ANALYSIS OF TEST DATA FOR PUBLIC MONTESSORI PROGRAMS IN A RURAL AND AN URBAN SETTING

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ABSTRACT

Data was analyzed for two Montessori programs to determine how Montessori students perform on standardized tests compared to their non-Montessori peers. Results from both settings, rural (South Carolina) and urban (Milwaukee), showed that higher percent of Montessori students in grades 3-8 scored higher (majority significantly higher) that their non-Montessori peers on Reading/ELA tests from 2002-2007. Differences in scores grew as students reached the higher grade levels of middle school.

INTRODUCTION

In the era of NCLB, AYP much emphasis is place on high-stakes standardized testing in public schools. The "Race to the Top" grant criteria included teacher salaries correlated to test results. Personnel in public Montessori programs are frequently asked:" How do Montessori students' test scores compare to traditional education?" and "How do Montessori students fare in middle school (both traditional and Montessori middle school programs)?" Therefore, even though Montessorians rely on many other indicators of reaching the goal of teaching the whole child, standardized test scores cannot be ignored. Studies must be conducted to support that test scores of Montessori students are at the level of, or higher than, non-Montessori peers for the method to be deemed credible and proliferate, especially in public programs.

The data analyzed was from Laurens District 55, a rural area in South Carolina. The Laurens district began Montessori classes in 1995. Six of its seven elementary schools have "school-within-a school" Montessori programs. The middle school program began in 2001 and is now housed in the two middle schools in the district. In 2006, an infant-toddler Montessori program began in two elementary schools. There are 40 Montessori classes and teachers at the primary and elementary levels and six at the middle level. In 2010, the district will graduate its first class of students who began Montessori primary in 1995 and 1996. Laurens District #55 had approximately 61% of its enrollment on Free/red. lunch status. Percent of Montessori students in same category was not available, however, district coordinator estimated it to be slightly lower, perhaps 50%.

Test data analyzed from an urban setting was from Craig Montessori School in the Milwaukee Public School System. Craig Montessori was established in 1996 and in 2007 served 521 students in K3-grade 8. Craig has student population that is approximately 16% white and 84% from other ethnic backgrounds, most of whom are African American (66%) of the student body. Just under half of the students are on Free/Reduced lunch; 77% of the Milwaukee School System fits in this category. Sixteen percent of the students at Craig qualify for special education and are served in a full-inclusion model at the school.

RESEARCH QUESTIONS

1) Are standardized test scores of students in public school Montessori programs in Laurens District 55 in Laurens, SC and Craig Montessori School in Milwaukee, WI significantly higher than their non-Montessori peers?

2) At what age level, if any, do scores show the most difference?

METHODOLOGY

- Descriptive quantitative study
- Comparative analysis of test data of Montessori and non-Montessori students
- Z-Test for Two Proportions to determine if scores for are significantly different from one another - 95% confidence level; two-tail test

MEASURES

- Palmetto Achievement Challenge Test (PACT), criterion-referenced test measuring mastery of grade level state

(OVER)

curriculum standards (South Carolina)

- Wisconsin Knowledge and Skills Exam (WKCE), criterion-referenced test measuring mastery of grade level state curriculum standards (Milwaukee)

RESULTS

Q1: Are scores of students in public school Montessori programs in Laurens District 55 in Laurens, SC and Craig Montessori School in Milwaukee, WI significantly higher than their non-Montessori peers on standardized test data?

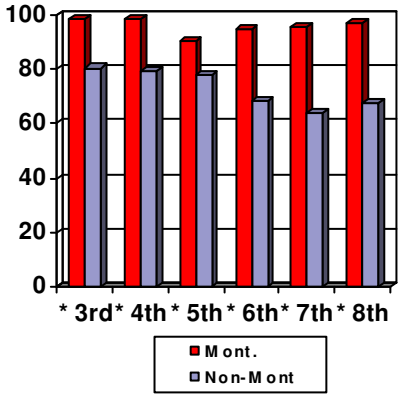
A1: Significantly higher scores occurred in 20 out of 24 groups in Laurens and in all groups a Craig Montessori School in Milwaukee.

Q2: At what age level, if any, do scores show the most difference?

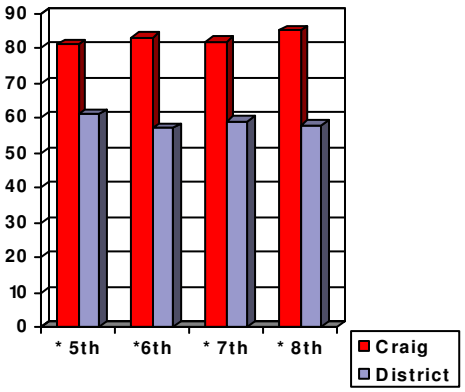
A2: In both locations, scores showed the most difference as Montessori students advanced to higher grade levels, i.e., Upper Elementary to Middle School.

Laurens District #55- PACT

ELA – 2006- % Basic & Above



Craig Montessori, Milwaukee - 2006 – Read.
(WKCE) % scoring proficient and above



IMPLICATIONS

These findings add to the body of knowledge indicating that:

- students in public Montessori programs score as well as, or higher than, their non-Montessori peers on standardized test measures
- Montessori curriculum covers state standards (Laurens & Milwaukee data from criterion-referenced tests)
- students who remain in Montessori into middle level continue to score higher than non-Montessori students with even greater differences in scores than elementary comparisons

LIMITATIONS

- Self-selection bias (parental choice/lottery for Montessori students)
- Ratio of students in Montessori groups vs. non-Montessori groups was low: Laurens approx.15%; Milwaukee less than 1%

DIRECTIONS FOR FUTURE RESEARCH

- Repeat data analysis on multiple Montessori programs to examine level of consistency of findings
- Match student scores 1-1 to analyze scores of cohorts of Montessori students over a period of several years; compare to non-Montessori cohorts
- Analyze scores in additional subject areas
- Increase ratio of Montessori students vs. non-Montessori in comparison groups

(OVER)