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ABSTRACT

Part of a larger study of cross-age interaction in one-room schools, this study examined the extent and characteristics of peer tutoring in contemporary one-teacher schools. Since Nebraska had more one-teacher schools (626 in 1971-72) than any other state, 110 one-room schools with an enrollment of 10 or more students in grades 1 through 6 or 8 were selected. In April and May 1973, questionnaires were administered to 110 teachers and 1,405 students throughout the State. Two student questionnaires were used--one for grades 1-3 and one for grades 4-8. Teacher questionnaires consisted of 46 items, 5 of which were open-ended questions. Data were not obtained from kindergarten children, severely handicapped students, or absent students. Some of the findings were: (1) approximately 34 of the 110 schools had students tutoring other students on a regular basis; (2) teachers used peer tutoring primarily for the benefit of the tutees, to provide them with individual, academic help; (3) the large majority of tutees were in grades 1 through 5; (4) in the lower grades boys and girls were tutors equally often, while in the upper 4 grades girls were much more likely than boys to be tutors; and (5) 25 percent of the teachers selected students with weak self-confidence and 79 percent selected students of good achievement. (NQ)

PEER TUTORING IN ONE-ROOM SCHOOLS

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Many apparently innovative practices in today's elementary schools have their roots and antecedents in the traditional one-room school. Educators are increasingly emphasizing the importance of taking into account the individual child's needs, abilities, background, and interests; this emphasis is reflected in efforts to personalize instruction through such approaches as open classrooms, family grouping, individualized instruction, and cross-age tutoring programs. These popular trends are reminiscent of the one-room school.

The present study was undertaken because of the unique qualities of a one-room or one-teacher school (terms we shall use interchangeably) and their implications for education today. This report, part of a larger investigation of cross-age interaction in one-room schools, focuses on the extent and characteristics of peer-tutoring in contemporary one-room schools. Cross-age teaching was of particular interest to us since one of the distinctive features of one-teacher schools is the long-standing tradition of having older children help younger children and more competent students help those who are less competent.

One-room schools can provide a new perspective on peer tutoring, for in these schools, cross-age teaching does not exist as a packaged program complete with inservice training, but rather as a teaching method developed for strictly pragmatic reasons by individual teachers, working independently and with few strictures imposed upon them. Further, peer tutoring in these schools is unlikelyto exist as a new and experimental program, but rather as a familiar and traditional means of teaching and learning. Of particular interest to us in this study was determining the prevalence of peer tutoring in contemporary one-room schools, the teachers' rationale for peer-tutoring, and their bases for

selecting student tutors and tutees. Also examined were sex and age characteristics of tutors and tutees, and student attitudes towards other students as affected by giving and receiving peer help.

One-Room Schools: Historical and Descriptive Background

Because one-room schools have a unique role in our educational system, a brief summary of their national history and physical characteristics will provide a useful framework in which to consider our research population. The historical significance of the one-room school is clear: only in the last century have the majority of Americans received their early education in any place other than the one-room school. In this century, however, one-teacher schools have decreased from 200,004 in 1915-16 (Gaumnitz, 1940) to 25,200 in 1957-58 (Gaumnitz, 1959) to 2,143 in 1970 (U. S. Dept. of HEW, 1971, p. 28). As we shall describe, twentieth century one-teacher schools both resemble and differ in important respects from their historical antecedents.

The contrast of contemporary one-teacher schools with the early colonial schools is fairly obvious. The colonial schools were essentially religious institutions, with increased secularization occurring only in the early 1800's. (No longer do we have textbooks like the one so popular in seventeenth century New England entitled Spiritual Milk for American Babes, Drawn out of the Breasts of Both Testaments for Their Soul's Nourishment (Cubberley, 1919).) The basic teaching method in colonial schools consisted of having pupils study independently at their seats, and then recite at the teacher's desk. From colonial times until the early nineteenth century, the prevalent form of public education was a community or district school controlled by local citizenry (Cubberley).

Other than increased secularization of the schools, few major changes or improvements in the educational system occurred until after the 1830's. The

changes subsequently taking place had far more profound effects upon the organization and curricula of urban and town schools, than upon the one-teacher, rural schools. In 1897, a report published by the National Education Association revealed widespread unsatisfactory conditions in the rural one-room schools. Interestingly, many of the problems cited in that report recur in a national survey of one-teacher schools also conducted by the National Education Association sixty-two years later, in 1958-59 (NEA, 1960). Both reports describe schools that are frequently either under- or over-attended, with poorly equipped classrooms and underpaid teachers.

In many ways, contemporary one-room schools have surprising similarities to their nineteenth century counterparts. Typically, in the nineteenth century schools, students from Kindergarten through eighth grade sat most of the day on backless log benches, were warmed by a pot-bellied stove or fireplace at the rear of the room, obtained drinking water from a bucket using a communal tin or gourd dipper, and provided their own books and lunches (Mead, 1963; Orr, 1962; and Rissler, 1966). In comparison, consider a few of the descriptive statistics from the 1960 NEA report based on questionnaire information from 2,376 one-teacher schools in 48 states: only one-third of the schools had running water, 55% used only a stove for heat, 68% had outdoor toilets, and 67% had no telephones. Almost three-fourths of the schools had no lunch or food service, and approximately two-thirds of the teachers did their own custodial work, in addition to teaching six to eight grades (and frequently Kindergarten as well).

These fairly recent figures deal primarily with physical characteristics of one-room schools, which obviously present a very incomplete description of the schools. As Julia Weber Gordon (1946) makes clear in her diary describing a one-room rural school in the 1940's, a quality education can be offered despite a limited school budget, and a rich and stimulating learning environment is not necessarily incompatible with a primitive, rural school building. Unfortunately,

there has been no systematic attempt to determine what educational practices do prevail in one-teacher schools, either in the past or at present. One purpose of our own research was to look more carefully at classroom procedures in today's one-room schools, and, in particular, to obtain descriptive information about the use of peer tutoring in these schools.

Method

Source of Data

Schools in Nebraska were selected for data collection because Nebrasks had more one-teacher schools (626 in 1971-72) than any other state. After contacting the Nebraska Department of Education, the names of appropriate schools and teachers were obtained from county school superintendents. All one-teacher schools named by the superintendents which had an enrollment of ten or more students in grades one through six or eight were requested to participate. Schools with no students enrolled in two or more consecutive grades were rejected; for example, a school with at least one student in grades one, four, five and six was rejected, but a school with students in grades one, three, five and six was accepted. Individual teachers in schools meeting these criteria were asked to complete questionnaires and to have their classes complete questionnaires. Data were not obtained from Kindergarten children, from students with severe handicaps, or, of course, from absent students. Only schools providing completed teacher and student questionnaires were included in the sample. This report is based on the data obtained in April and May, 1973, from 110 teachers and 1405 students in 110 one-teacher schools located throughout the state of Nebraska.

Student Questionnaires

There were two questionnaires for students: one for students in grades one through three, and another for students in grades four through eight. The older students' form was identical to the youngers', except for the addition of six

questions that were appropriate only for the older age group. The questionnaire for the younger students consisted of 53 items and required approximately an hour to complete; these students had each item read to them in a group and responded before the next item was read. The older students' questionnaire required approximately 30 to 45 minutes to complete; they had directions read to them and then completed the questionnaires independently at their own rate of progress.

Teacher Questionnaire

The Teacher Questionnaire was twelve pages in length with 46 items, some with several parts. It required approximately an hour to complete.

Coding Procedure

Items on the Student Questionnaires frequently required the students to write in the names of other students (for example, best friends and names of tutors and tutees). This information was later coded to give age, sex and identification number of the student named, permitting analysis of reciprocal choices and analyses of age and sex for both subjects and students named by subjects.

When possible, student responses were checked for validity by comparing them with the appropriate teacher's responses, and the teacher's response was accepted as the valid one when discrepancies existed. Thus, when a teacher reported there was no tutoring in a school, students in that school who reported they were tutors or tutees had their responses changed to be consistent with the teacher's answer.

The Teacher Questionnaire had five open-ended questions. The responses for these items were systematically categorized by the coder for purposes of analysis.

Results

Student Data

Responses to the student questionnaires showed that most of the students in the sample were in the appropriate grade for their age group and had attended the school they were currently in since Kindergarten. The 1405 students in the sample formed an even distribution across grades and between sexes, with a slight drop at the seventh- and eighth-grade level, as shown in Table 1 below.

Table 1

Number of Boys and Girls in Each Grade

Grade	1	2	3	4	5	6	7	8	Total
Boys	96	91	81	85	108	89	77	51	678
Girls	81	94	91	107	110	93	76	75	727
Total	177	185	172	192	218	182	153	126	1405

Questionnaire responses indicated that approximately one-third (34) of the 110 schools had students tutoring other students on a regular basis. Surprisingly, the younger students (in grades one through three) reported they were tutors almost as frequently as the older students. Boys in the lower three grades were tutors as often as girls, but the older girls were tutors more frequently than the older boys--26% of the older girls as compared with 18% of the boys reported they were tutors. Students who were tutors had generally favorable reactions to tutoring, girls liked it more than boys, and youngers more than olders. Boys and girls were tutees (tutored by other students equally often, and youngers were tutees more than olders (26% as compared with 17%). Students who were tutored felt positively about the experience, with the younger students reporting more strongly positive feelings than the olders.

Attitudinal data to be inserted, not yet received.

In addition to students being tutors and tutees, about 77% of the students reported that they did at times ask other students for help with school work when they were at their seats. Also, approximately 88% reported working together with other students and feeling very positively about it, with no notable differences due to grade or sex.

Teacher Data

Results for the Teacher Questionnaires are based on the responses of 110 teachers (107 females and three males) in one-teacher schools who completed the questionnaires and had their students complete questionnaires.

As reported above, 34 schools (31%) had some form of student or peer tutoring, which was defined as: a student who is more competent helping another student or students with a particular subject on a fairly regular basis. Percentages and statements made about tutoring in this section are based on the 34 schools reporting tutoring and describe the tutoring that took place during the 1972-73 school year.

Students from all grades were used as tutors. Consistent with the student questionnaire findings, teachers reported that in the lower grades boys and girls were tutors equally often, but in the upper four grades girls were much more likely than boys to be tutors. This seems to be at least partially due to the teachers' preferences, for in 82% of the schools, tutors were selected by the teacher. When asked on what basis they usually selected tutors, 22 of the 34 teachers (79%) indicated that they selected students of good achievement; half the teachers selected students with leadership qualities; only 7 (25%) selected students with weak self-confidence; and only 4 (14%) selected low-achieving students.

Again, consistent with the student responses, teachers reported that the large majority of tutees were in grades one through five. In contrast to student answers, however, teachers stated that more boys than girls were tutees. In response to the question "Who usually decides which students are

to receive tutoring?" 19 of the 34 teachers with student tutoring reported that they, the teachers, did; nine, that students asked to receive help; and five, that both students and teachers decided. Twenty-two teachers (65%) did the matching up of tutors and tutees.

Most tutoring was done on a one-to-one basis with some tutoring done on a one-to-two or one-to three basis. In 27 of the 34 schools (79%), tutors had more than one student whom they tutored. In 24 schools tutoring sessions lasted 15 minutes or less. Tutors usually worked with their students each day (in 35% of the schools) or two or three times a week (42%). There was an equivalent number of same-sex and opposite-sex tutoring pairs.

Various age differences existed between tutor and tutee, from same-age pairs to pairs with tutors and tutees five years and more apart. The most common age difference between tutor and tutee was two years (in 31% of the schools) followed by three and four years' difference (in 20%). Arithmetic, reading, and spelling, in that order, were the subjects most frequently tutored.

In addition to the 34 schools with reported student tutoring, 27 more schools had some kind of informal tutoring, which did not exactly fit the earlier definition, but which did involve students tutoring one another. Of the 61 teachers having formal and informal student tutoring, 54 gave reasons for doing so. Table 2 shows the responses most frequently given by the teachers when asked in an open-ended question why they had student tutoring. (Teachers could give more than one reason).

As can be seen from Table 2, the five most frequently given reasons for tutoring were that peer tutoring 1) provided students with more individual attention than the teacher herself could offer (cited by 72% of the teachers); 2) provided academic benefits for the tutee (cited by 35%); 3) permitted peer-level communication (28%); 4) provided academic benefits for the tutor (26%); and 5) was enjoyable for the students (19%).

Table 2

Item: Briefly comment on why you have student tutoring.*

Reason	Number of Teachers Giving Reason (Total N = 54)	% of Teachers Giving Reasons
1. Provides students with individual attention when teacher has insufficient time.	39	72
2. Academic gains for tutee.	19	35
3. Children can succeed when teacher can't; tutor is more on child's level.	15	28
4. Academic gains for tutor.	14	26
5. Students enjoy it.	10	19
6. Increased self-esteem, self-confidence for tutor.	7	13
7. Increased sense of responsibility or maturity for tutor.	5	9
8. Social advantages for tutor--learning how to get along with others, citizenship, etc.	4	7
9. Increased self-esteem, self-confidence for tutee.	3	6
10. Social advantages for tutee, including individual attention.	2	4
11. Generally beneficial for tutor and tutee.	2	4
12. Other	2	4

*Responses to this open-ended question were categorized by a coder.

** %'s do not sum to 100 because teachers gave more than one reason.

Discussion

The one-room school is an intriguing and unexplored subject for research. The daily, purposeful gathering of small groups of children from five to fifteen years old has no parallel in our society. Given the long history and continuing existence of one-room schools, the remarkable fact is that no one has looked carefully or systematically at the unique characteristics of these schools. Most research in the area has been limited to comparing one-teacher schools with consolidated schools, with an emphasis on student academic achievement (e.g., Dreier, 1949; Kreitlow, 1971; and Worbois, 1942). Certain current trends in education, such as individualized instruction and family or cross-age grouping suggest that we could benefit from the experiences of schools that have a tradition of such practices. In particular, the use of older and more competent children as helpers for those who are younger or less competent has a special and established place in the one-room school. Because peer tutoring is likely to be an established and pragmatically evolved teaching device in these schools, its implementation and the students' and teachers' attitudes towards such tutoring is of especial interest.

One of the significant findings of this study is that the practice of peer tutoring is not necessarily a part of education in contemporary one-room schools. In the one-room schools comprising our sample (110 Nebraska schools, each with a minimum of ten students), 34 schools have students regularly tutoring other students, with 27 more having some other, more informal or irregular form of student tutoring. In our sample, peer tutoring was used by the teachers primarily for the benefit of the tutees, to provide them with individual, academic help, although some teachers did feel that it was beneficial for the tutors as well, and some deliberately selected students who were low-achieving or lacking confidence. The typical tutoring pattern was for a student tutor to work with a student two to four years younger, for 15 minutes or less, two to

five times a week. It is noteworthy that considerable diversity existed in the ages and age differences of tutors and tutees, and that an equivalent number of same-sex and cross-sex tutoring pairs existed. The frequency of tutoring sessions during the week also varied, as did the number of tutees each tutor had, with most tutors having more than one tutee, (although tutoring usually occurred on a one-to-one basis). This variation in implementing peer-tutoring, which existed within and across schools, suggests that no one combination of sex and age factors is necessarily optimal for successful peer tutoring. (Nor has research provided any definitive guidelines for the selection of tutors or tutees (Devin-Sheehan, Feldman, & Allen).)

As shown by the questionnaire data from the students, peer tutoring is popular with both tutors and tutees.

Discussion of attitude data cross-tabs, unavilable as yet

The peer tutoring information from Nebraska one-room schools, like other data obtained in our investigation of cross-age interaction in these schools, is of theoretical and applied value to educators and psychologists concerned with student social and academic relationships. It seems clear that there is yet a lot to be learned in the one-room school. And, if we are to benefit from the experience of students and teachers familiar with one-teacher schools, the information should be gathered now, while these schools continue to exist.

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