RELATING BUILDING AND CLASSROOM CONDITIONS TO STUDENT ACHIEVEMENT IN VIRGINIA’S ELEMENTARY SCHOOLS

by

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The relationships between student achievement and a number of variables relating to building and classroom conditions in Virginia elementary schools were examined. A systematic random sample of 300 schools was selected from all elementary schools in Virginia with grades three and five. Data on building condition, classroom condition, and demographics were collected with “An Assessment of Building and Classroom Conditions in Elementary Schools in Virginia.” Building principals completed the survey. The scaled scores from the Spring 1998 Standards of Learning Assessments for third-grade English, fifth-grade English, third-grade mathematics, and fifth-grade mathematics were used as measures of student achievement. The percentage passing the fifth-grade technology assessment was used as a measure of achievement in technology as scaled scores were not available.

Findings

A large portion of Virginia elementary schools are more than thirty years old and have a number of structural and classroom defects. While principals gave high composite ratings to their schools, their responses to individual questions indicate problems with roof leaks and climate control.

The percentage of students participating in the free and reduced-price lunch program accounted for the largest percentages of variance in English, math, and technology achievement. However, this variable had greater influence on achievement in English and technology than in mathematics. Air conditioning was a significant variable in third-grade English, fifth-grade mathematics, and fifth-grade technology achievement. Other variables found significant in one or more of the analyses were ceiling type, frequency of floor sweeping, frequency of floor mopping, connection to a wide-area network, room structure, overall building maintenance, and flooring type.
DEDICATION

This work is dedicated to my family for their support over the last four years. My brother’s financial assistance made graduate study possible. My mother gave me continuing encouragement and support when I sorely needed it. Finally, although my father did not live to see me reach this goal, my memory of his pride in my accomplishments was a source of inspiration for me.
ACKNOWLEDGEMENTS

Over the past four years I have been fortunate to work with outstanding faculty members at Virginia Tech as well as recent graduates. Five of these individuals served on my dissertation committee. Dr. Robert Richards, Dr. Jennifer Sughrue, and Dr. Carol Cash provided me with valuable suggestions and support for this study. Dr. Glen Earthman, my co-chairman, brought his considerable experience to my work and was a thoughtful and patient mentor. Dr. David Parks, my other co-chairman, challenged me to meet a high standard and provided me with the support and guidance I needed to reach my goal.

Working on this degree while continuing to work full-time has presented unique challenges. My school staff has been very supportive of my work. Of special note is the support and assistance provide by my secretary, Ruth Trower. I share this accomplishment with her.

As a commuting graduate student, I spent many hours on the road traveling to and from class. Terry Moore was a great partner during these road trips.

I would never have finished this process, however, without my close friend Catherine Fisher. We have always made a great team, and working together with her in this program gave me someone to compete with, commiserate with, and study with. I am glad to report to her that I am finally through the tunnel.
TABLE OF CONTENTS

CHAPTER 1  THE PROBLEM

Introduction  1
Purpose  3
Significance of Study  4
Research Question  5
Theoretical Model  6

CHAPTER 2  REVIEW OF RELATED LITERATURE

Introduction  13
The Role of Architecture in Education  13
Context for Study: Financial Inputs and Student Achievement  15
Facilities Research  19
Individual Research Studies  20
Meta-Analytical and Summary Studies  50
Summary  54

CHAPTER 3  METHODOLOGY

Introduction  56
Population and Sample  56
Survey Response Rate  57
Setting  58
Data Collection and Instrumentation  59
   Instrument Development  60
   Development of the Assessment of Building and Classroom Conditions in Elementary Schools in Virginia  60
   Factor Analysis  63
   Survey Administration  68
   Scoring  69
   Reliability and Validity  72
Standards of Learning Assessments  73
   Content and Structure  73
   Reliability and Validity  74
Data Analysis  76

CHAPTER 4  FINDINGS

Introduction  78
Survey Responses  78
Questions Relating to School Buildings  79
   Building Age  79
   Original Purpose of Building  80

v
Years Since Last Renovation  80
Roof Integrity  81
Years Since Last Interior Painting  82
Years Since Last Exterior Painting  83
Electrical System Adequacy  83
Flooring Type  84
Noise Producing Environment  85
Overall Building Maintenance  85
Overall Structural Condition  86
Questions Relating to School Classrooms  87
   Classrooms in Trailers  87
   Classrooms Without Windows  88
   Heating System  89
   Air Conditioning System  89
   Lighting Type  90
   Wall Color  90
   Ceiling Material  91
   Floor Maintenance  91
   Electrical Outlets  92
   Technology Access  93
   Condition of Classroom Furniture  94
   Structural Characteristics of Classrooms  95
   Overall Cosmetic Conditions  96
General Questions Relating to the School  97
   Overall Condition  97
   School Enrollment  97
   Free and Reduced-Price Lunch  98
   School Site Acreage  99
Additional Comments Provided by Respondents  100
Achievement Scores  103
Tests of Significance for Partial Returns  104
Data Analysis  107
   Building Conditions and Third Grade English Assessment Scores  107
   Building Conditions and Fifth Grade English Assessment Scores  109
   Building Conditions and Third Grade Math Assessment Scores  110
   Building Conditions and Fifth Grade Math Assessment Scores  112
   Building Conditions and Fifth Grade Technology Assessment Scores  114

CHAPTER 5 DISCUSSION, CONCLUSIONS, IMPLICATIONS FOR PRACTICE, AND RECOMMENDATIONS FOR FUTURE RESEARCH

   Introduction  118
   Discussion of Survey Responses  118
   Discussion of Analysis of Partial Returns  121
   Discussion of Factor Analysis Results  122
# LIST OF TABLES

<table>
<thead>
<tr>
<th>Table</th>
<th>Description</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Comparison of Grades 4 and 6 Student Achievement Between Students in a Modern School (1) and an Older School (2)</td>
<td>24</td>
</tr>
<tr>
<td>2</td>
<td>Chi-Square Measure of Differences in Occurrences of Major Discipline Problems and Student Health Problems in a Modern School Compared to an Older School</td>
<td>25</td>
</tr>
<tr>
<td>3</td>
<td>Comparison of Student Attendance in a Modern School (1) Compared to an Older School (2)</td>
<td>25</td>
</tr>
<tr>
<td>4</td>
<td>Most Frequent Responses to Environmental Aspects of School Facilities</td>
<td>27</td>
</tr>
<tr>
<td>5</td>
<td>Significant Differences by Gender, Teaching Level, and Years Experience in Responses to Environmental Aspects of School Facilities</td>
<td>28</td>
</tr>
<tr>
<td>6</td>
<td>Multiple Regression for Predicting Building Condition from School Type, School Age, Caucasian Population, Mean Income, School Enrollment, PTA Membership, and PTA Budget in Washington DC Elementary Schools</td>
<td>32</td>
</tr>
<tr>
<td>7</td>
<td>Multiple Regression for Predicting Student Achievement from School Type, School Age, Caucasian Population, Mean Income, School Enrollment, PTA Membership, PTA Budget and Building Condition in DC Public Schools</td>
<td>34</td>
</tr>
<tr>
<td>8</td>
<td>A Comparison of Achievement Scale Score Means and Percentile Ranks on the Subtests of the Tests of Academic Proficiency in Grade 11 During the School Year 1991-92 and Building Condition Rates</td>
<td>41</td>
</tr>
<tr>
<td>9</td>
<td>A Comparison of Achievement Scale Score Means and Percentile Ranks on the Subtests of the Tests of Academic Proficiency for Grade 11 During School Year 1991-92 With Cosmetic Building Condition Ratings</td>
<td>42</td>
</tr>
<tr>
<td>10</td>
<td>A Comparison of Achievement Scale Score Means and Percentile Ranks on the Subtests of the Tests of Academic Proficiency for Grade 11 During School Year 1991-92 With Structural Building Condition Ratings</td>
<td>44</td>
</tr>
<tr>
<td>11</td>
<td>Summary of Survey Responses</td>
<td>58</td>
</tr>
<tr>
<td>12</td>
<td>Domain Analysis for An Assessment of Building and Classroom Conditions in Elementary Schools in Virginia</td>
<td>62</td>
</tr>
<tr>
<td>No.</td>
<td>Description</td>
<td>Page</td>
</tr>
<tr>
<td>-----</td>
<td>-----------------------------------------------------------------------------</td>
<td>------</td>
</tr>
<tr>
<td>38</td>
<td>Structural Characteristics of Classrooms</td>
<td>96</td>
</tr>
<tr>
<td>39</td>
<td>Overall Cosmetic Conditions in Classrooms</td>
<td>96</td>
</tr>
<tr>
<td>40</td>
<td>Overall Condition</td>
<td>97</td>
</tr>
<tr>
<td>41</td>
<td>School Enrollment</td>
<td>98</td>
</tr>
<tr>
<td>42</td>
<td>Free and Reduced-price Lunch as a Percentage of School Enrollment</td>
<td>99</td>
</tr>
<tr>
<td>43</td>
<td>School Site Acreage</td>
<td>100</td>
</tr>
<tr>
<td>44</td>
<td>Building and Classroom Topics Identified in Respondent’s Narrative Comments</td>
<td>102</td>
</tr>
<tr>
<td>45</td>
<td>Selected Test Scores – Virginia Standards of Learning Assessments – Spring, 1998</td>
<td>104</td>
</tr>
<tr>
<td>46</td>
<td>T-test for Independent Samples of Group</td>
<td>106</td>
</tr>
<tr>
<td>47</td>
<td>Step-wise Multiple Regression for Explanation of Third Grade English Assessment Scores</td>
<td>108</td>
</tr>
<tr>
<td>48</td>
<td>Step-wise Multiple Regression for Explanation of Fifth Grade English Assessment Scores</td>
<td>111</td>
</tr>
<tr>
<td>49</td>
<td>Step-wise Multiple Regression for Explanation of Third Grade Math Assessment Scores</td>
<td>113</td>
</tr>
<tr>
<td>50</td>
<td>Step-wise Multiple Regression for Explanation of Fifth Grade Math Assessment Scores</td>
<td>115</td>
</tr>
<tr>
<td>51</td>
<td>Step-wise Multiple Regression for Explanation of Fifth Grade Technology Assessment Scores</td>
<td>117</td>
</tr>
</tbody>
</table>
# LIST OF FIGURES

<table>
<thead>
<tr>
<th>Figure</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Model for study of the relationship between building and classroom conditions and student achievement</td>
</tr>
<tr>
<td>2</td>
<td>Theoretical model developed by Cash (1993)</td>
</tr>
<tr>
<td>3</td>
<td>Lemaster’s (1997) revision of Cash’s theoretical model</td>
</tr>
</tbody>
</table>