

Applying the National Assessment Model to Research on Rural Social Studies

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National Assessment of Educational Progress (NAEP) is a census-like survey of the knowledge, skills, and attitudes of American youth and young adults. In this paper the National Assessment model is described, the steps in applying it to research on rural schools are outlined, and a rationale for using it in research on rural social studies is presented. The approach presented in this paper is useful when one wishes to determine how a specific group of rural students performs on the NAEP social studies/citizenship objectives. The NAEP model will produce data which are descriptive of a target population and will permit comparison of local results with those of a representative national sample of rural students.

National Assessment of Educational Progress (NAEP) is a census-like survey of the knowledge, skills, and attitudes of American youth [5]. Each year since 1969 NAEP has estimated the percentage of young Americans in selected age levels who can answer questions or perform tasks related to certain educational objectives. Ten learning areas are included in National Assessment. They are: art, career and occupational development, citizenship, literature, mathematics, music, reading, science, social studies, and writing [8].

This paper advocates applying the materials and methodology of the NAEP social studies and citizenship assessments to research on social studies in rural schools. The National Assessment model is described, with an outline of the steps in applying it to research in rural schools, and a rationale for using it in research on rural social studies is given.

Since National Assessment results on rural Americans are not reported for any geographic area smaller than the nation, replication of the assessment is the only way to find out how regional, state, or local rural students perform on the NAEP objectives. It should be remembered, however, that the National Assessment objectives do not necessarily reflect what students ought to learn and that the performance levels of the NAEP samples do not constitute standards which ought to be met.

The National Assessment Model

National Assessment is content or objective-referenced [10]. That is to say, it is focused upon what people know and can do, rather than upon how much they know or how well they can do things as compared to others. NAEP draws samples of respondents which are designed to permit inferences about the populations from which they were drawn [8]. In contrast to the standardized test approach to assessment in which every student in a specified grade level is given a complete achievement test, NAEP uses item sampling. In item sampling the assess-

ment exercises or items are arranged into booklets containing exercises ranging from easy to difficult. No respondent takes a complete test since each is given only one exercise booklet requiring 50 minutes or less of his or her time. No individual scores are produced and respondents answer the exercises anonymously. The sample design, however, allows NAEP to describe the performance of the entire group of respondents and to make inferences about each age level assessed on a national or regional basis. Inferences are also made about various subsamples, such as blacks, males or females, respondents who live in communities of a certain size or type, or youngsters whose parents did not attend high school. The National Assessment reporting variables [8] are shown in Table 1.

The NAEP model calls for the assessment exercises to be administered to small groups of 16 to 20 persons or to individuals [8]. Some other approaches involve testing large groups in auditoriums, lunchrooms, or gymnasiums. National Assessment uses many open-ended or free response exercises in addition to multiple-choice questions which predominate in some of the learning areas. Group-administered exercise booklets are accompanied by audio tape recordings which are played by assessment administrators, specially trained persons located all over the United States. The recordings include a reading of each exercise and all of the multiple-choice responses and silent pauses during which the students answer. This procedure standardizes the presentation of directions and the time permitted for responding. It also circumvents the reading problems some respondents might have.

After each assessment NAEP releases approximately 50 percent of the exercises to the public [10]. These released items help interested persons understand the nature of the assessment and interpret published results. Unreleased exercises are used in subsequent assessments to measure change over time [8].

The first step in applying the National Assessment

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Table 1
National Assessment of Reporting Variables

Variables	Categories
Age	9-year-olds 13-year-olds 17-year-olds Adults (26-35 years)
Region	Northeast (Delaware, Connecticut, Maine, New Hampshire, Rhode Island, Vermont, District of Columbia, Maryland, Massachusetts, New Jersey, Pennsylvania, New York) Southeast (Arkansas, Florida, Virginia, West Virginia, Alabama, Georgia, Kentucky, Louisiana, Mississippi, North Carolina, South Carolina, Tennessee) Central (Iowa, Kansas, Nebraska, North Dakota, South Dakota, Minnesota, Missouri, Illinois, Indiana, Michigan, Ohio, Wisconsin) West (Alaska, Hawaii, Idaho, Montana, Nevada, Wyoming, Utah, Arizona, Oregon, Colorado, New Mexico, Oklahoma, Texas, California, Washington)
Sex	Male, Female
Race	Black, White, Other
Size and Type of Community	High Metropolitan, Low Metropolitan, Extreme Rural, Main Big City, Urban Fringe, Medium City, Small Places
Level of Parental Education	No High School, Some High School, Graduated High School, Post High School

model to rural social studies research is to design an assessment. Researchers in social studies education might be interested in assessing social studies, citizenship, or both. After choosing the learning area or areas to be assessed, the target population should be identified. The in-school age groups used by NAEP are 9, 13, and 17. If comparisons with NAEP findings are planned, National Assessment age criteria should be followed. The target population also must be located. Since social studies in rural schools is to be the focus of our research, the NAEP definition of "extreme rural" should be used. That definition states, "Students in this group attend schools in areas with a population under 10,000 where most of the residents are farmers or farm workers" [8]. Thus, the most recent U.S. Census should be consulted to identify rural communities within the selected geographic area. A list of public and private schools may be obtained from any state education authority (department of education). To complete the assessment design, sampling procedures need to be outlined. Schools to be included in the sample will be selected randomly. Within each sample school, members of the target population will be selected randomly from a specially prepared list of students who meet the age criteria unless it has been decided to survey all of the eligible youths in each school selected. If a sample is to be taken from each school, the

researcher will want to specify the percentage of the target population in each school that is to be included.

A second step in applying the NAEP model is to prepare the assessment materials. First, one would obtain from National Assessment a set of the social studies and/or citizenship exercises which have been released to the public. Then, these exercises will be arranged into booklets. No booklet should require more than 50 minutes to administer. Some of the booklets will contain only items which are to be administered to groups. The remainder will contain only individually-administered exercises. The difficulty levels of the booklets should be equalized, using NAEP results to determine the difficulty of each item. A script must be prepared for a broadcast announcer to record the directions and exercises for each group-administered booklet. Finally, the booklets will be reproduced in sufficient quantity to conduct the assessment.

The third step in applying the NAEP model to research on rural social studies is to carry out the assessment. Once the schools have been selected for the sample, the administrators (superintendent and principal) of each must be contacted to arrange for the assessment. The researcher should explain the sampling procedures, if any, to be used within the school and obtain a list of all students who meet the selected age criteria. The building principal and

the researcher will need to set a date and time to administer the assessment.

Before conducting the assessment, the materials and procedures should be tried in an appropriate setting outside the sample. Piloting the assessment with rural students will provide valuable training to anyone who will administer it later for the purpose of gathering research data. Since the NAEP model includes a "sound track" for the group-administered exercises, some dexterity with an audio tape player is required. Also, some of the exercises may involve the showing of a film, the playing of a recording, or the presentation of still photographs, thus increasing the need for rehearsal. Each assessment administrator should pilot each set of materials at least twice. One should not attempt to gather data from the sample until he or she is comfortable with the assessment materials and the allied media equipment and confident that the exercises will be administered uniformly to all respondents.

The fourth step in applying the NAEP model is to score the responses to each exercise. Criteria for acceptable responses are published by National Assessment along with released exercises and results of each assessment.

The final step is to report the assessment results. In tabulating and reporting the results, the researcher has a decisions to make: whether to report the percentages of respondents giving acceptable responses to each exercise or to calculate mean performance values for major assessment themes or to report the results both ways [11]. The themes in the social studies assessment are skills, knowledges, and attitudes. The NAEP citizenship themes are political knowledge, political attitudes, and social studies. In addition, decisions must be made regarding the reporting of results by sex, race, and/or level of parental education.

If comparisons are to be made between the NAEP extreme rural sample and a regional, state, or local sample, only the results from individual exercises may be used because only those exercises released to the public can be included in the smaller scale assessment, whereas the National Assessment theme results are based upon both released and unreleased exercises. Information concerning comparisons between NAEP surveys and replication studies may be found in the *User Manual for Replicating the Citizenship Survey* [11]. That volume contains formulas for making statistical comparisons, as well as detailed procedures for designing and conducting a replication of the 1975-76 citizenship assessment.

At every step National Assessment's department of user services is available for consultation [4]. NAEP provides educational researchers and evaluators with materials and technical assistance at little or no cost. Anyone applying the NAEP model to research on rural social studies should contact National Assessment in Princeton at the outset and as often as necessary thereafter.

A Rationale for Using the National Assessment Model

The NAEP model is useful when one wishes to determine how a particular population performs on the Na-

tional Assessment objectives and/or how their performance compares to that of an appropriate NAEP sample. Such a population might be 9-year olds in a single rural school, 13-years-olds attending rural schools in a single state, or 17-years-olds in rural communities in a specified geographic area, either within a state or encompassing parts of a number of states. For comparisons, the appropriate NAEP sample for such populations would be one of the extreme rural samples.

The development of educational objectives has been and continues to be an important aspect of National Assessment. The generation of a set of objectives for a learning area requires approximately one year [10]. First, a set of objectives is derived by contractors and consultants from a search of the literature in the content area. Then, the objectives are reviewed. The revised set is submitted to an additional group of subject-matter specialists for review and approval. Finally, a set of consensus objectives is adopted. The resulting NAEP objectives include skills and attitudes, as well as knowledge.

Scriven [13] cited "grave weaknesses of design and interpretation" (p. 30) in National Assessment. He was especially critical of the NAEP approach to developing goals and objectives, stating that they bore "the heavy signs of committee authorship" (p. 29) and that the political acceptability of the citizenship/social studies objectives, achieved through the validation process, sacrificed "those that would most acutely test the moral sensitivity of students on controversial issues" (p. 29). Greenbaum [5] has charged that NAEP objectives are traditional, bland, and simplified and that the process used to produce them is insensitive to changes in educational purposes across the nation.

Hunkins (6) found that 85 percent of the exercises used in the NAEP 1971-72 social studies assessment and only 61 percent of those used in 1969-70 citizenship assessment had content validity. He also determined that 84 percent of the social studies and 55 percent of the citizenship exercises had exemplary qualities for teachers use and age appropriateness. The results of this evaluation suggest that the National Assessment exercises should be used with caution and discernment.

Chapin [3] examined the compatibility of the NAEP social studies exercises with the *Social Studies Curriculum Guidelines* of the National Council for the Social Studies [12]. She found a close relationship, with the exception that NAEP allocated only two percent of the 1971-72 social studies exercises to social participation. She speculated that this was due to NAEP's separation of citizenship from the social studies learning area.

It is not the role of this paper to resolve the issues surrounding the NAEP objectives and exercises. They should be examined by those who contemplate using them in educational research, as any set of evaluation materials originating outside the setting in which they are to be used would be examined.

If it is determined that NAEP objectives, materials, and procedures are appropriate for a given investigation, one may be confident that the results from a sample will be descriptive of the population from which the sample was

drawn. Larkins [7] observed that:

In educational research, samples are frequently composed of local volunteers such as a few social studies classes in schools that are willing to cooperate. In contrast, National Assessment uses careful and thorough procedures that combine randomization with multistage cluster sampling. Readers of NAEP reports can be reasonably certain that the sample selected for each group in the assessment . . . is similar to the national population for that group. (p. 36).

Taylor [14] found the NAEP model to be "the best and most comprehensive procedure designed for collecting data" (p. 14) for purposes of statewide or local educational assessment and/or accountability. He suggested that the NAEP approaches to developing educational objectives and assessment exercises could be applied to state and local assessments. Thus, some NAEP objectives and released exercises could be used, others discarded, and locally-developed objectives and exercises incorporated into the assessment design. Brough [2] and Zitlow [15] have provided accounts of this very kind of adaptation of the NAEP model to local assessments.

A final consideration in this rationale for applying the National Assessment model to research on rural social studies is economy. Billingsley [1] calculated that the NAEP sampling procedure reduced administration time for his assessment of rural 13-year-olds to 14 percent of what would have been required to test the entire population with a 70-minute standardized test of social studies achievement. McCord [9] reported that a replication of the NAEP mathematics assessment in a local school district provided considerable financial savings when compared to alternative approaches.

In summary, the approach to research on rural social studies presented in this paper is useful when one wishes to determine how a specific group of rural students performs on the National Assessment social studies/citizenship objectives. If followed meticulously, the NAEP model will produce data which are descriptive of the target population. Furthermore, it will permit comparison of local results with those of a representative national sample of rural students. Finally, the NAEP model provides monetary savings over alternative approaches to assessment.

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