THE EFFECT OF A MIDDLE SCHOOL MAGNET PROGRAM ON EIGHTH GRADE STUDENT PERFORMANCE

Introduction

Magnet schools were created in the early 1970s when a large number of urban school districts began seeking alternative methods to implement court-ordered desegregation mandates (Musumeci & Szczypkowski, 1993). Designed as highly quality special schools, magnet schools were meant to attract students from all racial/ethnic and socio-economic (SES) segments of a designated community and, thereby, promote voluntary desegregation. Magnet schools were strategically placed in minority neighborhoods which were racially isolated to encourage students of other races to enroll in those schools (Steele & Levine, 1994). Initially, magnet schools were implemented for the “elimination, reduction, and prevention of minority isolation in elementary and secondary schools with substantial portions of minority group students.” The Magnet Schools Assistance Program has included as an objective of magnet schools, “the improvement of academic achievement among children attending the magnet schools” (Steele & Eaton, 1996).

The magnet schools of Portsmouth, Virginia were designed to reduce the racial isolation that remained after the rezoning of the school division, to increase parent participation, and to improve academic achievement. On January 21, 1993, the Board formally approved magnet programs in four schools within the district, one of which was
Hunt-Mapp Middle School. In addition to the primary goals, other goals specific to the Hunt-Mapp Aerospace Technology Middle School were to:

- increase student achievement in the areas of math and sciences;
- maintain a high rate of attendance for those students in the program; and,
- improve parent perception and participation.

**Problem Statement**

The purpose of this causal-comparative study is to determine the effects of the Aerospace Magnet Program at Hunt-Mapp Middle School on eighth grade student performance as it relates to attendance and academic achievement.

**Research Questions**

The following major research questions were pursued:

1) Has the Aerospace Technology Magnet Program at Hunt-Mapp Middle School been effective in mirroring the balance of the race/ethnicity student composition of the school division?

2) Is there a difference in the amount of participation of students in the Aerospace Technology Magnet Program at Hunt-Mapp Middle School?

3) With the eighth grade students at Hunt-Mapp Middle School, is there a statistically significant interaction among group membership (magnet enrollment, non-magnet enrollment), gender (male, female), and race/ethnicity (black, white) with respect to math and science achievement as measured by the Stanford Achievement Test Form
9-TA after controlling for the initial differences in socio-economic status (SES) and Literacy Passport Test (LPT) scores?

4) With the eighth grade students at Hunt-Mapp Middle School, is there a statistically significant interaction among group membership (magnet enrollment, non-magnet enrollment), gender (male, female) and race/ethnicity (black, white) with respect to reading, language arts and social studies achievement as measured by the Stanford Achievement Test Form 9-TA after controlling for the initial differences in SES and LPT scores?

5) With the eighth grade students at Hunt-Mapp Middle School, is there a statistically significant interaction among group membership (magnet enrollment, non-magnet enrollment), gender (male, female) and race/ethnicity (black, white) with respect to attendance after controlling for the initial differences in SES and LPT scores?

6) Is there a statistically significant difference between parents (parents of students in the magnet program, parents of students not in the magnet program) with respect to their perceptions of Hunt-Mapp Middle School as viewed by the correlates of effective schools research?

Significance of the Study

While many national studies have been conducted on the effectiveness of magnet programs, none have been generated in Portsmouth. Portsmouth decision makers will be able to use the data presented in this study to provide information regarding the value of implementing a magnet program. Budget, curriculum, instruction, and other policy areas
could be affected by the results of this study in determining the feasibility of expanding the magnet program within the district.

Definition of Key Terms

For the purposes of this study, the following definitions apply:

1) Magnet school and magnet school program are used to refer to individual schools or programs within a district which offer a special curriculum not generally available in other schools in a district, to create an incentive for students to enroll in schools outside of their neighborhood attendance zone.

2) Program within a school (PWS) is a magnet program that serves some but not all of the students in a school.

3) Elimination of minority isolation is the desegregation objective for minority-isolated schools that aim to reduce minority enrollments to below 50% of the total enrollment (that is, for the school to cease being minority-isolated).

4) Student achievement is defined as the score that an individual student received on the Stanford Achievement Test Form 9-TA.

5) Socio-economic Status (SES) will be based on the federal lunch program. Students who received free or reduced lunch will represent “low” SES, and those students who are not eligible will represent “high” SES.

6) Attendance is the number of days a student is on roll in a school for the 1996-97 school year.
7) **Enrollment** is the total of students in membership in a school by the September 30th count.

8) **Desegregation** is defined as a plan aimed at reducing racial isolation in schools and improving racial balance.

**Limitations of the Study**

This study considered the results of one magnet school program, namely The Aerospace Technology Magnet School Program at Hunt-Mapp Middle School in Portsmouth, Virginia. Generalization of this study will be limited. Possible threats to the internal/external validity of the study include the following:

- **Hawthorne effect**-which is related to external validity. Students in the magnet program at Hunt-Mapp Middle School are located on the third floor of the school, therefore they are separated from the rest of the school population for their academic classes. They may perceive that they are receiving special attention which may improve their performance.

- **Compensatory rivalry** by the control group-the non-magnet students may perform beyond their usual level because they may perceive that they are in competition with the magnet students.

**Organization of the Study**

This study is divided into five chapters. This first chapter included the introduction, the statement of the problem, the purpose statement, the research questions, the significance of the study, the definition of terms, and the limitations of the study. The second chapter presents a review of literature documenting the history of magnet school. A historical overview of the development of magnet schools in Portsmouth, Virginia, is included. A discussion of achievement and its relation to gender and racial/ethnicity, along
with information concerning parent perceptions as it relates to school effectiveness also will be reported. The third chapter describes the selection of the student and parent sample, the procedures developed to collect data, and the method used to organize the data for analysis. Chapter four presents the results of the analyses as well as an explanation of charts and tables. Chapter five presents the summary, discussion, and conclusions drawn from this study. Finally, recommendations for further investigations and future avenues of research are developed.