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ABSTRACT

Three variables--student attendance, stability of enrollment, and socioeconomic status--can affect reservation students' performance on standardized tests as significantly as the quality of instruction. To test the impact of the three variables on academic achievement, the Ganado (Arizona) Unified School District No. 20 analyzed available information on six academic subtests for a representative sample of its reservation student population in grades 3, 6, 8, and 12. Socioeconomic status was the most consistent variable, showing a strong relation to academic achievement in all test areas for all grades except 12. Attendance had a significant effect on language and reading scores of students in grades 6, 8, and 12. Attendance was also a significant variable for students of low socioeconomic status, as was stability of enrollment. In general, students with stable enrollment in grades 6, 8, and 12 outperformed transient students in language areas. Overall, students with the best scores were those with the best attendance records who had been enrolled consistently in the district. Evaluators felt that these results proved the quality of the district's program. Variables such as one-parent homes, negative parental attitudes, and school expectations can also affect attendance and performance, and should be investigated. (SB)

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by

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Ganado, Arizona

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# APOLOGIZE OR ANALYZE: MEASURING ACADEMIC ACHIEVEMENT IN THE RESERVATION SCHOOL

By: Sigmund A. Boloz and Richard Varrati

Serious questions have been raised concerning the effectiveness of reservation school curricula. The group standardized test scores of reservation children, a barometer often used to register a school's relative worth, are typically well below the national mean. Some administrators answer the concerns about educational quality by explaining the school's limitations. However, a scientific analysis of the students' respective test scores might indicate that the quality of instruction is only one variable in determining performance on a standardized test; other variables include socio-economic status, school attendance, and stability within a particular school.

Standardized test scores of culturally and language different populations are, at best, questionable indicators of school performance. Administrators, school board members and parents must realize that, in addition to cultural and academic variables within the test, there are other variables that affect test scores. For instance, the relationship between socio-economic status (SES) and achievement has been well documented (Douglas and Ross, 1965; Galloway, 1976; Fogelman, 1978; Matusek and Haskin, 1978). In fact White, 1976, has listed 44 indicators

of SES which have been studied at one time or another. Unfortunately, achievement tests are the only bench marks that some view as being important. Therefore, as the school's instructional leader, the administrator has the responsibility of developing an effective public relations program which both inspires confidence in the educational system and places the test results in their proper perspective.

To do this, the administrator must be adept at identifying and isolating variables which the reservation student brings to the testing situation. During the 1982 school year, Ganado Unified School District #20 located northeast Arizona conducted a study which indicated several of those variables

Each April, state-mandated standardized achievement tests are administered, with the results returned to the district in May. Reports from the State Department of Education and District Curriculum Office summarize the results and indicate the relative standing of the district within the state. Although the Ganado school system provides a comparable set of curricula and a fine staff, the mostly Navajo student population consistently averages below their public school peers across the state. The school board and staff members alike react to the summaries with deep concern and frustration. Although some educators try to address these concerns with discussions of limitations or

tried to place the results in their proper context, little data had existed to support the district's competence.

### The Approach

In January of 1982, the district committed itself to an analysis of its student population. District planning meetings were held to discuss the assessment instrument and performance data collected. Two factors had made the continued utilization of standardized achievement tests appealing: their results were perceived as the gauge of a school's worth; and the State of Arizona was paying for test administration and scoring. Interest centered on identifying variables which impact on the reservation student's achievement. Previous district studies had indicated variables which appeared significantly correlated with achievement. These variables were student stability within the district, socio-economic status, and average yearly attendance.

Study constraints quickly became evident. Financially, the district would be required to pay to have these special summaries analyzed and would have to allocate educator release time for data collection prior to testing. Therefore, it was decided to study a representative sample of the student population and to utilize appropriate data which was available.

Analysis of student data was rendered more cost effective by systematically sampling the highest grade in each of the four district schools. The third, sixth, eighth, and twelfth grades were targeted, and each school assigned a representative to the coordination responsibilities. In most cases, this was the building counselor. These persons met with the steering committee and the study was refined. Information was compiled from cumulative records and summarized.

Stability within the district was defined as each student's total length of uninterrupted enrollment at the public school. As previous studies had indicated that the median stability of seventh and eighth grade students was five years, this was selected as the lower limit at which students would be labelled stable. Students whose total uninterrupted enrollment was less than five years would be classified as transient.

Socio-economic status was determined according to each student's meal classification. At the beginning of each school year, parents were given the opportunity to apply for free meal benefits for their children. Government standards had been established for various income levels and adjusted for family size. Since this information had been compiled by the district, it was utilized in the study. Students were classified as high SES if they did not qualify for free or reduced meal benefits and as low SES if they did qualify.

Average daily attendance was ascertained by totaling the attendance of all students in each grade during their last seven academic quarters. An average enrollment was established for each grade, excluding all students with less than seven quarters enrollment. Students were assigned a status of above average attendance or below average attendance for that grade level. It should be understood that this study did not differentiate treatment of the different kinds of absences: ie, school phobia, truancy, illness, parent exploitation, parent-approved absence for trips, etc.

For each grade of the study, students were separated into six distinct subsets. These were: stable with high SES and above average attendance; stable with low SES and above average attendance; stable with high SES and below average attendance; stable with low SES and below average attendance; transient with high SES; and transient with low SES. Depending on the student's biographical data, each was assigned to a subset for group analysis. Their tests were appropriately coded and returned to the state designated scoring service.

## Socio-economic Status

The most consistent variable in the study was the socio-economic status of each student's family. The strong relationship between academic achievement and SES held true across all three academic test areas and for all grade levels except twelve. However, upon inspection, it was found that many students who were eligible for free and reduced lunches at this grade level did not fill out an application. Since such a high percentage of students at this level did not apply, the study task force eliminated the variable from the twelfth grade analysis.

## School Attendance

The effect of school attendance also provided essential data. Although above average school attendance at the primary level did not have a strong influence across all subtests, it did in the language area. Students in the sixth and eighth grade with above average attendance had superior scores in both the reading and the language subtests and their twelfth grade counterparts demonstrated a similar superiority in the reading, the language, and the math subtests. It is also interesting to note that absences appeared to have a relatively minor effect on the achievement of higher SES students but a significant effect on the achievement of lower SES students.



This information is consistent with the conclusions of Stennett and Isaacs, 1980, who have shown that absence from school is related to a student's academic achievement. They have also stated that the effects of absences are cumulative and that it is very likely that absences from school may have a more detrimental effect in some subjects and program areas than in others. Our conclusions were also supported by their 1979 findings that absences from school had a major impact on the achievement of students in their first year in secondary school.

### Stability

The final variable which was examined was a student's stability within the district. It was found that stability like attendance, had little significant effect on the academic achievement of the high SES students but that it was a major determining factor of school achievement for the low SES. Stability had a limited effect in the primary grade with the exception again of the language subtest. Stable sixth, eighth and twelfth graders out-performed the transients on the language and reading subtests, while stable eighth graders also demonstrated superior math scores. Kohr, 1981, stated that his studies suggested a curvilinear relationship between stability of student residence with parental occupation.

## Summary

The analysis of students' test results revealed extremely valuable information for both the district and the community. The findings reaffirmed the worth of the school in that students who had the significantly higher scores were those who had consistently remained with the district and had the best attendance averages. This information assisted the administrators in developing an effective public relations program which stressed the quality of the schools and the need for stability and regular school attendance. In essence, by analyzing, the administrators had now taken the offensive. They were effectively selling the school program instead of apologizing and defending it against unjust criticism.

## Additional Variables

Although the study was limited to a simplistic analysis of the relationships of attendance, stability, and socio-economic status to academic achievement, there are many other variables which have been shown to correlate with school achievement. Their significance for the Native American child bears investigation. The variables are:

1. Student absences in any one year are related to his past attendance history (Stennett and Issacs, 1980).

2. Student absences from school are more pronounced for students who live in over crowded conditions (Fogelman, 1978) or large families (Douglas and Ross, 1965).
3. Students from one parent families miss school more than those from intact families (Levanto, 1975; Scott, 1978; Sharples, 1979, and Stennett, 1979).
4. The more positive the attitude towards the teacher and the school the more likely that the student will attend (Hambleton, 1967).
5. The parent's perception of the school's attendance policy has a bearing on the child's attendance (Stennett and Isaacs, 1980).
6. There is some evidence that the type of school (Tyerman, 1968) and its academic standards (Douglas and Ross, 1965) have a bearing on student attendance. Academically-oriented schools with high academic standards tend to have students who are better attenders than vocationally or technically oriented schools.
7. School policies and expectations with respect to attendance influence student absenteeism (Kooker, 1976) as do teacher expectations (Lietz, 1976).

## Conclusion

In these times of budget constraints, when students and therefore money is directed towards proven, quality

programs, the reservation administrator must be an efficient public relations expert. Although questions will continue to be raised about the effectiveness of the reservation school, the administrator can best answer the general concerns with hard educational data. He can not allow his school to be evaluated solely in relation to the generalized results of standardized achievement tests, rather, he must be prepared to utilize all aspects of assessment for rational educational program planning or to apologize.

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