norm for an ability level in a particular episode was based on an N of less than three classes and/or 50 students, the gain was not included in the composite.

Results

Twenty-five teachers (6.16 percent) reported having a major or equivalent in sociology. Fifteen of these 25 taught classes at the second highest verbal ability level, the remaining 10 being divided among the other levels. Any comparisons would, therefore, be questionable. The fact that seven of the 12 cells in Table 2 had less than 30 cases indicates a lack of statistical significance. Keeping these low numbers in mind, the results show a weak positive relationship between teacher preparation and student performance.

In three of the four ability levels, classes of teachers with highest preparation showed a greater gain than other classes at the same level. Classes with teachers of medium preparation level tended to show less gain than other classes. However, the differences were small. Table 3 provides a comparison of gain according to teacher preparation.

Classes taught by teachers at the highest preparation level showed the highest gain at every ability level but one. The greatest differences were with classes in the middle ranges of verbal ability. This finding may be attributed to the greater number of cases at those levels; the upper and lower ability levels had only two and three classes, respectively, taught by the more prepared teachers. The second lowest gain of all 12 categories was for high ability classes taught by highly prepared teachers. Yet the differences were small and a larger population might change that finding. Also, the "ceiling effect" of the test instrument might have been a factor at this highest level.

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Classes with teachers having a medium level of preparation in sociology tended to show the lowest gain. Differences between these classes and those taught by teachers with low levels of preparation were almost nil. The average difference on a 40-question test was .387, little more than 1/3 of a question. The fact that the medium preparation group was at every level slightly below the low preparation group suggests that a little knowledge may or may not be dangerous; but it appears, in this case, to be useless.

There was a general tendency toward a not surprising conclusion: the higher the verbal ability level of the class, the greater the gain. That this is true despite the teacher preparation differences suggests a number of conclusions about the wisdom of encouraging increased teacher preparation. The most important statement that can be made is simply that there was in fact very little difference in student performance when controlled for ability level regardless of the level of teacher preparation.

Conclusions

Perhaps the episodes are nearly teacher proof. The small number of teachers at the highest preparation level, and the direct relationship of student ability to student gain between classes with teachers of medium preparation level and those of minimal preparation, suggest this possibility. Since all teachers knew they were evaluating experimental materials they may have attempted to follow the schedule and suggested procedures very carefully. Comments on teacher questionnaires support this suggestion. Now that some of the materials have become commercially available it may be that teachers will be more willing to experiment, deleting parts of episodes and modifying material. The question of "teacher proof" materials cannot be answered yet. However, individual cases suggest the unlikelihood of this possibility.

A more reasonable conclusion is that something more than additional study in subject matter is needed to implement new

curriculum materials. The sociology presented by the project materials differs markedly from that commonly taught in undergraduate sociology courses. The pedagogical approach is also quite different. Emphasis on workshops and institutes which attempt to do nothing more than increase teacher background in sociology will likely result in little improvement in student learning on new sociology materials.

A Further Analysis

It has been suggested that these findings are consistent with the goals of the project. That is, the episodes should be so designed as to allow almost any teacher easily to integrate them into existing courses. Because few teachers have a high level of preparation in sociology, the episodes should not fare better with them. The episodes are, after all, not designed to teach sociology but to add a sociological perspective to existing courses. Would teacher preparation in sociology make a difference in a full semester sociology course? Recent evidence does not support this notion.

Does in-service preparation of teachers specifically oriented toward new curricular materials enhance the success of those materials in the classroom? Do teachers who have recently acquired increased levels of

Mean verbal ability level of classes (in centile rank for 12th grade)	Comparison of student gain*
	Major or equivalent compared with less than three courses
75 and above	-2.17
50-74	+ .35
30-49	+3.57
below 30	+ .90
	Major or equivalent compared with three or more courses
75 and above	-2.12
50-74	+ .44
30-49	+3.68
below 30	+2.20
	Three or more courses as compared with less than three courses
75 and above	-.05
50-74	-.09
30-49	-.11
below 30	-1.30

* Gain measured by subtracting pretest norms for verbal ability level from post-test norms for the same ability level, according to level of teacher participation.

Table 3. Differences in Student Gain After Studying Units in Sociology (by Level of Teacher Preparation in Sociology)

Ability level of classes	Summer institute (48)	In-service institute (50)	No institute (35)
I			
Classes	18	13	9
Students	498	370	214
Average Score	29.45	28.26	29.17
II			
Classes	20	26	17
Students	546	999	491
Average Score	25.08	25.43	26.03
III			
Classes	7	7	7
Students	167	188	184
Average Score	21.11	21.46	22.61
IV			
Classes	3	4	2
Students	51	102	46
Average Score	23.16	19.28	26.51

Table 4. Comparison of Student Scores on a 50-Item Final Test in Sociology According to Teacher Participation in Sociology Institutes

preparation in sociology pass on more of this knowledge to their students? In 1969 the SRSS one-semester sociology course was taught by 222 teachers to a like number of classes. Four types of teachers were involved in that evaluation: a small group which had a close working relationship with the development of the course, a larger group which knew nothing of the course before they received it, and two groups who had special training in the teaching of the course. The latter can be subdivided into those teachers who attended summer institutes and those who were enrolled in an in-service institute while they were teaching the course. No pre-test was administered, so a comparison of gain is impossible. Yet a comparison of raw scores can offer some indication of any differences according to teacher preparation.

Classes were administered the same verbal abilities test given students who studied the episodes. Class norms were figured and the entire group was organized by quartiles. Those teachers with a close working knowledge of the course were excluded from this comparison for obvious reasons.

Three levels of teacher preparation were compared: those who attended summer institutes (48), those who attended in-service

institutes (50), and those who attended no institute and had no more than five courses in sociology (35). Incidentally, the last group was composed mainly of teachers with fewer than three courses in sociology.

Table 4 compares the three, controlled for ability level. The final score on a 50-item objective test administered at the end of the course differed very little if teachers had acquired special training in teaching that course. This is based on project-developed tests and institutes centered on project materials. It might very well be that the test did not measure the learnings which the institutes prepared teachers to impart. That is a hunch—not an assertion.

At least three major conclusions can be drawn from this crude comparison: (a) the materials produced by the SRSS project can be as effectively taught by teachers with little sociology and no special training as by teachers with considerable sociology and with special training; (b) the effects of special training and preparation in subject matter cannot be measured in terms of student performance on objective, cognitive tests; and finally, (c) that the national evaluation scheme of the SRSS project straitjacketed all teachers to such an extent that differences in preparation could not affect the results.

It should be added that the division of classes into ability levels crosscut by teacher preparation levels reduces the N so much that useful tests of significance cannot be made. Further, all conclusions reached are based on a comparison of results on a non-standardized and never-before-administered examination. Despite these disclaimers, it seems clear that increased subject matter training and traditional teacher-training institutes do not contribute to student mastery of the sociology project materials. If improvement in teacher performance is needed, then the answer lies elsewhere. □

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