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Needs in Smaller Schools of the United States[1]

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A needs assessment pertaining to the smaller schools of the nation was conducted in the fall of 1981 by the staff of the National Center for Smaller Schools at Texas Tech University. A statistical sample of the defined schools was drawn, stratified by five geographic regions: Northeast, Southeast, Southwest, Midwest, and West. The superintendent of each sample school district was requested to complete a questionnaire and to ask one principal and three teachers to complete a similar questionnaire. The survey was categorized into three parts: Curriculum and Instruction, Administration, and Professional Preparation and Development. Over 77% of the items on the survey were perceived both to be important and to be well performed in reality. On the other hand, 12 items were found to be definite areas of need, 10 of which were from the professional preparation and development category. The top five needs were (1) the development of strategies to motivate students; (2) the provision of training in fostering positive student self-image; (3) the identification of strategies for dealing with teacher burnout; (4) the provision of some type of incentive program for professional development, such as college credit, release time, or monetary compensation; (5) the provision of programs for gifted and talented students.

INTRODUCTION

Since the Conant report [3] recommending consolidation of smaller schools, the major emphasis of educational research and development efforts has been concerned with organization, programs, and change processes to improve larger consolidated schools. Recently, however, many factors have converged to provide the impetus for a new interest in educational research and development—the smaller schools.

Parks and Sher [10] emphasized three fundamental reasons for federal agencies and others to begin taking rural education problems seriously. They are: (1) the changing nature of the countryside as a result of current and predicted migration trends; (2) the national mandate for justice and fairness, or equal educational opportunity; and (3) the need for a timely concept of rural development. Other experts have concentrated on describing some of the problems and misconceptions about small schools [1; 5; 6; 7].

The phenomenon of "reverse migration" has also strengthened concerns about education in small schools, over 90% of which exist in rural settings. Ross and Green [12] described patterns of migration from the city to the country, which began in the early seventies, and continued to increase into the early eighties. The rapid growth in rural areas causes many problems for schools, including lack of finances; lack of instructional diversity; and inadequate materials, resources, and physical facilities [13; 14].

There are several studies which show evidence of renewed support for small schools [4; 5; 6; 14], all of which emphasize the need for improving the quality of schools. However, the specific problems of these schools have not yet been adequately defined. Dunne, among others, has noted that there does not exist a reasonable body of knowledge of well-gathered, well-analyzed data that explains what rural life and education are really like. Without such information it is unlikely that significant improvement in rural and small schools will occur.

PURPOSE OF THE STUDY

The purpose of this study was to conduct a national assessment of the educational needs of smaller schools. The information obtained from this survey should provide data upon which policy decisions, program plans, and additional research can be based. The study was conducted by the National Center for Smaller Schools, located at Texas Tech University and partially funded by a grant from the Moody Foundation of Galveston, Texas.

Design

A stratified random sampling procedure was used to collect necessary data. The sample was stratified first by the five geographic regions of the country and then within regions. The following three definitions of "small" public schools were used: (1) any school or school system that enrolls fewer than 1,000 students; (2) any secondary school that enrolls fewer than 300 students; or (3) any elementary school that enrolls fewer than 15 students per grade.

The sampling method used in this study is alternatively referred to as "deep stratification" or "controlled selection" [8]. Its principal advantage is described by Lawton:

[1]This paper is taken from the complete report of the study entitled *Needs in Smaller Schools of the United States: A Study,* published by the New Mexico Center for Rural Education and The National Institute of Education, Box 3CRE, Las Cruces, NM 88003.

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"It is a technique which allows one to use prior knowledge to the full in choosing the variables to be used in stratification and in forming subsets to be selected, while simultaneously offering good protection against the introduction of bias into the sampling process" [9, p. 16]. Because "drawing a small, uncontrolled random sample from a (relatively) large population does create almost unlimited opportunities for one . . . to be saddled with a grossly atypical sample," the controlled selection process was particularly well suited for this study [9, p. 13].

Sampling Procedure

The survey was restricted to the 48 contiguous states. These states were grouped into the following regions of the country—Northeast, Southeast, Southwest, Midwest, and West. The states in each of the regions were as follows: Northeast—Maine, Massachusetts, Connecticut; Southeast—Kentucky, North Carolina, West Virginia, Mississippi; Southwest—Texas and New Mexico; Midwest—Michigan, North Dakota, Kansas, and Wisconsin; West—Oregon, Idaho, and Nevada. The number of states selected in each region represents one-third of the total number of states in that region.

The state directories were examined for the purpose of eliminating from consideration those schools or school systems that did not meet the stated criteria for smallness. The selected schools and school systems were numbered consecutively within each region and grouped (school district, secondary school, or elementary school). This grouping provided three lists within each region. The total number of eligible schools and school systems was then computed for all five regions. That number served as the total population from which the appropriate sample size was identified from a population sample size table.

After the national sample size was determined, the sample size for each region was computed for each of the categories identified above. Samples were then drawn using a table of random numbers.

Treatment of the Data

The methodology used for collecting and analyzing the needs assessment data was adapted from a design conceived and implemented by Dr. Gaston Pol, in San Antonio, Texas, in 1975. Pol's *Needs Assessment of Educational Goals* [11] utilized the Quadrant Assessment Model, validated in 1973. The model is based on four variables generated from the survey forms: High Ideal, Low Ideal, High Real, and Low Real.

Every item can be found somewhere on the high-low continuum on both the Ideal and Real scales. Because the instrument utilized a five-point Likert-type scale, the natural midpoint in the distribution of possible means was 3.0. Any mean which was equal to or above 3.0 was considered relatively "low." When ratings of both importance and performance are examined concomitantly, every item must fall into one of four categories or quadrants: High Ideal/High Real; High Ideal/Low Real; Low Ideal/High Real; or Low Ideal/Low Real (see Figure 1).

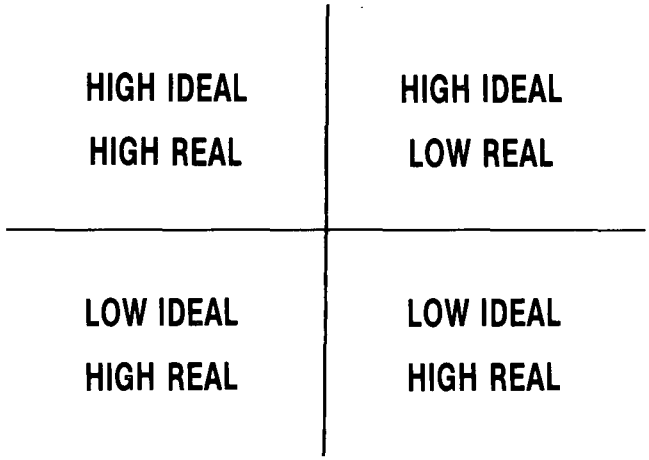

FIGURE 1. Quadrant Assessment Model (Pol, 1973).

Items appearing in the High Ideal/High Real quadrant were perceived to be important and well performed in reality. Items appearing in the High Ideal/Low Real quadrant were perceived to be important but not well performed in reality (the Needs Quadrant). Items appearing in the Low Ideal/High Real quadrant were perceived as being performed well, despite their relatively low importance. And items appearing in the Low Ideal/Low Real quadrant were perceived to be neither important nor well performed.

Individual ranking within quadrants was determined by a combined weighted score, calculated by multiplying the ideal score (mean) by two and subtracting from that the Real score (mean). The higher this score was, the higher the item appeared in the quadrant. This procedure was used to avoid negative numbers and to distinguish between equal "score differences" but unequal ideal scores. For example, an Ideal-Real score pair of 4.9–2.9 and an Ideal-Real score pair of 3.1–0.1 have an equal "score difference," but the Ideal score of the first indicated that this item is ranked higher than the second item. Quadrant Assessment Models were generated with the data from all the respondents and also for each of the following groups of respondents: teachers, principals, and superintendents. These three groups represented over 92% of all respondents.

Other statistical procedures were employed in addition to analysis with the Quadrant Assessment Model. Means and frequency distributions were calculated for all demographic data and for each item in the survey. Difference testing by region of the country and by position was performed. For the former, one-way analyses of variance with accompanying Duncan's Multiple Range tests were used. For the latter, *t*-tests were performed on the individual items, on the total scales (Ideal and Real), and on the subscales of each scale (curriculum and instruction, administration, and professional preparation and development).

FINDINGS

Nearly 5,600 surveys were mailed to over 1,200 school districts throughout the country. Slightly under 1,100

surveys were returned, representing about a 20% rate of return. Of the 1,100 surveys returned, 951 were used in the data analysis. These included returns from 211 superintendents, 217 principals, 449 classroom teachers, and 73 others (counselors, etc.) . Geographic distribution was as follows: Northeast - 97; Southeast - 155; Southwest - 305; Midwest - 177; West - 217.

Ideal and Real Rankings

The respondents were asked to respond to the 96 items on the survey in terms of how important they perceived these items to be for their own purposes in their own schools and how well they were being performed. In general, the items ranked as more important (ideal), tended to cluster around issues related to classroom management and school administration. The items ranked lowest in importance tended to cluster around issues related to special curriculum offerings and instructional methods. Responses relative to performance (the Real) showed similar clustering tendencies as to how well they were being performed.

Quadrant Assessment

When the items on the survey were examined both in terms of importance and performance, they were placed in one of the four quadrants discussed above: High Ideal/High Real, High Ideal/Low Real (Needs Quadrant), Low Ideal/High Real, or Low Ideal/Low Real. Seventy-four of the 96 items on the survey (77.11%) were perceived to have been both important ideally and performed well (High Ideal/High Real). None of these items therefore constituted areas of need, because they were perceived to be relatively important and were perceived to be performed relatively well.

None of the items were perceived to be of low importance and high performance. Six items were perceived to have been neither important nor well performed.

Sixteen items were perceived to represent areas that are relatively important but not performed well. These items constituted areas of actual need since, in the perceptions of the respondents, there was a discrepancy between the way things are (Real) and the way things should be (Ideal). Table 1 contains the listing of the items from the Needs Quadrant.

The discrepancy between Ideal and Real scores on items in the top of the ranking clearly indicated that these items should be viewed as areas of need. However, items near the bottom of the ranking should not be viewed as areas of great need, because the last four items appear among the bottom ten items when ranked by importance alone.

Differences in Findings by Position

Differences in responses by principals ($N=211$) and superintendents ($N=204$) were examined, and it was determined that there was no significant difference between the two groups on either the Ideal or the Real scale. There were some differences on individual items, but for

TABLE 1

Listing of Items in the Needs Quadrant—Total Sample

Rank	Item
1	Strategies to motivate students
2	Training in fostering positive student self image.
3	Strategies for dealing with teacher burnout.
4	Some type of incentive program for professional development, such as college credit, released time, or monetary compensation.
5	Provide programs for gifted and talented.
6	Training in principles and methods of counseling students.
7	Training in how to conduct effective parent conferences.
8	Training in methods to individualize instruction.
9	Regular opportunities to communicate classroom successes and failures with peers.
10	Continuous training for classroom aides or volunteers
11	Training in grouping strategies and small group management skills.
12	Strengthen parent-teacher organizations.
13	Encourage community involvement in instruction.
14	Provide courses in free enterprise.
15	Encourage community involvement in planning.
16	Training in report preparation and record-keeping skills.

TABLE 2

Items Perceived as Needs Only by Teachers and Relative Rankings of Items

Rankings		
Teacher	Total	Item
2	1	Strategies to motivate students.
6	–	Provide courses in free enterprise.
9	–	Collaboratively planned inservice programs, with teachers stating their areas of need.
12	8	Training in methods to individualize instruction.
15	–	Training in proper use of audio-visual equipment.

the purpose of comparing teachers with administrators, the responses of principals and superintendents were combined to form the administrator group.

The responses by teachers ($N=450$) and administrators were compared, and it was determined that there were significant differences between the two groups on both the total Ideal and total Real scales ($p \leq .001$). In terms of the individual items, there were statistically significant differences between the groups on over 54% of the items on the Ideal scale and on over 63% of the items on the Real scale. The areas of disagreement were broad, but some patterns or trends were observed.

Of the 52 items on the *Ideal* scale for which there were significant differences between groups, the administrators perceived the items to be significantly more important than did the teachers 80% of the time. Futhermore, of the 61 items on the *Real* scale for which there were significant differences between groups, the administrators perceived the items to be significantly better performed than did the teachers over 90% of the time. In other words, with only a few exceptions, the administrators believed that many of the items on the survey were both more important and better performed than did the teachers.

With such significant differences between the two groups in their responses to the items on the two scales, it was necessary to reexamine the Needs Quadrant in terms of the perceptions of the two groups rather than the total sample.

Nearly one-third of the items perceived to be needs by the teachers were not similarly perceived by administrators and did not appear anywhere in the administrator's Needs Quadrant. Of these five items, three did not appear anywhere in the Needs Quadrant of the total sample (see Table 2).

Although there were numerous differences between the two groups, there was much agreement between teachers and administrators regarding areas of need. Nearly 70% of the items identified by teachers as needs were also identified as such by administrators, although their rankings within groups varied somethat (see Table 3).

Differences in Findings by Region

Some differences among regions were significant on the total Ideal scale ($p \leq .01$). A Duncan's Multiple Range Test determined the perceptions of the respondents in the Southeast region (Kentucky, North Carolina, West Virginia, and Mississippi) were significantly different from those in the West (Oregon, Nevada, and Idaho). There were no other significant differences among regions on the total Ideal scale.

In terms of the total Real scale, some differences

TABLE 3

Agreement Between Teachers and Administrators Regarding Areas of Need

Rankings			
T	A	Total	Item
1	6	3	Strategies for dealing with teacher burnout.
3	5	4	Some type of incentive program for professional development.
4	1	2	Training in fostering positive self-image.
5	4	5	Provide courses for gifted and talented.
7	3	6	Training in principles and methods of counseling students.
8	8	9	Regular opportunities to communicate classroom successes and failures with peers.
10	2	7	Training on how to conduct effective parent conferences.
11	10	10	Continuous training for classroom aides or volunteers.
13	7	11	Training in grouping strategies and small group management skills.
14	12	12	Strengthen parent-teacher organizations.
16	11	13	Encourage community involvement in instruction.

among regions were again significant ($p \leq .05$). The Duncan's Multiple Range Test determined that the perceptions of the respondents in the Southwest region differed from the perceptions of the respondents in all other regions. In other words, respondents from the Southwest perceived that the various items on the survey were significantly better performed in reality than did the respondents from any of the other regions.

Among the various regions, respondents from the Southeast were most critical of the way in which the items were being performed, even though they perceived the items to be more important than did respondents in any other region.

SUMMARY AND IMPLICATIONS

This study adds to the scant data available relative to perceived needs of smaller schools, over 90% of which are in rural settings. Most research of this nature focuses on urban schools (which tend to be large) or it fails to break out differences between large and small schools. It seems to be assumed that what is good for large and urban schools is also good for small and rural schools. Such an assumption is rather questionable, as this study shows.

Most of the needs identified by superintendents, principals, and teachers in this study had to do with aspects of schools related only indirectly to the curriculum and academics. Concerns of the respondents seemed to be more related to teacher and student attitude, motivation, and general well-being. This is particularly significant in view of the current high levels of concern for raising grading standards, graduation requirements, test scores (for both teachers and students), and in general giving even more emphasis to what may not be the most important areas of attention relative to school excellence.

Financial support is undoubtedly important to improving educational opportunities in smaller schools, but this study indicated that other kinds of support may be more important. This is also consistent with other research—that dealing with why teachers teach and why they try to be good teachers.

Perhaps the most important finding was one not included in the original statement of purpose for the project. There were significant differences between the perceptions of teachers and those of administrators as to the most important areas of need. This comes as no surprise to those of us who have observed the often poor relationships existing between administrators and teachers, but it may help to explain why those poor relationships exist and what might be done to improve them —namely more dialogue between teachers and administrators.

Much additional research is needed relative to various kinds of needs in smaller schools. The findings of this study point to the areas of student motivation and self-concept, teacher attitude (burnout), teacher incentives, and programs for gifted and talented students as the most pressing, as well as ways to improve administrator-teacher relations.

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