Differences in teacher interaction with Mexican American and Anglo students in grades 4, 5, 6, 7, and 8, in St. George School, Ontario

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DIFFERENCES IN TEACHER INTERACTION WITH MEXICAN AMERICAN
AND ANGLO STUDENTS IN GRADES
4, 5, 6, 7, and 8
in
ST. GEORGE SCHOOL, ONTARIO
A PROJECT
Presented in Partial Fulfillment of the Requirement for
the Master's Degree in Education in the School
of Education of California State College
San Bernardino

by
Ramon Stella

California State College
San Bernardino
1974
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INTRODUCTION

The United States Commission on Civil Rights, in Teachers and Students, Report V: Mexican American Education Study, Differences in Teacher Interaction With Mexican American and Anglo Students†, reports that the schools of the Southwest are failing to involve Mexican American children as active participants in the classroom to the same extent as Anglo children. On most of the measures of verbal interaction between teacher and student "there are gross disparities in favor of Anglos." (8, p. 43) This conclusion is based upon the interpretation of data received through observation of teacher-student interaction occurring in 429 classrooms in schools in California, New Mexico, and Texas during the 1970-1971 academic year.

The Commission's Report discusses the learning aspect of classroom interaction as the heart of the educational process; the key factor being interaction between teacher and student. It is through this interaction that the school system makes its major impact upon the child. The frequency of interaction and the method of interaction between teacher and student are major determinants of the quality of education the child receives. (8, p. 7)

The Flanders Interaction Analysis System was the method employed by the Commission in finding out, quantitatively, the frequency of teacher-student interaction occurring and the behaviors involved in that interaction.

In this project I will present a replication, using students at Saint George School, Ontario, of that portion of the Commission's data gathering process that lead to the Commission's basic finding. St. George School was chosen for this study because of the ethnic make-up of the student body, the proximity of the school, and the willingness of the staff to cooperate.

† Hereafter referred to as the Commission Report.
I will show differences occur in teacher-student interaction between Mexican-American students and Anglo students at St. George School and share the data with the faculty at St. George School.
REVIEW OF THE LITERATURE

The Commission's Report is the only study found comparing differences in teacher interaction of Mexican American students and Anglo students. The Commission failed, also, to find any similar studies (8, p. 9).

The comparisons drawn by the Commission were based on the use of the Flanders Interaction Analysis System. The system was specifically described and the rationale for the basis of the Commission's use of the Flanders System was given. The Flanders system was used because it focuses on forms of teacher behavior which are directly related to encouraging and involving the student in the interactive learning process.

Three forms of teaching behavior were identified by the Commission as having a positive affect on pupil attitudes and achievement. They are behaviors involving the acceptance and use of student ideas, some forms of praise or expression of appreciation of a student's contribution, and behaviors involving questioning students. These forms of behavior do not necessarily increase student achievement or favorably affect student attitudes but the evidence presented by the Commission suggests that they generally do (8 p. 9). The Commission cited studies done by Barak and Rosenshine (2), Morrison (6), Fortune (5), Wallens (9), and Flanders (3). These studies support the fact that the three forms of teaching behavior mentioned above generally increase student achievement or favorably affect student attitudes. These three forms of teaching behavior are an integral part of the categories of interaction included in the Flanders Interaction Analysis System.

The following is a description of the Flanders system. In using the Flanders Interaction Analysis System an observer records, every three seconds, the category of interaction he has observed according to the most appropriate of the following ten categories:
It should be noted that the Flanders system is concerned with verbal behavior only, primarily because verbal behavior can be observed and recorded with higher reliability than can non-verbal behavior. The assumption is made that the verbal behavior of an individual is an adequate sample of his behavior (1, p. 6).

PURPOSE OF THE STUDY

This paper is a report of the differences occurring in teacher-student interaction between Mexican American and Anglo students in grades 4, 5, 6, 7, and 8 at St. George School. The information will be used by the staff of that school to implement strategies for removing those differences.
JUSTIFICATION OF STUDY

The principal of St. George School has reviewed the study done by the Commission and was surprised at the findings. She was anxious to have the study replicated and will use the data gathered for ameliorating differences.

Thirty-nine percent of the students enrolled in St. George School are Mexican Americans. The principal is seeking descriptive data about teacher-student interaction in the school.

HYPOTHESIS

Since the Commission Report noted that differences in teacher-student interaction existed, this study was based on the premise that differences will be found in the frequency of teacher interaction occurring with Mexican American and Anglo students throughout grades 4, 5, 6, 7, and 8 of St. George School, Ontario.

For the purpose of this study interaction is defined as the verbal reaction initiated or made by a student in response to a teacher's verbal act.
PLAN OF THE STUDY

The teachers were notified beforehand that their classrooms would be observed by a graduate student working on a master's degree project. They were told that the information would be used for a study of classroom interaction although the exact nature and purpose of the study was not disclosed.

According to the principal, the staff was not aware of the U.S. Commission on Civil Rights Report relating to teacher-student interaction.

The observer visited the classes and recorded responses for three ten minute periods on a modified Flanders form. The modified form was the same as the one used by the Commission. It was modified only to compare teacher interaction with students of different ethnic groups. Provision was made in the form for coding each interaction according to whether it involved an individual Mexican American student, an Anglo student, a black student, a student of another ethnic background, or the class. A copy of the modified form used to code classroom behavior is presented in Figure 1. Once every three seconds the observer made a tally in the box which most appropriately indicated

1) the behavior that was occurring (rows 1-10 indicate Flanders categories 1-10), and
2) the ethnicity of the student with whom it was associated (columns marked MA, A, B, O, and C refer to Mexican American, Anglo, Black, Other, and class as a whole, respectively).

See Figure 1 on next page.

St. George School has 180 students in grades 4-8. All classes are self contained with a limited amount of "teaming". All five classes were observed during Language Arts and/or Social Studies instructional periods.

The observer undertook a study of the use of the Flanders Interaction Analysis System to the extent of qualification to insure objectivity and efficiency in recording
MODIFIED FLANDERS INTERACTION FORM

<table>
<thead>
<tr>
<th>MA</th>
<th>A</th>
<th>B</th>
<th>O</th>
<th>C</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td></td>
<td></td>
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<td></td>
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<tr>
<td>3</td>
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<td>5</td>
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<td>6</td>
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<td>7</td>
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<td>8</td>
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<tr>
<td>9</td>
<td></td>
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</tr>
<tr>
<td>10</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

FIGURE 1
responses. Such preparation of the observer included reviewing "The Role of the Teacher in the Classroom" by Amidon and Flanders (1), "Interaction Analysis: Teacher Handbook" by Flanders (4), and "Learning Interaction Analysis" by Olsen (7). The tapes, "Learning Interaction Analysis - A Programmed Approach", were also studied.

The observer also conducted three days of sample classroom sessions in another school to improve interaction coding techniques.

After the data has been collected and collated, the observer will make a report to the St. George School staff about the Commission's findings and of the findings of this study.

DATA PREPARATION

In order to determine if there was differential treatment in the manner in which teachers interacted with Mexican American students and Anglo students in the classroom it was necessary to obtain a measure of the occurrence of each type of interaction for each ethnic group, adjusted for the number of students of each of the groups in each classroom. In other words it was not sufficient to compare the number of times during a ten minute observation period that the teacher interacted with the Mexican American students and Anglo students without knowing the number of Mexican American and Anglo students in the classroom. For this purpose, the per pupil measure was calculated for each type of behavior to represent the number of times the average student of each of the two ethnic groups was involved in a specified interaction (8, p. 15).

Per pupil measures of each behavior were obtained for Anglo and Mexican American students using the following procedure: The number of times each behavior occurred for Mexican Americans was divided by the number of Mexican Americans
in the classroom and a similar calculation was made for the Anglo pupils. The difference in the way the teacher interacted with Anglo and Mexican American pupils was measured by the disparities in the Anglo and Mexican American per pupil measures. The only unit of analysis that is comparable for all classroom is the average student of each ethnic group.

Additionally, as was done in the Commission Report, three compound measures of interaction were created and treated for Mexican American and Anglo students: amount of positive teacher response to individual students (Categories 1, 2, and 3); amount of non criticising teacher talk (Categories 1 through 6); and total speaking (Categories 8 and 9) (8, p. 16).

The per pupil measures were corrected for class size by multiplying each per pupil interaction measure by class size divided by 36. This standardized the per pupil measures to the equivalents for a class size of 36, which was the mean class size for grades 4 - 8.

DISPARITIES IN TEACHER-STUDENT INTERACTION

The findings of this study on teacher interaction with Anglo and Mexican American pupils are shown in Figure 2. The figure represents the average frequency of teacher-pupil behaviours according to the Flanders Categories. For each type of behavior, the interaction of teachers with Mexican American students is compared with Anglo students by a measure of disparity. The per pupil interaction measures are given for the seven types of "teacher talk", and the two types of "student talk". In addition, three composite measures of behavior are reported: amount of positive teacher response to individual students (Categories 1, 2, and 3); amount of non-criticizing teacher talk (Categories 1 through 6; and total student speaking (Categories 8 and 9).
The data in Figure II show that differences do exist in teacher interaction with Mexican American students and Anglo students in grades 4, 5, 6, 7, and 8 of St. George School, Ontario.

### AVERAGE MEASURES OF PER PUPIL INTERACTION FOR INDIVIDUAL MEXICAN AMERICAN AND ANGLO STUDENTS

<table>
<thead>
<tr>
<th>Teacher Behavior</th>
<th>Average Mexican American</th>
<th>Average Anglo</th>
<th>Disparity</th>
<th>Percent Increase in Anglo over M.A.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Acceptance of Student's Feelings</td>
<td>.380</td>
<td>.369</td>
<td>-.011</td>
<td>-2.8</td>
</tr>
<tr>
<td>2. Praising or Encouraging</td>
<td>.708</td>
<td>.668</td>
<td>-.040</td>
<td>-5.6</td>
</tr>
<tr>
<td>3. Acceptance or Use of Student Ideas</td>
<td>1.134</td>
<td>1.433</td>
<td>.299</td>
<td>26.3</td>
</tr>
<tr>
<td>4. Questioning</td>
<td>1.582</td>
<td>1.862</td>
<td>.280</td>
<td>17.6</td>
</tr>
<tr>
<td>5. Lecturing</td>
<td>1.865</td>
<td>2.283</td>
<td>.418</td>
<td>22.4</td>
</tr>
<tr>
<td>6. Giving Directions</td>
<td>.604</td>
<td>.646</td>
<td>.042</td>
<td>6.9</td>
</tr>
<tr>
<td>7. Criticizing or Justifying Authority</td>
<td>.131</td>
<td>.126</td>
<td>.005</td>
<td>-3.8</td>
</tr>
</tbody>
</table>

### Student Behavior

<table>
<thead>
<tr>
<th>Student Behavior</th>
<th>Per Pupil Interaction</th>
</tr>
</thead>
<tbody>
<tr>
<td>8. Student Talk - Response</td>
<td>2.558</td>
</tr>
<tr>
<td>9. Student Talk - Initiation</td>
<td>1.537</td>
</tr>
</tbody>
</table>

### Composite Measures of Behavior

<table>
<thead>
<tr>
<th>Composite Measures of Behavior</th>
<th>Per Pupil Interaction</th>
</tr>
</thead>
<tbody>
<tr>
<td>Positive Teacher Response (1-3)</td>
<td>2.222</td>
</tr>
<tr>
<td>All Noncriticizing Teacher Talk (1-6)</td>
<td>6.273</td>
</tr>
<tr>
<td>All Student Speaking (8+9)</td>
<td>4.095</td>
</tr>
</tbody>
</table>

**FIGURE II**
SOURCES OF POSSIBLE BIAS

The use of the Flanders system assumes that the observer himself is not biased, and also that the observer knows how to perform his task efficiently.

It is possible that the observer may in some way be unconsciously biased in his observations.

It is possible that the observer is not sufficiently schooled in the task he must perform.

It is possible that the observer's presence in the classroom might alter the instructional approach of the teacher.

These biases were taken into consideration for the study and were, as much as possible, ameliorated.
SUMMARY AND CONCLUSIONS

It should be understood that three ten-minute segments of a classroom's instructional process are not necessarily representative of the instructional process in any individual class. Nor are fifteen ten-minute segments necessarily representative of the instructional process in grades 4, 5, 6, 7, and 8 of St. George School. Nonetheless this study does describe the teacher-student interaction that occurred during fifteen specific, ten-minute observation periods at St. George School and should be regarded in that context.

The basic finding of this report is that during the above mentioned observation periods Mexican American children of St. George School in grades 4, 5, 6, 7, and 8 were not involved as active participants in the classroom to the same extent as Anglo children. On most of the measures of verbal interaction between teacher and student there were disparities in favor of Anglo children.

The teachers used the contributions of Anglo pupils 26 percent more frequently than those of Mexican Americans. Combining all types of approving or accepting teacher behavior, the teachers responded positively to Anglos about 11 percent more than they did to Mexican American students. The teachers also directed questions to Anglo students 17 percent more often than they directed them to Mexican Americans. Mexican American children participated less in class than did the Anglos; they spoke less frequently both in response to the teacher and on their own initiative.

At the same time, the Mexican American student fared slightly better in three ways. His feelings were accepted more, he was praised or encouraged more, and he received less criticism.

The purpose of this study was to relate to the staff of St. George School, Ontario that disparities in teacher interaction with Mexican American students and Anglo students did occur at St. George School. The goal of the St. George School principal is to ameliorate those differences.
Related research in other areas is needed to determine what differences might exist in teacher-student interaction with Mexican American students and Anglo students of similar I.Q., of similar socio-economic, of similar reading achievement scores, etc. The modified Flanders Interaction Analysis System form lends itself to such a use.
SELECTED BIBLIOGRAPHY


