ABSTRACT
              A study is to be undertaken to determine the
conditions under which integration can optimally operate to ensure
quality of education as reflected in student achievement. Several
southern school systems experiencing gradients of desegregation and
cultural and socioeconomic backgrounds will be selected. Classes
included will be representative of a randomly assigned racial mix.
Teachers will not be assigned randomly in a formal sense but will be
those who would be normally assigned. Treatment of students will be
that normally accorded students in the selected schools. Success in
the elementary school will be measured by a chosen battery of tests.
Covariates will be pretest scores from an alternate form of the
achievement battery and mental age. A complete factorial design will
be repeated at all grade levels (two, four, and six) and separately
by race with the following factors: socioeconomic level, racial mix
of the classroom (5 levels), and sex. (CK)

Elementary School Achievement and

Desegregation : A Research Proposal

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At this point in the history of the United States, public
school integration seems assured. However, the precise course
that the change will follow will probably be determined by
legislative and jusidical decisions yet to be made.

Blindly providing for integration as an end in itself will
probably have many undesirable reprecussions. Psychologists
and educators have an adequate body of knowledge and enough
technology to assist governmental and especially judicial
authorities to scientifically accomplish optimal integration
while taking into account the more important question of
quality of education associated with learning or school progress.

Superficially, public concern in both the north and south
has centered around the "smoothness" with which integration has
been accomplished. However, the more important underlying con-
cern has been that of educational quality, specifically as re-
flected in pupil achievement. This concern is expressed by
both black and white parents and community leaders. Should
school achievement decline under integration all children lose,
and newly integrated schools may regress to a segregated status.

This tendency is particularly noticeable in elementary
schools as evidenced by the large number of private elementary

schools recently established. Secondary schools with their more specialized course offerings are costlier to establish and maintain, so that the problem is less acute in this area.

Research in the area of effects of desegragation has been very scant mainly because large scale desegragation has been occurring on a wide front only recently. Existing studies usually represent the results of ex-post-facto data collection and cannot be considered genuinely experimental. One experimental study does suggest that there is no difference in first-grade achievement according to race when readiness is held constant (Frary and Goolsby, 1969). However, to state this conclusion as generally applicable will require further research.

It shall be the purpose of this study to determine the conditions under which integration can optimally operate to insure quality of education as represented by school achievement.

<div align="center">Procedures</div>

Sampling and Treatment

Several southern school systems experiencing substantial degrees of desegration will be chosen from those willing to cooperate. Both rural and urban systems will be selected. From within these systems schools will be chosen to represent as great a variety of cultural and socioeconomic settings as possible.

From each school at least two classrooms at each of the grade levels two, four and six will be constituted randomly from the within-building populations. A minimum of sixty classes, twenty at each grade level will be established. Each minimum

group of twenty classes at a given grade level will represent
a randomly assigned racial mix as follows:

       20% Negro 80% White - 4 classrooms

       35% Negro 65% White - 4 classrooms

       50% Negro 50% White - 4 classrooms

       65% Negro 35% White - 4 classrooms

       80% Negro 20% White - 4 classrooms

Teachers will not be assigned randomly in a formal sense.
Each principal will be asked to assign to an experimental class
the teacher he would normally assign to such a situation. This
arrangement would operate under the assumption of a spirit of
cooperation between school administrators and the research team.
Thus no teacher assignments outside the realm of normal school
practice might be expected. The authors propose that such a
procedure offers greater opportunity for generalization of
results and equalization of teacher characteristics than a more
formal scheme.

Treatment during the school year will be that normally
accorded students in the selected schools. Variation according
to treatment differences between schools will remain unaccounted
for in the present study. However, schools will be chosen for
participation only if they offer a reasonably standard curric-
ulum in the grades chosen for study and if conditions generally
are representative of average or better southern schools.

Data Collection

The primary indicator of school progress has been standard-
ized achievement tests. Extensive batteries, such as the Iowa

Tests of Basic Skills, the Metropolitan Achievement Tests and the Stanford Achievement Tests are among the best criteria of success in the elementary school. The present proposal will utilize one of the above batteries or a similar series.

As a pretest, one form of the selected battery will be given to all students as early as possible in the school year. In May, another form of the same battery will be given in each classroom.

Mental ability of each student will be measured early in the school year to assist in statistical equalization of groups, in view of the random assignment of pupils. The Otis Lennon Mental Ability Test will probably be used for this purpose in view of its good psychometric properties and ease of administration.

Personal data for each student will be collected as follows:

1. Age

2. Ethnic group

3. Socioeconomic status-Hollingshead Two Factor Index

4. Days absent

5. Number of siblings

Analysis of Data

Several multivariate analyses of covariance will be used to evaluate achievement under varying sets of circumstances. A complete factorial design will be repeated at all grade levels and separately by race with the following factors:

1. Socioeconomic status: three levels--professional, skilled and unskilled.

2. Racial mix: five levels as specified under
    Sampling and Treatment.

3. Sex: two levels--male and female.

Covariates will be pretest scores on the alternate form
of the achievement battery and mental age. The program used for
analysis will be Multivariate Analysis of Variance for Large
Computers (Clyde, 1970). This program is very flexible in that
unequal numbers of cases per cell and even vacant cells are
handled with appropriate adjustments for significance levels
according to the method of Bok (1963). Other features of the
program are printout of cell means adjusted for the covariates
and a check on homogeniety of regression. Thus any covariates
not appropriate to the model can be eliminated.

Data not covered in the multivariate analyses of covariance
will be analyzed and presented separately to determine their re-
lationship to achievement.

Discussion

The authors wish to emphasize that the proposed design
accounts for bias due to prior experience. Use of analysis of
covariance equalizes for both mental development and educational
differences associated with prior conditions. Further, the
design adopted is not one established to determine some "optimal"
proportion of racial mix. While this factor is unquestionably

of interest, its effect could be negligible or non-linear, interacting with any other variable of the study, such as sex, socioeconomic status or grade level.

Finally emphasis should be placed on the experimental nature of the proposed study. In contrast to an ex-post-facto study, the power of random assignment is fully utilized to produce results with the greatest possible generalizability.

REFERENCES

Bock, R.D.   Programming univariate and multivariate analysis
        of variance. Technometrics, 1963, 5:95-117

Clyde, D.J.   Multivariate Analysis of Variance for Large
        Computers. Miami: Clyde Computing Service, 1970.

Frary, R.B. & Goolsby, T.M., Jr. Achievement of integrated and
        segregated first graders in a southern city. In press