AN EXAMINATION OF CHANGES IN TEACHERS' ATTITUDES, TEACHING PRACTICE, AND PERCEPTIONS TOWARDS STUDENT ACHIEVEMENT AS A RESULT OF PROFESSIONAL DEVELOPMENT IN ARTS INTEGRATION

by

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An Examination Of Changes In Teachers‘ Attitudes, Teaching Practice, And Perceptions Toward Student Achievement As A Result Of Professional Development In Arts Integration

A dissertation submitted in partial fulfillment of the requirements for the degree of Doctor of Philosophy at George Mason University

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DEDICATION

With all of my love and gratitude,
I share this accomplishment with my husband Steve, daughter Simone, my mother
Evelyn Moore Spencer, and my siblings Tim, Cynthia, Linwood, Sharon and Isaiah
I am so blessed to have each of you in my life.

A Special Dedication in memory of my father, grandparents and father-in-law who
Went home to heaven prior to the completion of my record of study
Thank you for your lifelong love, prayers and belief in me
Timothy G. Spencer, Sr.
Payton and Victoria Spencer
Melvin Sr. and Abbie Moore
Alvin S. Chapman, Sr.
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# TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>List of Tables</td>
<td>vi</td>
</tr>
<tr>
<td>List of Figures</td>
<td>vii</td>
</tr>
<tr>
<td>Abstract</td>
<td>viii</td>
</tr>
<tr>
<td>1. Introduction</td>
<td>1</td>
</tr>
<tr>
<td>Statement of the Problem</td>
<td>5</td>
</tr>
<tr>
<td>Purpose of the Study</td>
<td>9</td>
</tr>
<tr>
<td>General and Specific Research Questions</td>
<td>9</td>
</tr>
<tr>
<td>Significance of the Study</td>
<td>13</td>
</tr>
<tr>
<td>Definition of Terms</td>
<td>16</td>
</tr>
<tr>
<td>Organization of Study</td>
<td>18</td>
</tr>
<tr>
<td>2. Review of Literature</td>
<td>19</td>
</tr>
<tr>
<td>Introduction</td>
<td>19</td>
</tr>
<tr>
<td>Models of Learning</td>
<td>20</td>
</tr>
<tr>
<td>Professional Development</td>
<td>22</td>
</tr>
<tr>
<td>Professional Development Standards</td>
<td>23</td>
</tr>
<tr>
<td>Research Related to Professional Development</td>
<td>26</td>
</tr>
<tr>
<td>Models of Professional Development</td>
<td>26</td>
</tr>
<tr>
<td>Successful Professional Development Programs</td>
<td>32</td>
</tr>
<tr>
<td>Implementing Models of Professional Development</td>
<td>35</td>
</tr>
<tr>
<td>Assessing Teachers’ Attitudes about Professional Development</td>
<td>38</td>
</tr>
<tr>
<td>Professional Development and Student Outcomes</td>
<td>41</td>
</tr>
<tr>
<td>What Arts Integration Is</td>
<td>45</td>
</tr>
<tr>
<td>Models for Implementing Arts-Based Teaching and Learning Models</td>
<td>52</td>
</tr>
<tr>
<td>In What Ways Do Arts-Based Instructional Practices Improve Teacher Quality?</td>
<td>54</td>
</tr>
<tr>
<td>Arts Integration and Student Achievement</td>
<td>55</td>
</tr>
<tr>
<td>Summary</td>
<td>59</td>
</tr>
<tr>
<td>3. Research Methods</td>
<td>61</td>
</tr>
<tr>
<td>Introduction</td>
<td>60</td>
</tr>
<tr>
<td>Research Questions</td>
<td>62</td>
</tr>
<tr>
<td>Research Design</td>
<td>65</td>
</tr>
<tr>
<td>Sampling</td>
<td>66</td>
</tr>
<tr>
<td>Instrumentation</td>
<td>74</td>
</tr>
<tr>
<td>Researcher’s Role</td>
<td>80</td>
</tr>
<tr>
<td>Validation</td>
<td>80</td>
</tr>
<tr>
<td>Data Collection Procedures</td>
<td>81</td>
</tr>
</tbody>
</table>
Data Analysis ........................................................................................................... 82
Research Limitations ............................................................................................... 83
4. Results ..................................................................................................................... 84
   Characteristics of the Sample .............................................................................. 84
   Research Question Group 1 ............................................................................... 86
   Research Question Group 2 ............................................................................... 89
   Research Question Group 3 ............................................................................... 92
   Research Question Group 4 ............................................................................... 94
   Research Question Group 5 ............................................................................... 98
5. Conclusions and Discussion ............................................................................... 100
   Introduction ........................................................................................................ 100
   Interpretation of Major Findings ....................................................................... 101
   Conclusions ....................................................................................................... 110
   Limitations of the Study .................................................................................... 112
   Implications for Practice ................................................................................... 113
   Recommendations for Future Research ......................................................... 114
   Summary ............................................................................................................. 115
APPENDIX A. LETTER TO TEACHERS ................................................................. 118
APPENDIX B. CONSENT FORM ......................................................................... 120
APPENDIX C. QUESTIONNAIRE ......................................................................... 123
References ............................................................................................................ 131
Curriculum Vitae .................................................................................................... 140
# LIST OF TABLES

<table>
<thead>
<tr>
<th>Table</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Comparison of Professional Development Models</td>
<td>30</td>
</tr>
<tr>
<td>2. School Population and Demographics 2005-2006</td>
<td>72</td>
</tr>
<tr>
<td>5. Relationship between Subscales of Arts-Integration Impact Survey and Research Questions</td>
<td>78</td>
</tr>
<tr>
<td>6. Scoring for the Arts Integration Impact Survey Instrument</td>
<td>79</td>
</tr>
<tr>
<td>7. Distribution of Respondents by Gender</td>
<td>84</td>
</tr>
<tr>
<td>8. Distribution of Respondents by Grade</td>
<td>85</td>
</tr>
<tr>
<td>9. Descriptive Statistics of Subscale III scores by subject matter taught</td>
<td>87</td>
</tr>
<tr>
<td>10. ANOVA for Subscale III by subject matter taught</td>
<td>88</td>
</tr>
<tr>
<td>11. Descriptive Statistics for Subscale IV by subject area taught</td>
<td>90</td>
</tr>
<tr>
<td>12. One Way ANOVA for Subscale IV by subject area taught</td>
<td>91</td>
</tr>
<tr>
<td>13. Results of Dunnett’s Tests for Subscale IV by subject area taught</td>
<td>91</td>
</tr>
<tr>
<td>14. Descriptive Statistics of Subscale V scores by subject matter taught</td>
<td>93</td>
</tr>
<tr>
<td>15. One Way ANOVA of Subscale V scores by subject matter taught</td>
<td>93</td>
</tr>
<tr>
<td>16. Descriptive Statistics of Subscale VI scores by subject matter taught</td>
<td>95</td>
</tr>
<tr>
<td>17. One Way ANOVA of Subscale VI scores by subject matter taught</td>
<td>96</td>
</tr>
<tr>
<td>18. Model Summary</td>
<td>98</td>
</tr>
<tr>
<td>19. ANOVA</td>
<td>99</td>
</tr>
</tbody>
</table>
# LIST OF FIGURES

<table>
<thead>
<tr>
<th>Figure</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Box Plot of Subscale III score by subject matter taught</td>
<td>88</td>
</tr>
<tr>
<td>2. Box Plot of Subscale IV score by area</td>
<td>90</td>
</tr>
<tr>
<td>3. Box Plot of Subscale V score by subject matter taught</td>
<td>93</td>
</tr>
<tr>
<td>4. Box Plot of Subscale VI score by subject matter taught</td>
<td>96</td>
</tr>
</tbody>
</table>
ABSTRACT

AN EXAMINATION OF CHANGES IN TEACHERS’ ATTITUDES, TEACHING PRACTICE, AND PERCEPTIONS TOWARD STUDENT ACHIEVEMENT AS A RESULT OF PROFESSIONAL DEVELOPMENT IN THE ARTS INTEGRATION

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George Mason University, 2008

Dissertation Co-Chairpersons: Dr. Joan Packer Isenberg and Dr. Charles L. Thomas

Many schools, nationally and internationally, have embraced arts integration as an effective instructional tool to increase students’ ability to acquire and retain information. Schools and school systems that embrace the integration of the arts into the core curriculum for grades 6-8 must provide professional development activities to assist their staff in the implementation of arts integration (McDonald & Fisher, 2002; Snyder 2001).

The arts contribute to student achievement in many ways-- student engagement, motivation, and social skills (Catterall, 2002). Teachers, who effectively integrate the arts enjoy, increased student cognitive skills, participation, and attendance (Catterall, 2002; Horowitz, 2005; Rooney, 2004; Stevenson & Deasy, 2005). The integration of the arts provides an enriched learning and teaching environment where teachers facilitate meaningful and engaging activities that increase student achievement.
The purpose of this research study was to identify changes in teachers’ attitudes, teaching practice and perceptions towards student achievement as a result of their participation in professional development activities related to arts integration. The data was analyzed to determine if there was a correlation between primary subject matter taught, total years of teaching experience, years at current school and frequency of attendance at cultural events, and teachers’ willingness to integrate the arts in their classroom. For the purpose of this research such an impact was studied using the Changing Education Through the Arts program (CETA) professional development program model.

Arts Integration Impact Survey (AIIS) was developed to examine changes in teachers’ attitudes, teaching practice, and perceptions towards student achievement as a result of their participation in professional development related to arts integration. It was expected that that the survey would reveal pertinent information in these areas.

Descriptive statistics, including frequency and percentages of responses distributions, means, and standard deviations, were used to report the profiles of participants and to provide a comparative representation of the findings for the research questions. Descriptive statistics also included bivariate correlations; multiple linear regressions were used to assess the relative value of each to the independent variables explicated in hypothesis 6 in accounting for the variance in teachers' perceptions of the impact of arts integration on students’ achievement. A probability level of p<.05 significance was used in all inferential tests.
Results showed that subject matter taught generally did not have an impact on teachers’ perceptions, except in the case of perceptions of arts integration in their classrooms, for which Math and Science teachers had more negative views. The main teacher characteristic that was related to perceptions towards arts integration in the classroom was the frequency with which the teacher attended cultural events.
1. Introduction

“The arts are one of mankind’s most visual and essential forms of language, and if we do not educate our children in the symbol system called the arts, we will lose not only our culture and civility but our humanity as well.”

Ernest Boyer
President of the Carnegie Foundation for the Advancement of Teaching

In this chapter, I present a general overview of the importance of professional development as a prerequisite in order to integrate the arts into the core curriculum for grades 6-8. Next, I present the statement of the problem, the purpose of the study, the significance of the study, and my research questions. Finally, I provide terms and definitions.

Many schools, nationally and internationally, have embraced arts integration as an effective instructional tool to increase students’ ability to acquire and retain information. Schools and school systems that embrace the integration of the arts into the core curriculum for grades 6-8 must provide professional development activities to assist their staff in the implementation of arts integration (McDonald & Fisher, 2002; Snyder, 2001). Although there has been extensive research on the benefit of professional development for teachers and students, little research has been done on the impact that professional development in arts integration has on changing teachers’ attitudes, teaching practice and
teachers’ perceptions toward student achievement as a result of professional development in arts integration. There is a larger body of literature that supports professional development for teachers.

The U.S. Department of Education declared that the mission of professional development efforts must be to prepare and support educators to help all students achieve high standards of academic learning and social development (Castaneda, 2002). Joyce and Calhoun (1995) said that professional development activities should be organized so that new practices are easily identified and so that the faculty can immediately and systemically study and evaluate its effects. Joyce and Calhoun advocated for small learning communities within a school because they relate faculty to the knowledge base on teaching and learning and serve as one way to connect professional development to increased student achievement. In the report, Teachers Take Charge of Their Learning: Transforming Professional Development for Student Success (1996), the National Foundation for the Improvement of Education (NFIE) stated that in order to improve student achievement, public schools must weave continuous learning for teachers into the fabric of teaching.

Jensen (1998) suggested that frequent new learning experiences and challenges are critical to brain growth. The two critical ingredients in any purposeful program to enrich the learner’s brain are: (a) the learning is challenging, with new information or experiences, and (b) there must be some way to learn from the experience through interactive feedback. Problem-solving, critical thinking, relevant projects, and complex activities challenge the brain, making it necessary for feedback to be specific,
multimodal, timely, and learner controlled. Brain research suggests that the arts can lay the foundation for later academic and career success. A strong arts foundation can build creativity, concentration, problem solving, self-efficacy, and coordination and self-discipline (Jensen). Lamb and Gregory (1993) found a high correlation between musical pitch discrimination and reading skills. Mohanty and Hejmadi (1992) found that dance training boosted scores on the Torrance Test of Creativity. Furthermore, the researchers concluded that listening to music may have a positive effect on the development of intelligence (Husain, Thompson, & Schellenberg, 2002; & Jensen, 1998). Some learning theories suggest that individuals acquire information through different learning styles and integration. Jung (1927), for example, contended that many learning styles could be found within one classroom because individuals acquire information differently. It is teachers’ responsibility to seek and assess their students’ learning in ways that give an accurate overview of each student’s strengths and weaknesses (Brualdi, 1998; Jung, 1927). Drama, visual arts, music, and dance are effective tools for developing pedagogy that encompasses multiple intelligences and learning styles. There is clear evidence that using multiple intelligences activities across the curriculum and understanding students’ learning styles increases students’ acquisition of information and achievement (Gardner, 1983; Jensen 1998). Gardner’s theory of multiple intelligences, which describes music, movement, and visual images as discrete and specific ways of knowing, equal to and unique from linguistic and mathematical understanding, has given support for the integration of the arts into the core curriculum for grades 6-8 (Catterall, 1998; Deasy, 2002; Gardner, 1983).
The integration of the arts into the core curriculum for grades 6-8 has many sustained benefits for student learning. Rabkin and Redmond (2006) found a statistically significant correlation between arts participation and academic achievement in the National Education Longitudinal Study of 1988 (NELS) database. A 10-year study of afterschool programs for low-income youth found that arts programs attracted higher-risk students than did sports or community service and had far greater academic benefits (Heath & Roach, 1999). When Heath and Roach compared youth in arts organizations with the students surveyed in NELS, they found that 34.62% of the NELS students read for pleasure while 56.64% of the students in arts programs read for pleasure; 16.40% of the NELS students participated in youth groups, when compared with 63.64% of youth in arts organizations; 18.18% of NELS students take music, art, and dance in comparison to 53.84% of the students in arts organizations; and that 6.28% of NELS students perform community service in comparison to 30.07% of students in arts organizations.

Catterall, Chapleau and Iwanaga (1999) analyzed the standardized test scores of students in 23 arts-integrated schools in Chicago, Illinois, most serving low-income students, and found that their test scores rose as much as two times faster than the scores of youth in more traditional schools. In arts-integrated classrooms, work more often clearly and meaningfully connects to students’ own feelings and experiences (Rabkin & Redmond, 2006). When comparing the arts to other subjects, arts integration turns the curriculum toward work that does not merely reproduce knowledge, but uses knowledge in authentic intellectual ways (Rabkin & Redmond, 2006). This makes work interesting and meaningful, promotes higher levels of engagement, raises students’ intrinsic
standards, and motivates students to invest the energy that learning requires of them (Newman, King, & Young, 2000).

Statement of the Problem

Teachers, principals, and school district administrators are under a tremendous amount of pressure to improve the academic achievement of all students in their classrooms, buildings, and districts. One way to do this is by improving the quality of the teacher. Under No Child Left Behind (NCLB; U.S. Congress, 2001), a highly qualified teacher must have a bachelor’s degree, full state certification, and demonstrated competency in each core academic subject that he or she teaches. NCLB requires states to annually increase the percentage of teachers who are receiving first-rate professional development in order to enable such teachers to become highly qualified and successful classroom teachers. The provisions require that all teachers are highly qualified in the core academic subjects that they teach. Studies show that there is a connection between teacher quality and student achievement (Sparks, 2002; Darling-Hammond & Ball, 1997).

A second way to improve academic achievement is through purposeful professional development (Sparks, 2002; Darling-Hammond and Ball, 1997). Current research shows that well-designed professional development improves student learning (Sparks, 2002). Darling-Hammond and Ball (1997) noted several studies that concluded that teacher expertise is one of the most important factors in determining student achievement. They reported that 42% of the variation in student achievement is explained by teacher qualifications followed by parents’ education at 24% and poverty, language,
and family characteristics at 26%. Educational leaders, government agencies, higher education professionals, and the public generally recognize that the teacher is the key ingredient in student learning and in educational reform (Cochran-Smith & Lytle, 1999; Darling-Hammond, LaFors, & Snyder, 2001; National Commission on Teaching and America’s Future, 1996).

Providing purposeful professional development, therefore, is an essential ingredient in student achievement. Ongoing development of teachers’ knowledge and skills deepens their content knowledge and provides them with research-based instructional strategies (National Staff Development Council, 2001; National Commission on Teaching and America’s Future, 1996). Schulman (1987) suggested that teachers need three critical areas of knowledge. First, they need content knowledge—a deep understanding of their disciplines. Second, they need pedagogical knowledge—knowledge about how to teach. And third, they need pedagogical-content knowledge—knowledge of subject specific teaching strategies.

The design and implementation of professional development is essential to improving teachers’ attitudes toward students, increasing teachers’ knowledge of their content, improving their classroom implementation skills, and improving student achievement. There are numerous models of professional development (i.e., coaching, whole faculty study groups, and teacher research) that are used to increase teacher quality and student achievement. Schools and school districts usually use one or more of these models in conjunction with others in their design of professional development. Professional development can also be offered by private professional development
agencies, non-educational institutions, institutions of higher learning, and agencies and institutions with which schools and school systems form partnerships. For example, in the Washington DC area the Kennedy Center for the Performing Arts, Wolf Trap National Park for the Performing Arts, the Smithsonian Institution, and the National Geographic Society provide extensive training for teachers on a variety of subjects. When one or more of these agencies partners with schools to provide high-quality professional development, the results can be substantial for the overall improvement in teaching and student achievement within that school. Choosing the most effective researched based professional development model and training method is a challenge for those responsible for designing and implementing professional development.

Meaningful professional development should be specific and related to specific standards to have the greatest impact on classroom practice or student achievement (Cohen & Hill, 2001). Instructional strategies should be a part of the professional development that provides teachers with the necessary tools to deliver meaningful content to students. Teachers also need partners who can help them enhance their knowledge and skills.

Genuinely collaborative long-term relationships can help enhance teachers’ knowledge and instructional skills. Providing partners for teachers is the focus of one such program, the John F. Kennedy Center for the Performing Arts’ Changing Education through the Arts Program (CETA). CETA is a partner with arts focus/arts magnet schools in the Washington, DC, metropolitan area. The CETA program staff work directly with
schools to provide professional development activities for the school staff in the integration of the arts.

Some research builds a case for arts integration. A survey of research studies demonstrates that arts education directly impacts academic and social development (Catterall, 1998; Dowling, 1993; Hanshumacher, 1980; Winner & Hetland, 2000). These researchers concluded that arts education facilitates language development, enhances creativity, boosts reading readiness, helps social development, assists general intellectual achievement, and fosters positive attitudes of children toward school. Based on research studies, related the integration of the arts with other subject, schools, school districts, teachers, and art institutions have embraced it as an effective instructional strategy that benefits all students (Deasy, 2002; Fiske, 1999; Catterall, 1998). Therefore, the integration of the arts into the core curriculum for grades 6-8 can help educators improve instruction for all of their students. Teachers who are appropriately trained on how to implement arts integration into instructional strategies can improve achievement for diverse populations (Hancock, 2000; Howes & Smith, 1995; Horowitz, 2005; Rooney, 2004). Research is still lacking in the impact of professional development related to arts integration.

Research is needed that investigates the extent to which teachers’ attitudes about professional development: (a) develop as teachers gain classroom experience and participate in professional development training; (b) vary across subjects and grade levels; and (c) change as a result of particular professional development interventions. This study examined changes in teachers’ attitudes, teaching practices, and teachers’
perceptions toward student achievement that occurs as a result of professional development provided to teachers and other professionals for the integration of the arts into the middle school core curriculum for grades 6-8.

Purpose of the Study

The purpose of this research study is to identify changes in teachers’ attitudes, teaching practice and perceptions towards student achievement that occurs as a result of professional development for teachers in implementing arts-integrated lessons (i.e., dance, music, drama, and visual arts). For purposes of this research, I investigated perceived changes in teachers’ attitudes toward the arts, teachers’ ability to integrate the arts into their practice, and changes in teachers’ perceptions about overall improvement in student achievement as a result of teacher professional development for the integration of the arts. For the purpose of this research I studied such an impact using the CETA professional development program model.

General and Specific Research Questions

The general research question to be addressed in the study is: What perceived changes occur in teachers’ attitudes, teaching practice, and teachers’ perceptions toward student achievement as a result of professional development in arts integration? The following specific research questions were answered through the analysis of the data collected from the surveys.

1. What are teachers’ general perceptions concerning professional development experiences related to arts integration? Are these perceptions correlated with the
primary subject matter taught, total years of teaching experience, years at the current arts focus school, or frequency of attendance at cultural events?

1.1 What are teachers’ general perceptions concerning professional development experiences for arts integration in their teaching?

1.2 Is there a difference between teachers’ general perceptions of their professional development experiences for arts integration and the primary subjects matter taught?

1.3 Is there a difference between teachers’ general perceptions of their professional development experiences for arts integration and total years of teaching experience?

1.4 Is there a difference between teachers’ general perceptions of their professional development experiences for arts integration and years at the current arts focus school?

1.5 Is there a difference between teachers’ general perceptions of their professional development experiences for arts integration and frequency of attendance at cultural events?

2. What are teachers’ perceptions of arts integration in their classrooms? Are these perceptions correlated with their primary subject matter, total years of teaching experience, years at the current arts focus school, or their frequency of attendance at cultural events?

2.1 What are teachers’ general perceptions concerning professional development experiences for arts integration in their classrooms?
2.2 Is there a relationship between teachers’ general perceptions of their professional development experiences for arts integration and the primary subject matter taught?

2.3 Is there a relationship between teachers’ general perceptions of their professional development experiences for arts integration and total years of teaching experience?

2.4 Is there a relationship between teachers’ general perceptions of their professional development experiences for arts integration and years at the current arts focus school?

2.5 Is there a relationship between teachers’ general perceptions of their professional development experiences for arts integration and frequency of attendance at cultural events?

3. What are teachers’ perceptions of the extent to which professional development activities have impacted their instructional practices? Are these perceptions correlated with primary subject area, total years of experience, years at the current arts focus school, or their frequency of attendance at cultural events?

3.1 What are teachers’ general perceptions concerning professional development experiences for arts integration in their instructional practices?

3.2 Is there a relationship between teachers’ general perceptions of their professional development experiences for arts integration and the primary subjects matter taught?
3.3 Is there a relationship between teachers’ general perceptions of their professional development experiences for arts integration and total years of teaching experience?

3.4 Is there a relationship between teachers’ general perceptions of their professional development experiences for arts integration and years at the current arts focus school?

3.5 Is there a relationship between teachers’ general perceptions of their professional development experiences for arts integration and frequency of attendance at cultural events?

4. What are teachers’ perceptions of the impact of arts integration on student achievement? Are these perceptions correlated with primary subject area, total years of teaching experience, years at the current arts focus school, or frequency of attendance at cultural events?

4.1 What are teachers’ general perceptions of arts integration on student achievement?

4.2 Is there a relationship between teachers’ general perceptions of their professional development experiences for arts integration and the primary subjects matter taught?

4.3 Is there a relationship between teachers’ general perceptions of their professional development experiences for arts integration and total years of teaching experience?
4.4 Is there a relationship between teachers’ general perceptions of their professional development experiences for arts integration and years at the current arts focus school?

4.5 Is there a relationship between teachers’ general perceptions of their professional development experiences for arts integration and frequency of attendance at cultural events?

5. How much of the variance in teachers’ perceptions of the impact of arts integration on students’ achievement is accounted for by their perceptions of professional development in arts integration, their perceptions of arts integration in general, and their perceptions of the impact arts integration on their classroom implementation skills?

Significance of the Study

This study tested the assumption that professional development related to arts integration curricula can enhance the integration of arts into the middle-school core curriculum for grades 6-8, teachers’ ability to use multiple approaches to teaching, and teachers’ perceptions towards student achievement.

Over the last decade, greater importance has been placed on professional development. Documenting and describing the effects and effectiveness of professional development has been sporadic and at times inefficient (Guskey, 2003; Killion, 2002; Roy, 2006). Research studies have shown that some professional development programs and activities are highly effective and can lead to student achievement (Guskey, 2000). Because research has shown that high-quality professional development can lead to
increased student achievement, it is necessary to identify the characteristics and components of professional development programs and activities that are effective in increasing educators’ knowledge base and instructional skills. The goal of professional development should be to provide educators with effective avenues for keeping abreast of and using new knowledge of effective instructional strategies that lead to increased student learning.

One goal of student learning should be to include connections and syntheses, not isolation and compartmentalization, of separate knowledge bases. In addition to engaging children within specific learning parameters defined by various arts content standards, teachers can choose to design interdisciplinary curricula in which students experience deeper understanding of the arts through “the intersections and interactions of the disciplines” (Barrett, 2001, p. 27). In this context, the arts are integrated with each other and with other subject areas as an active way to enhance overall instruction, not to compete or replace discipline-specific teaching and learning (McDonald & Fisher, 2002). In her work concerning the meaningful integration of arts with other disciplines, Snyder (2001) suggested three ways to link disciplines or intelligences to enhance student learning. These are connection, correlation, and integration; each is described below.

Connection is the linking of one discipline in the service of another. An example might be when a teacher uses material or an activity from another discipline or disciplines (i.e., poetry writing/language arts) to reinforce a concept or skill learning within another (i.e., setting poetry to music) or the use of components of a visual art work (i.e., featuring elements of repetition, contrast, form) to help teach the same concepts in dance, drama,
music, mathematics, science, or another discipline. These connections can be between arts or arts connected to another subject matter. The goal here is to enhance learning within the subject matter at hand by drawing from and connecting to learning within another subject matter (MacDonald & Fisher, 2002).

Correlation is the result of two disciplines sharing common materials or activities. An example of correlation includes the intersection or common conceptual grounding of two discipline-specific concepts or skills, such as math activities involving fractions and proportions of the whole, which become instructionally correlated with concepts of whole, half, quarter, and so forth, in musical note values and notation.

Integration involves each discipline addressing a chosen theme from its unique perspective. A broad theme is chosen so that it can cut across multiple discipline areas, allowing students to use their learning within content areas to explore the theme in meaningful and valid ways. Topical themes might include such things as animal life, stars, rainforests, specific holidays, rivers of the world, colors, historical events, cultures, etc. Conceptual themes might include ideas involving broader, more comprehensive instructional themes, such as patterns, the universe, music of many cultures, structures (manmade and natural), environments, imagination, famous speeches, highlights of the twentieth century, peace, heroes, courage, respect, tolerance, etc. Both topical and conceptual themes can be used within grade-specific contexts as well as within broader across the grades, school wide contexts. The inclusion of connections and syntheses of separate knowledge bases have been shown to enhance teacher practice and to improve student achievement.
Definition of Terms

The following terms are used throughout this study and are defined as follows for the purposes of this research.

*Arts curriculum, arts discipline, art forms, and fine arts curriculum.* These terms refer to curriculum relating to the theater, music, dance, and visual arts recognizing that each of these encompasses a wide variety of forms and sub disciplines (Matthews, 2001).

*Arts specialist.* Arts specialist refers to teachers trained in an art form in undergraduate and postgraduate programs and licensed by their state to teach the arts (Stevenson & Deasy, 2005).

*Arts-integrated curriculum, integrated arts lessons, arts-based learning.* These terms describe curriculum that consciously creates a connection between one or more art forms and one or more other subject areas (science, social studies, language arts, and/or mathematics) in order for students to master the learning of objectives in both art forms and the other subject areas. Arts and non-arts content and skills are taught in tandem, with the content and methods of the disciplines woven together for mutual reinforcement (Barrett, 2001; Stevenson & Deasy, 2005; Duma, 1999; McDonald & Fisher, 2002).

*Changing education through the arts (CETA).* CETA is a program established in 1999 by the John F. Kennedy Center for the Performing Arts to impact student learning through ongoing, sustained professional development for teachers in schools in the Washington, DC, metropolitan area. The professional development focuses on arts-integrated instruction as a teaching and learning strategy and is based on national, state, and local standards in the arts and other content areas.
*Classroom teacher.* A staff member assigned the professional activities of instructing pupils in self-contained classes or courses, or in classroom situations.

*Core curriculum for grades 6-8.* The curriculum relating to English, math, science, social studies, reading, foreign languages, physical education, and electives.

*Curriculum integration and interdisciplinary lessons.* The terms *curriculum integration* and *interdisciplinary lessons* were used to refer to instructional techniques that increase student understanding by teaching across the disciplines and teaching subject areas, according to their natural connections rather than in isolation from one another. Curriculum integration focuses on making learning reflect life so that students see the value of what they are being taught; furthermore, curriculum integration enhances learning in all subject areas, making learning more relevant, less fragmented, and more stimulating for students (Jackson & Davis, 2000).

*Professional development.* This term refers to teachers’ participation in sustained and deep learning experiences that they draw upon to help students perform at standard (Mizell, 2002). These programs are systemic and ongoing, and they provide continued professional growth opportunities through accumulated experiences (Daresh & LaPlant, 1984; Hallinger & Murphy, 1991).

*Subject knowledge.* The theories, principles, and concepts of a particular discipline (Shulman, 1992).

*Teaching artists.* Teaching artists are artists from the local community who work with classroom teachers to develop and deliver integrated arts instruction (Stevenson & Deasy, 2005).
Organization of Study

This study is organized into five chapters. Chapter 1 presents the Background, Statement of the Problem, Research Questions, Significance of the Study, Assumptions, and Organization of the Study. Chapter 2 provides a review of the related literature concerning professional development related to the integration of the arts. Chapter 3 provides a detailed account of the research methodology and descriptions of the sample population, the development of the research instrument, the procedures employed in data collection and data analysis, and limitations of the study. Chapter 4 contains the research findings and a summary of the results. The final chapter, Chapter 5, presents an in-depth discussion of the major findings, implications, and recommendations and suggestions for further study.
2. Review of Literature

“What a culture deems important it enshrines in art. The origin of the tribe, its gods, tragedies, and victories are transformed into artistic images through legends, drama, sculpture, song, dance, and story. Without the images of art, these ideals and values cannot make a lasting impact on the member of culture; they are the memory of the culture.”

Charles Broudy (Broudy, 1984, in McDonald & Fisher, 2002)

Introduction

In this chapter I review the literature related to the integration of the arts into the core curriculum for grades 6-8 in terms of its impact on teachers’ attitudes, knowledge of effective instructional strategies, and teachers’ practice. Additionally, I review literature that describes the relationship between arts-integrated lessons and teacher perception toward student achievement. The literature on professional development is important because it is a key factor in teachers’ successful implementation of instructional strategies that improve student achievement. Guskey (1998) suggested that evaluators of professional development collect evidence about the impact of professional development on student achievement and pedagogy. In this chapter, I also review models of learning prior to my discussion on professional development models. Joyce, Calhoun, and
Hopkins (1997) divided the models of learning into families of models of teaching. For the purpose of this study, I summarize and give examples of each model.

A considerable body of research now exists that examines the characteristics of effective professional development programs. This research base includes teacher in-service experiments, basic skills instruction experiments, teacher effects research, implementation research, descriptive survey research on teachers' preferences and attitudes, and research on teacher expectations, principals, and achievement testing (Gall & Renschler, 1985; Guskey, 2000). These studies show that there are identifiable characteristics that contribute to the success of professional development programs. In this study I examined the integration of the arts into the core curriculum for grades 6-8 as an instructional strategy that can improve student achievement when teachers receive purposeful professional development.

Models of Learning

Information processing, social, personal, and behavioral and cybernetic models are four categories that Joyce et al. (1997) used to classify models of learning. They define information processing models as the models that help students learn how to construct knowledge, the social family of learning models as the models that help students learn how to sharpen their cognitive skills through interactions with others the personal models as beginning from the perspective of self and shaping education so that we come to understand ourselves better, take responsibility for our learning, and learn beyond our current development to become stronger, sensitive, and creative. Finally, Joyce et al.
described the family of behavioral and cybernetics as the models that help us self-correct and modify our behavior. Each of these models is described next.

*Information processing models.* The information processing models of learning emphasize ways of improving human beings’ innate drive to make sense of the world through the acquisition and organization of data, problems, and the ability to generate solutions. These models are useful for studying the self and society and for achieving the personal and social goals of education. This family of models includes inductive thinking theory, concept attainment theory, scientific inquiry, cognitive growth theory, advance organizers theory, and mnemonics theory.

*Social models.* The family of social models of teaching is constructed to take advantage of learning within communities--that is, building cooperative relationships. An example of this model is professional learning communities. The goal of this family of models is to improve the individual’s ability to relate to others and to work productively in society. This family of models includes group investigation theory, social inquiry theory, jurisprudential inquiry theory, laboratory method theory, role-playing theory, positive interdependence theory, and structured social inquiry theory.

*Personal models.* The personal models begin by looking at the selfhood of the individual. They attempt to shape education so that we can understand ourselves better, take responsibility for our learning, and learn how to reach beyond our current aptitude to become stronger, more sensitive, and more creative. These models encourage productive independence. This family of models includes nondirective teaching theory, awareness
training theory, classroom meeting theory, self-actualization theory, and conceptual systems theory.

*Behavioral and cybernetic models.* This family of teaching models is an outgrowth of the social learning theory. Behavioral and cybernetic models take the stance that humans are self-correcting systems of communication and that humans have the capability to modify their behavior in response to information. This model evolved from attempts to develop efficient systems for sequencing learning tasks and shaping behavior thought the manipulation of reinforcers. This family includes social learning theory, mastery learning theory, programmed learning theory, simulation theory, direct teaching theory, and anxiety reduction theory.

Joyce et al. (1997) suggested that pairing these families of models with instructional strategies will have a direct impact on students’ ability to turn information into knowledge. They go on to emphasize that students need a wide range of instructional approaches in order to improve their learning. These models provide the framework for successful student learning when paired with purposeful professional development.

**Professional Development**

Professional development is defined as those processes that improve the job-related knowledge, skills, or attitudes of school employees (Sparks & Loucks-Horsley, 1989). Guskey (2000) described professional development as the processes and activities that are designed to enhance the professional knowledge, skills, and attitudes of educators so that they can improve the learning of students.
Professional development comes in many forms. It can take place in the workplace or in some other environment; it can be required or voluntary; it can be offered by an organization or sought independently by an individual. Two-hour lectures, three-day conferences, and yearlong courses are all considered professional development.

Educational researchers maintain that in order for professional development to facilitate teachers’ learning, it must be delivered in more than one incident over an extended period of time, onsite and school based, focused on promoting student achievement. It should be integrated with school reform processes, centered on teacher collaboration, and sensitive to teachers’ learning needs (Drago-Severson, 2002). It should include the presentation of new material, and provide demonstration, practice, feedback, and follow-up for evaluation and accountability (Guskey, 2003). Readiness activities must be presented as the program begins, and complex new material should be presented incrementally, with repeated checking for understanding (Gall & Renchler, 1985). The delivery of the program should include a variety of instructional modes and activities (e.g., individual and group learning, lecture, discussion, video and/or role-play) (Marczely, 1996). As part of the program design, participants should have the opportunity to learn collegially, in cooperative situations, and with and from each other in experiences that address high quality professional development (Sarama, 2002).

Professional Development Standards

The National Staff Development Council (NSDC) is a national nonprofit association of about 12,000 educators. The goal of the NSDC is to ensure that all teachers in all schools experience high-quality professional learning as part of their daily work. The
NSDC promotes high levels of learning and performance for students and teachers through publications that bridge high-quality professional development and professional practice, and projects, conferences, and workshops designed to explore the important aspects of professional learning. The NSDC adopted professional development standards to ensure high levels of learning for both adults and students. The standards are divided into three key areas--context, process, and content--which the NSDC recommend addressing simultaneously to achieve the intended results of professional development activities (Hirsch & Sparks, 1999).

Context standards provide guidance on the organizational structures and culture most conducive to professional learning. They address the issues of continuous improvement, leadership, advocacy, resources, and time. Context standards emphasize staff development that improves the learning of all students. Context standards recommend that adults are organized into learning communities whose goals are aligned with those of the school district. The NSDC states that the successful implementation of context standards requires skilled school and district leaders who guide continuous improvement and commitment of resources to support adult learning and collaboration.

Process standards describe the learning processes that best enable educators to acquire the knowledge and skills they need to ensure high levels of student learning. These standards address issues of individual and organizational change, models of professional development, evaluation, data analysis, and group development. Process standards call the attention to the connection between student achievement and professional development. The use of disaggregated student data to determine adult
learning priorities, to monitor progress, and to help sustain continuous improvement is accentuated through process standards. Also, the use of multiple sources of information to guide improvement and to demonstrate its impact is stressed. Furthermore, the NSDC stresses that educators must be prepared to apply research to decision making, they must be able to apply knowledge about human learning and change, and educators must be provided with the knowledge and skills to collaborate.

Professional development content standards identify what is important for all educators to know and be able to do to facilitate high levels of student learning. They address teachers’ levels of expertise in such areas as curriculum, instruction, child development, classroom management, assessment, and parent involvement. Content standards ensure that professional development activities improve the learning of all students. The NSDC content standards emphasize that educators must be prepared to understand and appreciate students; create safe, orderly, and supportive learning environments; and hold high expectations for their academic achievement. The NSDC stresses that deepening an educators’ content knowledge provides them with research-based instructional strategies to assist students in meeting rigorous academic standards and prepares them to use various types of classroom assessments appropriately. Content standards provide educators with knowledge and skills to involve families and other stakeholders suitably.

In summary, the NSDC standards align individual learning, school goals, and system goals. “All staff learning should be grounded in staff development standards
along with a commitment to align staff development with the desired results for students,” (Hirsch & Sparks, 1999, p. 20).

Research Related to Professional Development

Generally, the research on professional development emphasizes a systematic process approach to move participants from awareness of the new learning through transfer and application, thereby promoting long-term behavior change through professional development. "There is," as Wade (1984, p. X) says, "no magical combination of methods for successful in-service."

Generalized surveys and large-scale syntheses of the professional development literature have not yielded definitive answers about the effectiveness of professional development, according to Guskey (2003). He suggested that an alternative approach is to begin from the end and work backward. Rather than searching the professional development literature to identify elements that appear to make a difference, Guskey (2003) suggests starting by identifying efforts that have produced demonstrable evidence of success. That is, search for studies of programs that have lead to improvements in reliable measures of student learning. One way to do this is by examining models of professional development and successful professional development programs. These models and programs will be discussed in the next two sections.

Models of Professional Development

A professional development model is a pattern or plan that can be used to guide the design of a program (Joyce & Weil, 1972). In their extensive review of the research, Drago-Severson (2002), Sparks and Loucks-Horsley (1989), and Marczely (1996)
suggested that seven major models of professional development models are used for teachers: (a) in-service training, (b) observation/assessment, (c) development/improvement process, (d) study groups, (e) inquiry/action research, (f) individually guided activities, and (g) mentoring.

_In-service training._ In-service training is the most common or traditional form of professional development. It usually occurs during a predetermined period of time. During the training, the presenter leads and shares ideas and expertise. It may involve different group-based activities. It may include presentations and discussions. Training may come through several formats like workshops, colloquia, demonstrations, role-playing, and simulations. It is considered a cost-effective model since large groups of educators are reached at once. The same knowledge base is shared with all participants.

_Observation/assessment._ Observation/assessment are a model of professional development that involves colleagues who provide feedback based on observations about the performance of fellow educators. Both the observers and the observed learn from the process. Significant time commitments and well-planned activities are needed. Guskey (2003) concluded that goal-oriented and focused observations, which documented improvements and provided feedback and recommendations for follow-up activities, were most effective.

_Development/improvement process._ Development/improvement process is a model of professional development where participants are brought together to make decisions and changes in organizational plans and activities. It may require participants to review organizational programs, curriculum and instruction, or decisions on particular
problems. Guskey (2003) also noted that the main advantage of this model is the improvement of specific knowledge and skills of participants due to increased awareness about issues. The model also helps participants develop different perspectives, become more aware of diversity in the organization, and develop their interpersonal skills as they interact with the group.

Study groups. The use of study groups is a model of professional development that is used to find solutions to common problems. It involves the entire school staff. The staff members are usually placed into groups of four to six members, and each group focuses on different aspects of the problem. Recommendations and findings of each group are later shared with the rest of the staff. Study groups provide opportunities for the staff to work together and bring focus to improvement efforts. Study groups pave the way for professional learning communities and provide opportunities for ongoing professional development. Guskey (2003) stressed that study groups should be organized, clearly focused, and given sufficient time.

Inquiry/action research. Inquiry/action research is a professional development model in which each individual asks questions about his/her own practice and searches for answers to these questions. It involves selecting a problem, collecting and analyzing data about this problem, getting to know more about the problem through literature, reviewing alternative courses of actions, taking action about the problem, and documenting the results. This is a thoughtful process that involves individual reflection and systematic decision-making and problem solving. This model assumes that the staff member has the ability to formulate questions and search for objective answers (Guskey,
2003). It also involves initiative on the part of the individual, as well as commitment over a period of time, to resolve the problem.

*Individually guided activities.* The individually guided activities model of professional development starts with the individual’s determination to meet his or her own professional development goals based on their learning needs. Each participant selects activities that they think will help achieve their goals. The model begins with identifying the individual’s need, developing a plan to meet this need, determining relevant learning activities, and assessing the efficacy of the learning activities. The model provides more opportunities for individualization and meeting specific needs for skill building and development expertise. Selected goals should present enough challenges that are worth pursuing and are related to improvement of student learning (Guskey, 2003).

*Mentoring.* Mentoring as professional development involves pairing a more experienced individual with a less experienced person. The pair has regular encounters to discuss goals, issues, and problems, and to make on-the-job observations. The pair also reflects on their practices. This model encourages lifelong and productive professional development relationships.

Table 1 compares each of these professional development models and lists the goals, models of delivery, assumptions and limitations of each.
Table 1

Comparison of Professional Development Models

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>Training</th>
<th>Observation/Assessment</th>
<th>Involvement in a Development/Improvement Process</th>
<th>Inquiry/Collaborative Action Research</th>
<th>Self-Directed/Individually Guided Activities</th>
<th>Mentoring</th>
<th>Study Groups</th>
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</thead>
<tbody>
<tr>
<td>Description</td>
<td>Most common form of professional development, which usually involves a presenter or team of mentors that shares their ideas and expertise through a variety of group-based activities (Guskey, 2000).</td>
<td>The use of collegial observation to provide educators with feedback on their performance</td>
<td>The use of a group of educators to develop or review a new curriculum, design a new program, plan strategies to improve instruction, to engage in systematic school improvement or to solve a problem (Guskey, 2000; Sparks, &amp; Loucks-Horsley, 1989)</td>
<td>Systematic inquiry conducted by educators in a teaching/learning environment to gather information about how their school operates, how they teach, and how well their students learn using qualitative and quantitative research methods (Mills, 2007; Sparks &amp; Loucks-Horsley)</td>
<td>Educators determine their own individual professional development goals and then select the activities that they believe will result in the achievement of their goals</td>
<td>Involves the pairing of an experienced and highly successful educator with a less experienced colleague</td>
<td>Staff members divided into groups of 4 to 6 persons focused on a specific aspect of a school wide problem</td>
</tr>
<tr>
<td>Goals</td>
<td>To develop awareness, knowledge, skill development, changes in attitudes, transfer of training, and “executive control” (the appropriate and consistent use of new strategies in the classroom) (Joyce &amp; Showers, 1995)</td>
<td>To improve performance based on analysis and reflection from information gained through observation and feedback from an observer</td>
<td>Initiated to solve a problem. To increase the specific knowledge and skills of participants and to enhance their ability to work collaboratively and share in decision-making</td>
<td>Develops the professional deposition of teachers by encouraging them to critically examine their teaching (Mills, 2007)</td>
<td>For teachers to determine their own goals and the activities that will result in the achievement of their goals</td>
<td>Mentor and colleague meet to discuss professional goals, to share ideas and strategies on effective practice, reflect on current methods, arrange on-the-job observations and suggest tactics for improvement (Guskey, 2000)</td>
<td>Six or fewer faculty members who facilitate implementation of curricular and instructional innovations, collaboratively plan school improvement efforts, and study research on teaching and learning (Murphy, 1992, 1997; Guskey, 2000)</td>
</tr>
<tr>
<td>Models of Delivery</td>
<td>Large group presentations and discussions, workshops, seminars, colloquia, demonstrations, role-playing, simulations, and micro-teaching (Guskey, 2000)</td>
<td>Peer coaching, clinical supervision, teacher evaluation (Guskey, 2000; Joyce &amp; Showers, 1982; Sparks &amp; Loucks-Horsley, 1989)</td>
<td>Participants acquire knowledge through reading, research, discussion, training, and observation</td>
<td>Identification of problem or area of focus, collect data, analysis and interpretation of data, develop action plan (Mills, 2007; Wolcott, 1989, p. 337).</td>
<td>Phases: 1) Identify a need or interest 2) Develop a plan 3) Participate in learning activities 4) Assess whether the learning met the needs or interest (Sparks &amp; Loucks-Horsley, 1989)</td>
<td>Mentor and colleague have similar professional responsibilities and are willing to allocate sufficient time to work together (Appalachia Educational Laboratory, 1988)</td>
<td>Small groups of faculty members who meet regularly to exchange ideas, plan lessons, and discuss school policy</td>
</tr>
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Table 1 (continued)

**Comparison of Professional Development Models**

<table>
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<tr>
<td><strong>Underlying Assumptions</strong></td>
<td>Replication of behaviors and techniques. Most efficient and cost-effective professional development model for sharing ideas and information with large groups (Guskey, 2000)</td>
<td>Provides important benefits to both the observer and the observed (Showers &amp; Joyce, 1996). Helps to break down the isolation of teaching and school administration by having colleges work together on shared improvement goals (Ackland, 1991)</td>
<td>Adults learn most effectively when they have a need to know or a problem to solve. People working closest to the job best understand what is required to improve their performance. Educators acquire important knowledge or skills through their involvement in school improvement or curriculum development processes.</td>
<td>Cooperative study into problems and issues, which make practice consistent with educational values, giving greater control over what to count as valid educational knowledge</td>
<td>Individuals can best judge their own learning needs and are capable of self-direction and self-initiated learning. Individuals are more motivated to learn when they initiate and plan their own learning activities.</td>
<td>Offers highly individualized approach to professional development that benefits both individuals involved. Can foster lifelong, highly productive professional relationships (Drago-Severson, 2002)</td>
<td>Informal settings where teachers and administrators can learn, share, and investigate new methods of teaching. Educators learn from each other.</td>
</tr>
<tr>
<td><strong>Limitations</strong></td>
<td>Offers few opportunities for choice or individualization, may not be appropriate for the varied levels of educators’ skills and expertise</td>
<td>Commitment of significant time from both the observer and the observed. Coordination of schedules to accommodate the needs of each other. Observation/assessment method might be confused with evaluation process.</td>
<td>Involvement usually restricted to a small portion of the staff. Tradition and persuasively argued opinions may take precedence over research evidence and knowledge of best practice.</td>
<td>Requires significant initiative on the part of individuals involved, can involve a substantial time commitment</td>
<td>A lot of reinventing can take place (Sparks &amp; Loucks-Horsley, 1989), opportunity for little to no collaboration of professional sharing, notion of shared mission and united purpose can be lost</td>
<td>May limit opportunities for broader collaboration and collegial sharing if not supplemented by other forms of professional development (Guskey, 2000)</td>
<td>Some individuals may take over the group while others are uninvolved. Discussions can be more opinion based than researched based.</td>
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Successful Professional Development Programs

Between 1997 and 1999, NSDC conducted a study to find middle-level, content-based professional development initiatives whose student results could be documented.

The report on this study, “What Works in the Middle: Results-Based Professional Development”, provides descriptions of 26 professional development programs in the core content areas that have demonstrated their effectiveness in improving student learning in the middle grades (Hirsh & Sparks, 1999). Each program in this study participated in an extensive review process, which increased the likelihood that the programs exemplify middle-grade; content-specific professional development programs that have increased student achievement and that can be replicated, adapted, or used as models. Of course, having completed the review process does not guarantee that these programs will be successful for every school. It does, however, suggest that based on the information available to reviewers, these programs have the potential to improve teachers’ content knowledge, content-specific pedagogical processes, and student achievement if programs are selected and implemented appropriately. The following is a brief description of three of the twenty-six programs studied by the NSDC.

Student team literature. The Student Team Literature (STL) is a middle-school language arts curriculum and instructional program that is designed to improve the reading skills of sixth-, seventh- and eighth-grade students. Teachers use great books, higher-level questioning, and a wide variety of instructional and curricular materials to encourage student collaboration. The STL program was initially implemented in 1995-96
in 21 classrooms at Central Middle School in Philadelphia. Professional development consists of training, observation, and assessment models of staff development.

Students in the STL classrooms displayed significantly better reading comprehension after the 1st year of implementation than did students in a comparison group. STL is an outcome of earlier research on two studies of Student Team Reading. The first study demonstrated significant improvement (p<.05) in the California Achievement Test Total Reading for 1,223 urban sixth-grade students in six middle schools when compared to control classrooms where traditional reading instruction was provided using basal and isolated skill instruction. The second study was paired with the Student Team Writing Program in sixth-, seventh-, and eighth-grade classrooms with 3,986 students in Baltimore City Schools. The results indicated a significant improvement in reading comprehension, vocabulary, language mechanics, and language expression on the California Achievement Test when compared to match control schools (at least p<.05).

*Introducing math teachers to inquiry.* Introducing Math Teachers to Inquiry is a yearlong professional development program that consists of three stages of implementation. The goals of the program are to improve school wide mathematics instruction and students’ learning through an inquiry approach to instruction.

Professional development involved the use of illustrative units of mathematics, engaging teachers in sharing and reflections about teaching and learning, the collaboration of teacher collaboration with colleagues within the same school, and combining heterogeneous groups of teachers (teachers and administrators licensed in
different content subjects) in the same professional development activities and experiences. Introducing Math Teachers to Inquiry was initially implemented in four schools within Rochester public school district of New York in conjunction with the University of Rochester and Roberts Wesleyan College.

Student performance on classroom-based performance assessments and data collected from case studies of two eighth-grade classes were used as measures of student achievement and the impact of Introducing Math Teachers to Inquiry on student learning. Student improvement is based on test results from students in the two case study classrooms. Classroom observations, teacher journals, and surveys supported the outcome of the case studies.

_Iowa Chautauqua program._ The Iowa Chautauqua Program is a multistate professional development program designed to improve the instructional processes of K-12 science teachers through the study of science, technology, and society. The goal of the program is to improve the science instruction through professional development experiences, the development of a network for support, development of teacher leaders, and to develop positive interaction among teachers, students, administrators, parents, scientists, and business/community sponsors. The focus of the program is the learning of science in the “real-world” context.

Professional development activities consist of teachers’ participation in a three-week summer institute. During the 3 weeks, teachers assume the role of students to explore issue-based questions. The second phase of professional development involves a
yearlong experience of short courses. Teachers’ participation in ongoing action research is the third phase of the professional development activities.

Evidence of the impact of the Iowa Chautauqua Program on student achievement is supported by several measures of student performance. Project-specific, multiple-choice tests were used to measure the concept, process, application, and creativity domains of student performance. Pre- and post-tests were administered to a control group of students in classrooms of 15 randomly selected teachers. Results indicated that students in the control and experimental groups had similar conceptual knowledge about science. However, students participating in the Iowa Chautauqua Program were reported as having significantly higher gains in all of the domains.

Implementing Models of Professional Development

Guskey (2000) identified three approaches to implementing the professional development models--district wide designs, site-based designs, and integrated designs (combination of district-wide and site-based designed). An overview of the three designs is provided in this section.

*District wide designs.* According to Guskey (2000), district wide professional development offers the opportunity for the development of a broad vision for improvement, sharing of ideas and resources, and collaboration across school levels, and it also increases the efficiency for sharing expertise. A broad vision is necessary for the success of systemic reform initiatives. This view sees not only what is but what can be (Guskey). Extended opportunities for sharing ideas and resources with colleagues who have similar responsibilities in other schools are a key benefit of district wide
professional development, which was noted in a survey of teachers and administrators (Fullan, Bennett, & Rolheiser-Bennett, 1989). The teachers and administrators who participated in the survey stated that these experiences allow them to broaden their perspectives, share materials and ideas, and expand their repertoires of professional practice. The need for curriculum articulation across school levels has been intensified by the press for accountability in terms of student outcomes (Guskey).

In order to provide a smoother transition for students as they move from one level of schooling to the next, the curriculum efforts of high school teachers need to be coordinated with those of middle schools, who, in turn, must coordinate with elementary teachers (Guskey, 2000). The understanding of the steadily growing knowledge base in education that informs professional practice requires conversations and interactions with experts. Access to these experts is limited. District or regional professional development designs provide an efficient way to make these opportunities available to educators who share common interests (Guskey). District wide professional development designs, provide the interaction and collaboration opportunities that educators need in order to address the demands for greater accountability for student outcomes.

*Site-based professional development designs.* More schools have turned to site-based approaches to professional development as a strategy to increase student achievement (National Staff Development Council, 2007). Site-based designs hold the promise of increasing the relevance of professional development because the content and procedures are determined by the individuals whom the efforts will affect the most--school-level educators (Guskey, 2000). Site-based professional development offers the
opportunity for goals, content, models, and evaluation procedures to be made at the school level; therefore, making efforts more contextually relevant (Guskey). Guskey found that site-based professional development makes consensus on issues related to professional development easier to reach because fewer individuals and constituencies are involved.

The site-based professional development design has some disadvantages, such as limiting the vision for broader improvement and adding additional demands and responsibilities to already overtaxed teachers and administrators. The negative effect of these site-based professional development experiences can lead to schools having a very narrow and limited scope of current practices and research.

*Integrated professional development designs.* Integrated professional development designs combine district-based and site-based professional development (Guskey, 2000). They provide educators with the opportunity to bring together large groups of teachers and/or administrators from many sites, for an information-sharing session designed to provide everyone with a common knowledge base and shared vocabulary. To facilitate the implementation and evaluation of strategies shared at the larger session, site-based professional development activities will be necessary at each individual site.

Resources allocated for professional development are often limited. The available resources must be maximized by serving as many constituents as possible and creating a system where the resources can be shared among a variety of locations. A combination of district-based and site-based professional development activities can optimize the
potential benefits of each and drastically improve the efficiency and effectiveness of professional development practices and resources (Guskey, 2000).

*What makes professional development effective?* Lists of effective professional development practices have been published by a variety of researchers and research agencies, teacher associations, national education organizations, and the U.S. Department of Education. Guskey (2003) analyzed 13 of the better known of the lists to determine whether they were derived through similar procedures, based on similar frameworks of reference, and included the same elements or characteristics. The results of his research show that individual characteristics vary widely and that no characteristic is consistently named. Furthermore, the results showed that research evidence supporting most of the identified characteristics were inconsistent and contradictory (Guskey). Guskey concluded that the ultimate benefit, as implied by Kennedy (1999), must include the following: (a) program must demonstrate improvements in student learning, (b) contextual elements of professional development must be considered and based on specific evidence of student learning, and (c) educational leaders must find ways to help successful teachers within individual schools share their practices and strategies with their colleagues in a positive and supportive environment.

**Assessing Teachers’ Attitudes about Professional Development**

What are the factors that encourage teachers to change their behaviors and to take on new and more beneficial ones? Are there factors in professional development that enable a teacher to grasp new instructional strategies and new attitudes toward teaching and their students? Teachers who persevere in the profession of teaching must constantly add
“knowledge-in-practice” and “knowledge-of-practice” (Cochran-Smith & Lytle, 1999) to formal knowledge and theory gained in their professional preparation programs (Bonner, 2006). The call for educational reform is ongoing, and there is general recognition by educational leaders, government agencies, higher education professionals, and the public that the teacher is the key ingredient in student learning and in educational reform (Bonner 2006; 2001; Cochran-Smith & Lytle; Darling-Hammond et al., 2001; National Commission on Teaching and America’s Future, 1996).

Many new reform regulations call for lifetime professional development for educators, with the goal of encouraging educators to explore new ideas and to stay current with developments in the teaching profession (Torff, Sessions, & Bynes, 2005). Consequently, increasing attention is being paid to the effectiveness of professional development initiatives (Torff et al.). Teachers’ attitudes toward professional development have seemed less than positive, especially when they have accrued substantial classroom experience. However, this has not been proven. In a three-study sequence, Torff et al. examined the theoretical and practical utility of a scale that attempts to assess teachers’ attitudes about professional development. The Teachers’ Attitudes about Professional Development (TAP) scale produced scores with favorable construct, content, and discriminate validity (Torff et al.). Torff et al. concluded that the results of the three studies support the use of the TAP scale for assessing teachers’ attitudes about professional development. The TAP scale can provide researchers and developers of predevelopment activities with valuable information concerning how to design effective professional development programs.
After a year-long action research process with three teachers, Bonner (2006) concluded that the following key ingredients contributed to the positive outcomes in the professional lives of the three teachers and in the lives of their present and future students: (a) autonomy or volition, with teachers choosing to engage and selecting areas of need or problem and strategies to employ; (b) time within the workday to question, plan, analyze, and discuss plus prolonged time over a school year to continue to reflect and inquire with colleagues; (c) the emphasis on objectivity through the collection and examination of multiple sources of data; (d) immersion in a culture of inquiry where the teachers “construct knowledge by conjoining their understandings in face-to-face interactions with one another over time” (Cochran-Smith & Lytle, 1999, p. 280); (e) collaboration with other teachers and with a resource person who was not an authority figure and thus was able to facilitate a “safe and supportive group environment” (Zeichner, 2003, p. 319); and (f) the emphasis on reflection--deliberately thinking about and examining what one is doing and how one’s students are responding. The teachers in Bonner’s (2006) research shared that, as a result of the action research experience, they developed new ways of thinking about learning, about their students, and about themselves. They felt as though they had acquired knowledge and beliefs that enabled them to teach their students in more “powerful and meaningful ways” and in ways that resulted in transformation of their students’ attitudes toward their class work and their sense of competence (p. 41).

In order for a professional development program or activity to lead to student learning it must first enhance the knowledge and skills of the participating educators
Professional development programs should enhance the participants’ knowledge, skill level, and their attitudes and beliefs. Borko and Putnam (1995) asserted that reform in educational practice will not occur as a result of teachers being told to teach differently. Teachers must make the desired changes through the acquisition of richer knowledge of subject matter, pedagogy, and subject-specific pedagogy, and they must come to hold new beliefs in these domains. Borko and Putnam concluded that successful professional development efforts are those that help teachers to acquire or develop new ways of thinking about learning, learners, and subject matter. Bonner’s (2006) study suggest that teaching and teachers can be changed individually, one at a time, and thereby effecting a positive change on the entire system.

Professional Development and Student Outcomes

A knowledgeable and responsive adult is the most important feature of a superior educational environment. Ongoing, high-quality professional development is a means for attaining and maintaining a superior educational environment (Srama, 2002). Sparks (1997a) noted that professional development provides a means to improve instruction for all students and that accountability is the impetus to successful professional development activities. For educators, this means that the impact of professional development should be measured in terms of student results, not time spent in attendance.

Drawing a connection between professional development and student achievement is a daunting venture (Killion, 2002). According to Hein (1997), a key to demonstrating the link between professional development and student achievement requires us to look for evidence of change in teacher behavior and attitudes that result
from professional development. Guskey (2000) described professional development as the processes and activities that are designed to enhance the professional knowledge, skills, and attitudes of educators so that they can improve the learning of students.

Research has confirmed that the better the teacher, the more successful the student (Killion, 2002). Killion, the author of *What Works in the Middle*, found a correlation between well-structured, researched-based professional development programs and student achievement (Killion, p. 7). New management schemes, curriculum packages, testing policies, centralized initiatives, decentralized initiatives, new regulations, elimination of regulations, and special programs had little or no effect on student success (Darling-Hammond & Ball, 1997). The knowledge, skills, and commitment of those who work most closely with students each day make the greatest difference in student achievement (Killion).

Darling-Hammond and Ball (1997), in their review of several studies, concluded that teacher expertise is the most important factor in determining student achievement. In their review, they found that 42% of the variation in student achievement was determined by teacher qualifications. This is almost double the next closest factor, the level of parents’ education, which accounted for 24%, and other background factors such as poverty, language, and family characteristics, which accounted for 26%. Size of school and classes accounted for 10% (Ferguson, 1991; Greenwald, Hedges & Laine, 1996). In a similar review in New York, a group of researchers attributed 90% of the variation in student achievement to differences in teacher qualifications (Armour-Thomas, Clay, Domanico, Bruno, & Allen, 1989).
What constitutes teacher effectiveness is the teacher’s content knowledge, understanding of the learning process and child development, and pedagogical skills (Schulman, 1987). Druva and Anderson (1983) found that science teachers’ effectiveness depends on two factors: the amount of discipline-specific training included in the pre-service preparation program and the quality of professional development opportunities teachers experienced later in their careers. Hawk, Coble, and Swanson (1985) found that teachers who had solid preparation in mathematics methods, curriculum, and teaching had students who performed better than those who were teaching out of their license or certification area or who were uncertified or not licensed to teach.

Professional development is an essential ingredient in student achievement. Ongoing development of teachers’ knowledge and skills does matter (National Commission on Teaching and America’s Future, 1996). In his article, “Knowledge and Teaching: Foundations of New Reform,” Schulman (1987) shared his research on school reform. Through his research, he concluded that teachers need three critical areas of knowledge. First, they need content knowledge—a deep understanding of their disciplines, typical of advanced study of the discipline. Second, they need pedagogical knowledge—knowledge about how to teach. Third, they need pedagogical-content knowledge—knowledge of subject teaching strategies.

Comprehensive professional development incorporates appropriate instructional techniques and learning experiences for teachers and other staff (Killion, 2002). Comprehensive professional development should (a) adhere to high content standards while providing sufficient time for learning, practicing, and planning for and debriefing
implementation; (b) demonstrate pedagogy that reflects current research about teaching and learning; (c) incorporate content-specific knowledge that relates to student experiences and environment; (d) be of sufficient duration to constitute a powerful intervention to alter teachers’ behaviors and beliefs; and (e) be part of a long-term intervention to improve the performance of teachers, schools, and students (National Science Foundation, 1995; Sparks, 1997b).

Teacher learning must be at the heart of any effort to improve education in our society (Sykes, 1996). While other reforms may be needed, better learning for more children ultimately relies on teachers. What lends urgency to professional development is its connection to reform and to the ambitious goals for education that are to be extended to all students (Sykes, 1996).

Professional development is necessary to improve student achievement. School districts must embrace and support high levels of learning for both staff and students. Simply knowing that teachers participated in professional development and that student achievement increased does not prove that professional development was responsible for the increase. Multiple factors such as higher standards, improved curriculum frameworks, and new types of assessment are also associated with increased student learning. No one factor alone leads to increased student achievement. However, when we analyze delivery and purpose of a particular professional development activity, we will probably find that teachers, who are challenged to raise their expectations of their students, reevaluate their tools for assessing student learning and try to design assessments that truly measure students’ achievement of material taught. When teachers expect more from their students,
analyze the results of assessments, and design assessments that measure student achievement of information, we usually see the evolution of new curriculum frameworks. One such framework is arts integration.

**What Arts Integration Is!**

CETA defines arts integration as instruction that makes natural and significant connections between a subject area and an art form. The CETA model of arts integrated instruction stresses that the arts should complement the discipline based instruction. CETA’s goal of arts integrated lessons is that students will master objectives in both the subject area and the art form. There are several definitions of arts integration; CETA is only one. The CETA definition was used for the purposes of this study.

One goal of student learning should be to include connections and syntheses, not isolation and compartmentalization, of separate knowledge bases. Within many schools, teachers and students become used to separating learning within certain subjects or specific activity time periods (McDonald & Fisher, 2002). Jacobs (1989) contended that, as children mature, they complain that school is irrelevant to the larger world. In the real world, we do not wake up in the morning and do social studies for 50 minutes. In real life, we encounter problems and situations, gather data from all of our resources, and generate solutions. The fragmented school day does not reflect this reality. Schools should use a variety of instructional techniques to enhance discipline-based instruction.

Jacobs (1989) suggested that in addition to discipline-based instruction, schools need to create learning experiences that periodically demonstrate the relationship of the disciplines, thus heightening their relevancy. There is a need to actively show students
how different subject areas influence their lives, and it is critical that students see the strength of each discipline perspective in a connected way. In order for children to learn how to read, write, do math, or understand science and social studies, proper instructional time must be allotted for instruction on a regular basis. Teacher expertise, space, materials, resources, and best practices must exist for students to correctly master learning within each of these content area disciplines. The arts also require attention and time.

The arts hold a respected place within our schools and contain specific and important content toward the development of educated human beings (McDonald & Fisher, 2002). The arts also hold an esteemed role in the transmission and perpetuation of culture; therefore, knowledge about art is knowledge about many expressive mediums found within human existence (McDonald & Fisher). Although the arts are not included in local, state, and federal tests, several states and local school boards have adopted standards for music theatre arts, dance and visual arts. The North Carolina State Board of Education stated that arts education benefits both students and society because it teaches many types of literacy while developing intuition, sensitivity, reasoning, imagination, and dexterity. The state of Virginia adopted its standards for fine arts in an effort to provide challenging educational programs that enhance students’ ability to think critically, solve problems creatively, make informed judgments, work cooperatively within groups, and to appreciate different cultures.

In addition to engaging children within specific learning parameters defined by various arts content standards, teachers can choose to design interdisciplinary curriculum
in which students experience deeper understanding of the arts through “the intersections and interactions of the disciplines” (Barrett, 2001, p. 27). In this context, the arts are integrated with each other and with other subject areas as an active way to enhance overall instruction, not to compete or replace discipline-specific teaching and learning (McDonald & Fisher, 2002). Snyder (2001), in her work concerning the meaningful integration of arts with other disciplines, suggested that there are three ways to link disciplines or intelligences to enhance student:

1. Connection. One discipline in the service of another. An example might be when a teacher uses material or an activity from another discipline or disciplines (e.g., poetry, writing/language arts) to reinforce a concept or skill learning within another (e.g., setting poetry to music) or the use of components of a visual art work (featuring elements of repetition, contrast, form, etc.) to help teach the same concepts in dance, drama, music, mathematics, science, or another discipline. These connections can be between arts or arts connected to another subject matter. The goal here is to enhance learning within the subject matter at hand by drawing from and connecting to learning within another subject matter (MacDonald & Fisher, 2002).

2. Correlation. Two disciplines share common materials or activities. An example of correlation includes the intersection or common conceptual grounding of two discipline-specific concepts or skills, such as math activities involving fractions and proportions of the whole, which become
instructionally correlated with concepts of whole, half, quarter, and so forth, in musical note values and notation.

3. Integration. Each discipline addresses the chosen theme from its unique perspective. A broad theme is chosen so that it can be integrated with multiple discipline areas, allowing students to use their learning within content areas to explore the theme in meaningful and valid ways. Topical themes might include such things as animal life, stars, rain forests, specific holidays, rivers of the world, colors, historical events or cultures. Conceptual themes might include ideas involving broader, more comprehensive instructional themes, such as patterns, the universe, music of many cultures, structures (manmade and natural), environments, imagination, famous speeches, highlights of the twentieth century, peace, heroes, courage, respect or tolerance. Both topical and conceptual themes can be used within grade-specific contexts, as well as within broader across-the-grades, school wide contexts.

The arts make all kinds of learning exciting (McDonald & Fisher, 2002). Art making and art appreciation serve to uniquely stimulate the senses and provide direct active pathways to perceptions about the world around us. The arts provide a wealth of experience related to forms of human expression found in language and various forms of nonverbal and sensory communication, such as gesture, emotions, feelings, sound, symbols, movement, shapes, colors, patterns, and designs. Dance, drama, music, and the visual arts often communicate within nonverbal avenues of expression and use symbols
that are simply no translatable to human language. By doing so, they provide important ways of knowing as essential forms of human discourse and inquiry (Eisner, 1980).

Positive changes can be seen in student achievement when students learn through the arts. Fiske (1999) reported that research showed:

1. Many at-risk or potential dropout students are more motivated to alter or eliminate their school absences and tardiness by their participation in the arts. Groups of students who participate in the arts are found to have consistently better communication skills, friendships with others, and fewer instances of violence, racism, and other troubling and nonproductive behaviors.

2. Arts disciplines can provide unique learning environments for direct student engagement through personal discovery and group participation. Students can learn to become self-directed learners and willingly experiment with possible solutions to current problems. Within these learning environments, students can become challenged to find and value their own level of accomplishment, as well as develop considerable personal satisfaction concerning their contributions to the success of the group. These skills are important to community citizenship, family life, and other important personal relationships as well as toward the preparation of capable working adults who are willing and experienced in working with others to collaboratively create new ideas and successfully solve problems together.

3. Students coming from underserved populations gain much or more from educational experiences in the arts as those coming from areas of higher
socioeconomic demographics. For some students, the arts present a first, and perhaps only, opportunity for learning, and for all students the arts offer a chance to learn more and to learn better (Howes & Smith, 1995). In her address at the National Conference of State Legislatures, Howes and Smith (1995) commented that the arts address not only student-related topics, but school safety as well. If students are hopeful about their futures based on excitement about learning and actual achievement, they have better things to do than to find their identity through gangs, drugs, or violent behavior. Arts-based schools, even those without select populations, repeatedly boast some of the highest attendance and graduation rates in their communities, and some of the lowest numbers of disciplinary action (Howes & Smith).

A major theme of Vygotsky’s (1978) social development theory is that social interaction plays a fundamental role in the development of cognition and that that human language is developed through multiple signs, both verbal and nonverbal, during which learners connect learning to what they already know. Synthesis takes place through a child’s active involvement with the meanings of language. Furthermore, we know the centrality of human language toward thinking and that a child’s learning depends on language, cutting across learning within all subject matter and school activity.

Integrative activities in which the arts’ verbal and nonverbal communications and systems of thought are actively and creatively connected to learning within reading, writing, and oral language development can serve to heighten student interest and expressive involvement in learning at hand. By doing so, the arts are naturally connected
to many subject areas. Purposeful integrated arts teaching contain many active avenues
toward the literacy development of young readers (Hancock, 2000). The arts can lend
important experiences and context for language development. Ogle (1986) created the
reading comprehension strategy What I Know, What I Want to Know and What I
Learned (K-W-L) to help capture the before, during, and after components of reading a
selection from a textbook. In her article “K-W-L: A Teaching Model that Develops
Active Reading of Expository Text,” Ogle suggested that if learners are to be able to
construct more relationships across ideas and synthesize them in ways that promote
higher-order thinking, teachers must implement language and sign systems that foster
connections and help students understand the similarities and differences across
disciplinary boundaries. Ogle emphasized that these ways of interaction are not formed in
isolation, but instead through more integrative aspects of knowledge. Through various
kinds of planned, purposeful integrative activities, students can directly and actively
experience natural, unforced, authentic, and valid connections between the arts and other
disciplines.

There are possible pitfalls for some teachers as they plan and select materials and
activities for integrated teaching that might not result in authentic, valid, and meaningful
experiences for increased student learning (McDonald & Fisher, 2002). Jacobs (1989)
identified two major problems. The first is the potpourri problem, where there is a
sampling of knowledge from each discipline with a general lack of focus and structure.
The second, the polarity problem, involves the tension between the disciplinary focus and
the interdisciplinary focus that promotes conflicts within the curriculum itself, which can
lead to problems among teachers (Jacobs). When mistakes occur, they usually include the following characteristics: lack of clear planning and instructional purpose; lack of informed background information; lack of planning and collaboration between teachers and discipline knowledge bases; limited scope concerning quality sources; a potpourri effect or fragmented curriculum connections; forced or artificial connections; and the watering down of content in the disciplines involved.

Teacher professional development programs in arts integration can result in improving teachers’ attitudes toward arts integration, teachers’ ability to integrate the arts into their own subject area, and teachers’ classroom practice. Such professional development can occur in a variety of delivery models.

Models for Implementing Arts-Based Teaching and Learning Models

Arts-based teaching and learning models can be implemented and used by community organizations, in schools, in individual classrooms, and by teachers and special interest groups. Listed below are brief descriptions of the models of arts-based learning and teaching as identified by Rooney (2004).

Community-based models. Community-Based Models focus on improved outcomes for special populations or for the community as a whole. Community arts programs use arts education to teach skills that are transferable to the workplace, to build relationships among community organizations, and to form partnerships with public agencies, schools, and other arts organizations. Examples of community arts-based programs include arts programs sponsored by local, state, and federal governments, and nonprofit organizations.
**Education-based models.** Education-Based Models include whole school arts activities, whole school arts-based curricula, and comprehensive school reform. A whole school activity may focus on one project in which all of the students in the school participate. Whole school arts-based curricula may be used to increase arts instruction in the school or for interdisciplinary lessons between different subjects. Arts-based teaching and learning are also used for comprehensive school reform. Some examples of education-based models include the Duke Ellington School of the Arts in Washington, DC, Victoria Lee Middle School Arts and Communication Focus School in Acting County, USA, Virginia, and the Thomas G. Pullen Magnet School for Creative and Performing Arts.

**Classroom models.** Classroom models bring art activities to students in a regular classroom setting. An arts specialist or artist in residence works cooperatively with the classroom teacher to plan and implement arts-based lessons. An example of a classroom model is ABC, a statewide project in South Carolina to increase arts education (Seaman, 1999).

**Professional development approach.** A professional development approach teaches teachers to use arts-based instructional strategies. Professional development activities related to in arts-based instruction teaches educators how to use the arts to “facilitate cooperative learning groups, self-directed learning, project-based learning and self-assessment” (need citation and page number). Examples of professional development approaches include the Kennedy Centers’ Changing Education through the Arts (CETA) Program, the Leonard Bernstein Center for Learning (Rooney, 2004), and Arts for
Academic Achievement (AAA; Rooney). The literature supports arts-based instruction by identifying ways in which it has a positive impact on teacher practice.

In what ways do arts-based Instructional practices improve teacher quality?

According to Rooney (2004), the literature affirms that teachers who implement arts-integrated instructional strategies are more enthusiastic, are better instructors, and develop a higher order of thinking than those teachers who do not. Eisner (2002) asserted that core teachers who implement arts-based instructional strategies are more artistic, creative, and interesting to their students. Horowitz (2005) found that in classrooms with effective instruction and collaboration between teachers and artists, students were more likely to demonstrate increased cognitive skills, increased verbal and nonverbal expressive abilities within a variety of contexts, focused perception, and reapplication of learning within new contexts. Horowitz concluded that increased student cognitive skills were associated with areas of “teacher growth and change, as a result of teachers’ application of new skills, increased ability to integrate the arts, greater comfort with using the arts, ownership and commitment to the professional development activities, and changes in their perceptions of their students’ abilities” (p. 17).

The arts contribute to student achievement in many ways-- student engagement, motivation, and social skills (Catterall, 1998). Teachers who effectively integrate the arts enjoy increased student cognitive skills, participation, and attendance (Catterall; Horowitz, 2005; Rooney, 2004; Stevenson & Deasy, 2005). The integration of the arts provides an enriched learning and teaching environment where teachers facilitate meaningful and engaging activities that increase student achievement.
Arts Integration and Student Achievement

*In school programs.* There is a larger body of research that addresses arts integration and student achievement. As a result of their varied inquiries, the authors of Champions of Change found that learners can attain higher levels of achievement through their engagement with the arts (Fiske, 1999). Moreover, one of the critical research findings from this research is that the learning in and through the arts can help “level the playing field” for children of low socioeconomic status (Fiske). Catterall, Chapleau, and Iwanaga (1999) found, in their analysis of the Department of Education’s National Educational Longitudinal Survey databases of 25,000 students, those students with high levels of arts participation outperformed “arts-poor” students. The database contained information about students from both high and low socioeconomic groups. The analysis showed that high arts participation by students from low socioeconomic backgrounds had a more significant impact on their academic achievement than for students from high socioeconomic backgrounds. Furthermore, the analysis showed that involvement in the arts is highly correlated with success in mathematics and reading (Catterall et al.).

The findings of Catterall et al. (1999) correlate with comparisons of student achievement in 14 high-poverty schools in which the Chicago Arts Partnerships in Education (CAPE) developed innovative art-integrated curricula. When these schools were compared to “arts-poor” schools in the same neighborhoods, the CAPE schools advanced more quickly and decreased a significant gap in achievement along many dimensions.
Another study, Learning In and Through the Arts (LITA), found evidence to support that learning in the arts has significant effects on learning in other domains (Burton, Horowitz, & Abeles, 1999). The researchers selected 12 schools for extensive study; four became sites for in-depth case studies. They examined the artistic experiences of 2,046 children in grades 4, 5, 7, and 8. The students were enrolled in schools in New York, Connecticut, Virginia, and South Carolina.

The researchers’ detailed analysis showed that youth in high-arts groups (groups of students who participated in one or more arts related activities per week) scored high on measures of creativity, fluency, originality, elaboration, and resistance to closure. The youth in the high-arts group also scored more “strongly in terms of academic teachers’ perceptions of their general competencies” (Burton et al., 1999, p. 38). Teachers said that the students in the high-arts group were able to express their thoughts and ideas, exercise their imaginations, and take risks in their learning. They also noted that the students were more cooperative and showed a greater willingness to display their learning before a community of their peers and parents. The data also revealed that high-arts students were more likely than low-arts students to think of themselves as proficient in academics. They were also more likely to think that they did well in school.

In the same study, administrators and teachers in high-arts schools attributed many positive features of their school climate to the arts. The researchers found that schools with strong arts programs had supportive administrators who encouraged teachers to take risks, learn new skills, and broaden their curriculum. They also found that the specialist arts teachers were “confident in their pedagogy and practice, knowledgeable
about pupils’ abilities and personalities, innovative in their approaches to learning, and who enjoyed collaborating with other arts specialists and teachers of other subjects” (Burton et al., 1999, p. 100).

Fowler (1996) surmised that because the arts nurture different modes of reasoning, they complement the sciences. He further stated that the arts teach divergent rather than convergent thinking and that they ask students to come up with different, rather than similar, solutions. Fowler concluded that the arts usually do not demand one correct response, but rather involve students in creative problem solving and invites them to become partners in the learning process. Other important research on arts integration and student achievement includes after school programs.

After school programs. Heath and Roach (1999) spent 10 years studying dozens of after school programs for disadvantaged youth. The programs were clustered into three categories: academics, community involvement, and the arts. Their research showed that the youth in all of the programs were doing better in school and in their personal lives than youth from the same socioeconomic categories that were not in such programs.

Heath and Roach were surprised to find that the youth in the arts programs were doing the best. Because of skepticism, they looked more closely at the arts programs and the youth participating in them. They found that characteristics particular to the arts programs made those programs more effective. These characteristics included the youth gaining practice in thinking and talking as adults, testing and developing ideas, explicating processes, and building scenarios of the future. Heath and Roach also noticed that participation in the arts showed a dramatic increase in the participants’ language.
skills-- increased syntactic complexity, hypothetical reasoning, and questioning
approaches. Their initial data analysis of 750,000 words transcribed from the arts-based
youth organizations showed the following generalized patterns (Heath and Roach, 1999):

1. A fivefold increase in the use of if-then statements, scenario building
   followed by what if questions and how about prompts;
2. More than a twofold increase in the use of mental state verbs; and
3. A doubling in the number of modal verbs.
4. Students in theater-based organizations had approximately six times as many
times to speak before the group than they might have had in their English
and/or social studies classrooms.

One way to evaluate the effectiveness of professional development related to arts
integration is by studying the impact of the elements of professional development on
teachers’ attitudes toward arts integration, and teaching practices. The effectiveness of
arts related professional development can also be evaluated by examining teachers’
perception toward student achievement as a result of professional development in arts
integration and evidence of overall improvement in student achievement in required
academic courses that contain elements of the integrated arts.

The Kennedy Center for the Performing Arts’ Changing Education through the
Arts (CETA) program uses elements from seven of the eight models of professional
development identified by Drago-Severson (2002), Sparks and Loucks-Horsley (1989)
and Marczely (1996) to provide professional development programs for school systems
and educators. CETA uses training, observation, development/improvement process,
study groups, inquiry/action research, individually guided activities, mentoring, and peer coaching to develop, implement, and evaluate a structured, sequential professional development program. This particular program addresses the needs and interests of teachers to integrate the arts into their lessons by helping them to explore and create appropriate formats and structures. CETA also works with individual schools and school districts to ensure that professional development will be continuous and institutionalized. The CETA professional development offerings are based on national, state, and local standards in the arts and other subject areas.

Summary

New prominence has been given to professional development because of the educational reforms of the past decade. Professional development is emphasized as a key component in nearly every education improvement plan.

Highly qualified teachers and high levels of student achievement are two of the major components of the recently enacted No Child Left Behind Act of 2001 (NCLB, 2002). High-quality professional development is identified as being the key to meeting the standards set by NCLB. The effectiveness of professional development practices, programs, and characteristics have come under scrutiny because of the limited body of research that shows a direct link between professional development practices, programs, and characteristics and improvements in student learning outcomes (Corcoran, 1995; Frechtling, Sharp, Carey, & Baden-Kierman, 1995; Newman, King, & Youngs, 2000; Wang, Frechtling, & Smith, 1999).
3. Research Methods
Introduction

This chapter describes the methods and procedures that I used to conduct this study. Included are the research questions, a description of the research methodology, a description of the research design, a description of how the participants were selected, instrumentation that was used to generate the data, an explanation of how the data were analyzed, and the process for validating the instrument.

This research is intended to determine the significance that professional development and experiences related to the arts (dance, music, drama, and visual arts) have on teacher attitudes, subject knowledge, and classroom implementation skills. The author investigated changes in teachers’ attitudes toward the arts, changes in teachers’ classroom implementation skills regarding the arts, and teachers’ perceptions of changes in overall improvement in student achievement as a result of teacher professional development in the integration of the arts.

For the purposes of this study the following definitions will be used to refer the listed variables:

General perceptions concerning professional development experiences – teachers’ positive and negative opinions of professional development activities that they participated that were by choice or mandated.

Subject matter – content subject or subjects that a teacher teaches.
Frequency of attendance at cultural events – teachers’ voluntary attendance of cultural events either work-related or personal. These may include musicals, plays, musical concerts, visits to museums and historic places.

Research Questions

The following research questions were answered through the analysis of the data collected from the survey questionnaire.

The following research questions were used to frame this study.

1. What are teachers’ general perceptions concerning professional development experiences related to arts integration? Are these perceptions correlated with the primary subject matter taught, total years of teaching experience, years at the current arts focus school, or frequency of attendance at cultural events?

1.1. What are teachers’ general perceptions concerning professional development experiences for arts integration in their teaching?

1.2. Is there a difference between teachers’ general perceptions of their professional development experiences for arts integration and the primary subjects matter taught?

1.3. Is there a difference between teachers’ general perceptions of their professional development experiences for arts integration and total years of teaching experience?

1.4. Is there a difference between teachers’ general perceptions of their professional development experiences for arts integration and years at the current arts focus school?
1.5. Is there a difference between teachers’ general perceptions of their professional development experiences for arts integration and frequency of attendance at cultural events?

2. What are teachers’ perceptions of arts integration in their classrooms? Are these perceptions correlated with their primary subject matter, total years of teaching experience, years at the current arts focus school, or their frequency of attendance at cultural events?

2.1. What are teachers’ general perceptions concerning professional development experiences for arts integration in their classrooms?

2.2. Is there a relationship between teachers’ general perceptions of their professional development experiences for arts integration and the primary subject matter taught?

2.3. Is there a relationship between teachers’ general perceptions of their professional development experiences for arts integration and total years of teaching experience?

2.4. Is there a relationship between teachers’ general perceptions of their professional development experiences for arts integration and years at the current arts focus school?

2.5. Is there a relationship between teachers’ general perceptions of their professional development experiences for arts integration and frequency of attendance at cultural events?
3. What are teachers’ perceptions of the extent to which professional development activities have impacted their instructional practices? Are these perceptions correlated with primary subject area, total years of experience, years at the current arts focus school, or their frequency of attendance at cultural events?

3.1. What are teachers’ general perceptions concerning professional development experiences for arts integration in their instructional practices?

3.2. Is there a relationship between teachers’ general perceptions of their professional development experiences for arts integration and the primary subjects matter taught?

3.3. Is there a relationship between teachers’ general perceptions of their professional development experiences for arts integration and total years of teaching experience?

3.4. Is there a relationship between teachers’ general perceptions of their professional development experiences for arts integration and years at the current arts focus school?

3.5. Is there a relationship between teachers’ general perceptions of their professional development experiences for arts integration and frequency of attendance at cultural events?

4. What are teachers’ perceptions of the impact of arts integration on student achievement? Are these perceptions correlated with primary subject area, total years of teaching experience, years at the current arts focus school, or frequency of attendance at cultural events?
4.1. What are teachers’ general perceptions of arts integration on student achievement?

4.2. Is there a relationship between teachers’ general perceptions of their professional development experiences for arts integration and the primary subjects matter taught?

4.3. Is there a relationship between teachers’ general perceptions of their professional development experiences for arts integration and total years of teaching experience?

4.4. Is there a relationship between teachers’ general perceptions of their professional development experiences for arts integration and years at the current arts focus school?

4.5. Is there a relationship between teachers’ general perceptions of their professional development experiences for arts integration and frequency of attendance at cultural events?

5. How much of the variance in teachers’ perceptions of the impact of arts integration on students’ achievement is accounted for by their perceptions of professional development in arts integration, their perceptions of arts integration in general, and their perceptions of the impact arts integration on their classroom implementation skills?

Research Design

A quantitative survey research design was used to gather data on teachers’ perceptions of their attitudes toward professional development related to arts integration, perceptions of
arts integration, perceptions of impact of professional development on arts-integration implementation skills, and teachers’ perceptions towards the impact of arts integration on student achievement. Professional development related to arts integration, subject area, teaching experience, years at current school, and attendance of cultural events have been identified as the independent variables; the dependent variables are teacher attitudes about professional development, arts integration, the impact of professional development on teacher implementation skills, the impact of arts integration on student achievement.

Sampling

Target population. This study is designed to provide data that can be applicable to other schools and school districts that integrate the arts into the core curriculum for grades 6-8. The targeted population consists of teachers and administrators who teach various content subjects (i.e., mathematics, science, English, physical education, foreign language, reading, and special education) for two school districts located in the Washington, DC, metropolitan area. The teachers and administrators work in settings where the integration of the arts into the core curriculum for grades 6-8 and participation in professional development activities related to arts integration is mandatory and participation in CETA is optional. This section provides descriptive demographic information concerning the two schools. To assure confidentiality, the names of the school districts and schools were changed.

Acting County is a small wealthy school district with a student population of approximately 22,000. Only 17% of the households in Acting County, USA have school-age children who attend Acting County Public Schools. Thirty-four percent of the
students enrolled in Acting County Public Schools are eligible for free and reduced lunch. The school selected for this was Victoria Lee Middle School. Victoria Lee Middle School is an Arts and Communications Technology Focus School.

In comparison, the school district in Performance County, USA, is very large and suburban, serving a student population of approximately 134,000. More than 45% of the students enrolled in the Performance County public schools are eligible for either free or reduced lunch. The school selected for participation from this county was Payton Tatum Middle School. Payton Tatum Middle School is a performing arts magnet school.

The teaching staff at both schools includes beginning teachers with 0 years of teaching experience to teachers with as many as 35 years of teaching experience. Fifty-one percent of the teachers at Victoria Lee Middle School, which is located in Acting County, have an advanced degree. Twenty-eight percent of the teaching staff at Payton Tatum Middle School, which is located in Performance County, has an advanced degree. At both schools the faculty is dominated by females.

A more detailed description of each school is discussed in the school setting section of this document.

Sampling frame. Seventy-nine teachers and administrators from Victoria Lee Middle School and 65 teachers and administrators from Payton Tatum School were invited to participate in this study.

Participants were selected because of convenience and accessibility (I am an administrator at one, and both are either current or former CETA Schools). The survey was distributed to approximately 85 teachers and four administrators at Victoria Lee
Middle School, and approximately 63 teachers and two administrators at Payton Tatum School. While other schools integrate the arts into the core curriculum for grades 6-8 and provide extensive professional development to their staff, I chose these two schools because of the accessibility of the staff and their partnership with the Kennedy Center’s CETA Program. The two schools used in this study represent 15% of total school based staff in the Washington DC, metropolitan area who are employed at schools that support the integration of the arts into the core curriculum and are current or past partners with the Kennedy Center’s Changing Education through the Arts program.

Once the schools were selected, the principals were contacted by letter requesting their permission to survey their staff. Once permission was granted by the principals of both schools, districts, arrangements were made to distribute the survey to the staff at each school. The research and assessment departments for each school district approved my application to conduct research in their school districts.

The surveys were distributed to the staff at Victoria Lee Middle School at a faculty meeting by the principal. The survey was distributed to the faculty and staff at Payton Tatum Middle at grade level and department meetings by the researcher.

School setting. The teachers and administrators are assigned to two middle schools that participate and/or are partners in the Kennedy Center’s Changing Education through the Arts (CETA) program. Each year, schools who partner with CETA select a new cohort of about six teachers to participate in CETA-sponsored professional development related to arts integration. Cohorts from previous years continue to participate in arts-related professional development sponsored by CETA at a progressively more advanced
level. Participation in CETA is optional for staff at both schools. However, participation in school-sponsored professional development activities related to arts integration is mandatory at both schools.

Victoria Lee Middle School located in Acting County and Payton Tatum School located in Performance County are two suburban school districts with many urban characteristics. Both schools and their school districts embrace the integration of the arts into the core curriculum for grades 6-8 as a means to increase student achievement. Victoria Lee Middle School and Payton Tatum School are a small sample of the many school districts that integrate the arts into their core curriculum for grades 6-8 and provide extensive professional development to their staff in the integration of the arts.

*Victoria Lee Middle School.* Victoria Lee Middle School is an arts and communications technology focus school located in Acting County. Rebuilt in 2005, the new school includes an auditorium that seats 850 people, a black box theater with a seating capacity of 300, a dance studio, a television studio equipped with a specialized recording booth, an arts integration computer lab, a drama room with studio lights, instrumental music rooms equipped with practice rooms, a distance learning lab, more than 50% of the classrooms have a Smart Board and an audio enhancement system, all classrooms have a ceiling mounted projector, and the gymnasium has a wellness lab with equipped specialized computer-monitored fitness equipment. Additionally, students at Victoria Lee Middle School have access to seven computer labs, four mobile laptop labs, with a total of 387 computer stations in labs and classrooms. The auditorium, Black Box Theater, gymnasium, vocal and instrumental music classrooms, the dance studio, the
drama room and the television studio are equipped with advanced lighting and sound control systems. The middle school curriculum is taught through the arts and communications technology. Students are actively engaged in learning activities that involve dance/movement, drama, visual arts, music and many forms of communications technology. Victoria Lee Middle School has a prescribed attendance zone; however, students throughout Acting County, USA County attend Victoria Lee Middle School upon request. Admission to Victoria Lee Middle School does require an audition. Its partnerships include the CETA Program, a Macintosh Users’ Groups (MUG), a professional Dance Company, and the U.S. Coast Guard and the U.S. Army Bands.

Students participate in and have access to a host of special and extracurricular activities such as team sports, intramural sports, school-sponsored clubs and organizations, field trips and assemblies, opportunities to showcase work and to perform, visiting artists and guest speakers, and Act II classes (electives offered after school on Tuesdays and Thursdays).

The latest test results (2005-2006 school year) indicates that Victoria Lee Middle School was fully accredited by its state board of education, but did not make adequate yearly progress according to No Child Left Behind federal guidelines.

*Payton Tatum Middle School.* Payton Tatum Middle School is designed to develop the interests and talents of students in the arts and to enhance the academic discipline through an interdisciplinary approach stressing creativity, artistic expression, and culture. The underlying precept of the school is that children learn best by doing and performing. The school’s goal is to provide as many performance opportunities as
possible. Classes in the arts are taught to students at all grade levels by arts specialists. Payton Tatum Middle School participates in partnerships with the CETA Program and the Maryland Artist Teacher’s Institute (MATI).

The K-8 creative arts school follows the general curriculum guidelines that are used for all Performance County Public Elementary and Middle Schools. Instruction is provided in language arts, mathematics, science, and social studies along with specialized instruction in the arts—visual art, drama, instrumental and vocal music, dance, media arts, creative writing, literary arts, and related computer lab experiences. Admission to the K-5 Program is through a lottery system after an application has been filed. Admission for grades 6 through 8, after an application has been filed, is granted through an audition process that includes assessment of artistic ability and writing skills. Placement is based on space availability.

The primary grades (K-2) and the intermediate grades (3-5) receive instruction in language arts, mathematics, science, social studies, and 85 minutes of creative arts every day. Emphasis is placed on cooperative and group experiences with opportunities for individual expression. The classroom and creative arts teachers work together to integrate the academic and arts curriculum. The middle school, grades 6-8, receive integrated instruction in all basic subjects (language arts, mathematics, science, social studies, and foreign language for selected students), as well as in-depth and specialized instruction in one art form (major) and many opportunities to perform and to explore all art forms.

Additionally, students participate in and have access to enrichment activities after school, field trips, visiting artists, and guest speakers, Suzuki violin and cello lessons for
grades (K-3), a keyboard lab, a music, dance, visual arts, and drama and media productions studios.

Comparison of two schools. The following tables (2 thru 4) show a breakdown of Victoria Lee Middle School’s and Payton Tatum School’s school populations and federal testing data.

Table 2

School Population and Demographics 2005-2006

<table>
<thead>
<tr>
<th></th>
<th>Victoria Lee Middle School</th>
<th>Payton Tatum Middle School</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Total 2005 - 2006 Enrollment</strong></td>
<td>761 Grades 6-8 (100%)</td>
<td>809 Grades K-8 (Grades 6-8 42%)</td>
</tr>
<tr>
<td>American Ind./Alaskan Nat.</td>
<td>0</td>
<td>1%</td>
</tr>
<tr>
<td>Asian/Pacific Islander</td>
<td>12%</td>
<td>2%</td>
</tr>
<tr>
<td>Black/African Amer.</td>
<td>19%</td>
<td>91%</td>
</tr>
<tr>
<td>Hispanic</td>
<td>43%</td>
<td>2%</td>
</tr>
<tr>
<td>White (Non-Hispanic)</td>
<td>26%</td>
<td>3%</td>
</tr>
<tr>
<td>Limited English Proficient</td>
<td>16%</td>
<td>0</td>
</tr>
<tr>
<td>Unspecified</td>
<td>.52%</td>
<td>0</td>
</tr>
<tr>
<td>Free/Reduced Meals</td>
<td>55.19%</td>
<td>26%</td>
</tr>
<tr>
<td>Special Education</td>
<td>25%</td>
<td>6%</td>
</tr>
<tr>
<td>Total Teaching Faculty</td>
<td>79</td>
<td>93.5</td>
</tr>
<tr>
<td>Total Administrators</td>
<td>4</td>
<td>3</td>
</tr>
<tr>
<td>Teachers with Master’s Degree or Beyond</td>
<td>66%</td>
<td>30%</td>
</tr>
<tr>
<td>% of classes NOT taught by “Highly Qualified”</td>
<td>1%</td>
<td>37%</td>
</tr>
</tbody>
</table>

The population and demographic data in table 2 indicates that Payton Tatum Middle School has 48 more students in grades 6-8 than Victoria Lee Middle School. It is also important to note that Payton Tatum Middle School’s Black/African American population is 91% compared to Victoria Lee Middle School’s Black/African American population of 19%. The data also reveals that Victoria Lee Middle School’s Hispanic population of 43% is larger than Payton Tatum Middle School’s Hispanic population of 2%. There is also a notable difference in the white populations – Victoria Lee Middle School’s population is 26% while Payton Tatum Middle School’s white population is
3%. There is also a noticeable difference in the free and reduced lunch status – Victoria Lee Middle School’s is 55% and Payton Tatum Middle School’s is 26%. Also, Victoria Lee has a higher special education population of 25% in comparison to Payton Tatum’s of 6%. It is also important to note that 66% of the teachers at Victoria Lee Middle School have masters degrees or higher and that Payton Tatum has 30% of its teachers with master degrees or higher. Last it is important to note that under the No Child Left Behind federal guidelines definition of highly qualified teachers, Victoria Lee Middle School has 1% of its teachers teaching classes not taught by highly qualified teachers while Payton Tatum has 37%.

Table 3

*Victoria Lee Middle School State and Federal Testing Results, 2004-2007*

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Student Population</td>
<td>771</td>
<td>761</td>
<td>755</td>
</tr>
<tr>
<td>AYP Status</td>
<td>Made AYP</td>
<td>Did Not Make AYP</td>
<td>Did Not Make AYP</td>
</tr>
<tr>
<td>State Accreditation</td>
<td>Fully Accredited</td>
<td>Fully Accredited</td>
<td>Fully Accredited</td>
</tr>
<tr>
<td>Status</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>School Improvement</td>
<td>Not in Improvement</td>
<td>Not in Improvement</td>
<td>Year 1</td>
</tr>
<tr>
<td>English Improvement</td>
<td>Not in Improvement</td>
<td>Not in Improvement</td>
<td>Year 1</td>
</tr>
<tr>
<td>Math Improvement</td>
<td>Not in Improvement</td>
<td>Not in Improvement</td>
<td>Year 1</td>
</tr>
</tbody>
</table>

Table 3 depicts the state and federal testing data for Victoria Lee Middle schools indicates that Victoria Lee did not make adequate yearly progress according to the
Federal No Child Left Behind policy for two consecutive school years – 2005-2006 and 2006-2007. Victoria Lee Middle School was, however, fully accredited through the state of Virginia for the last three years.

Table 4

*Payton Tatum School State and Federal Testing Results, 2004-2007*

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Student Population</td>
<td>809</td>
<td>803</td>
<td>809</td>
</tr>
<tr>
<td>AYP Status</td>
<td>Made AYP</td>
<td>Made AYP</td>
<td>Made AYP</td>
</tr>
<tr>
<td>Accreditation Status</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>School Improvement</td>
<td>Not In Improvement</td>
<td>Not In Improvement</td>
<td>Not In Improvement</td>
</tr>
<tr>
<td>English Improvement</td>
<td>Not In Improvement</td>
<td>Not In Improvement</td>
<td>Not In Improvement</td>
</tr>
<tr>
<td>Math Improvement</td>
<td>Not In Improvement</td>
<td>Not In Improvement</td>
<td>Not In Improvement</td>
</tr>
</tbody>
</table>

Table 4 depicts the federal and state test data for Payton Tatum Middle School. According to the data, Payton Tatum Middle School made adequate yearly progress for the last three school years 2004-2005; 2005-2006; and 2006-2007). There is no available concerning state accreditation.

Instrumentation

A survey questionnaire was used to examine teachers’ attitudes, subject knowledge, classroom implementation skills, and student acquisition and achievement of information. I modified the Kennedy Center’s CETA pre-test survey (Duma & Silverstein, 1999) to measure teachers’ perceptions of changes in their attitudes, implementation skills, and student achievement as a result of their participation in professional development activities related to arts integration.

I developed a survey questionnaire, the Arts Integration Impact Survey (AIIS), by modifying the CETA pre-test survey to address the specific research problem identified
in the current study. The CETA pre-test survey consists of forced-choice and open-ended questions, which are intended to describe teacher perceptions in regard to integrating the arts into the core curriculum for grades 6-8. The CETA pre-test survey is comprised of five subscales: (a) general information, (b) assessing students’, (c) professional development experiences, (d) integrating the arts with other subject areas, and (e) sharing expertise and resources. The survey questionnaire Arts Integration Impact Survey (AIIS) was developed for the purpose of collecting specific data regarding teachers’ attitudes, teachers' perceived increase in their subject knowledge and implementation skills and their perception towards student achievement as a result of their participation in professional development related to arts integration. It was expected that that the survey would reveal pertinent information in these areas.

The general information section of the CETA survey was extracted word for word, the assessing students’ needs section of the CETA survey was eliminated, the professional development section remained the same as the CETA survey, and all of the CETA subscales were retained and transferred as worded into the AIIS. The modifications were made to address my specific research questions. Permission was obtained from the Kennedy Center program in order to use portions of its survey, which was developed for measuring teachers’ current attitudes, beliefs, and knowledge about students’ needs, professional development experiences, and integrating the arts (See Appendix A). The AIIS is a self-reporting instrument that was used to measure teachers’ attitudes, experiences, and skills prior to participating in professional development related the arts; and the impact that professional development and experiences related to the arts
(dance, music, drama and visual arts) have on teacher attitudes, classroom implementation skills, and teachers’ perceptions of changes in overall improvement in student acquisition and achievement of information as a result of teacher professional development in the integration of the arts.

General information about the participants was gathered in section one – subject(s) taught, grade level taught, the number of years of teaching experience and numbers of years at current school. Section II asked respondents to identify the professional development formats related to arts integration that they had participated in for the past three years. Respondents were asked to select from a list that included the following choices: summer institutes, teleconferences, video/instructional packet, participatory workshops for teachers, peer coaching, sharing arts integrated curricula with other teachers’, site visits to other schools, planning time for arts integrated lessons, teacher book discussion group, coaching, team teaching and course for graduate credit. For analysis purposes, the formats were grouped into five categories. The five categories were Coursework (summer institutes, teleconferences, participatory workshops, video/instructional packet, course for graduate credit); teacher-to-teacher (teacher book discussion group, sharing arts integrated curricula with other teachers, site visits to other schools); Coaching (peer coaching and coaching); Team teaching and planning time for arts integrated lessons. In section two respondents were asked to rank their top five formats 1 to 5 with one being the most preferred and five being the least preferred and to indicate the frequency of their attendance at cultural events – not at all, once a year, twice a year, five to six times per year, once a month or twice or more a month. Section seven
asked the respondents to select the art forms that they currently integrate with their curricula and the frequency that they integrate the art forms with their curricula. Section eight consisted of open ended statements that allowed the respondents to expand on their responses on the Likert scale.

The AIIS contains four subscales: Opinion/Attitude (OA), Arts Integration (AI), Implementation Skills (IS), and Student Achievement (SA). As noted in Table 5, each subscale is designed to address a separate research question.

The subscale sections (subscales III – VI) of the survey were scored using a five point Likert scale, ranging in degree of agreement or importance from one (strongly disagree) to five (strongly agree).

Subscale three of the survey dealt with the measurement of teacher attitudes about their professional development experiences. Teachers were asked to respond by indicating their level of agreement with a series of nine statements which were carefully constructed to reveal their attitudes towards professional development related to arts integration. Subscale four of the survey dealt with the measurement of teachers’ attitudes towards arts integration. Teachers were asked to respond by indicating their level of agreement with a series of six statements which were carefully constructed to reveal their perceived increase in knowledge of the subject that they teach as five of the survey dealt with the measurement of teachers’ perception of the impact that professional development related to arts integration had on their implementation skills. Teachers were asked to respond by indicating their level of agreement with a series of five statements. Subscale six dealt with the measurement of teachers’ perception toward student
achievement as a result of professional development related to arts integration. Teachers were asked to respond to a series of five questions.

Table 5

*Relationship between Subscales of Arts-Integration Impact Survey and Research Questions*

<table>
<thead>
<tr>
<th>Research Question</th>
<th>Subscale on AIIS</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. What are teachers’ general perceptions concerning professional development experiences related to arts integration? Are these perceptions correlated with the primary subject matter taught, total years of teaching experience, years at the current arts focus school, or frequency of attendance at cultural events?</td>
<td>III. Teacher Attitude about Professional Development in arts Integration</td>
</tr>
<tr>
<td>2. What are teachers’ perceptions of arts integration in their classrooms? Are these perceptions correlated with their primary subject matter, total years of teaching experience, years at the current arts focus school, or their frequency of attendance at cultural events?</td>
<td>IV. Integrating the Arts with Other Subject Areas</td>
</tr>
<tr>
<td>3. What are teachers’ perceptions of the extent to which professional development activities have impacted their instructional practices? Are these perceptions correlated with primary subject area, total years of experience, years at the current arts focus school, or their frequency of attendance at cultural events?</td>
<td>V. Impact of Integration on Classroom Implementation Skills</td>
</tr>
<tr>
<td>4. How much of the variance in teachers’ perceptions of the impact of arts integration on students achievement is accounted for by their perceptions of professional development in arts integration, their perceptions of arts integration in general, and their perceptions of the impact arts integration on their classroom implementation skills?</td>
<td>VI. Impact of Arts Integration on Student Achievement</td>
</tr>
<tr>
<td>5. How much of the variance in teachers’ perceptions of the impact of arts integration on students achievement is accounted for by their perceptions of professional development in arts integration, their perceptions of arts integration in general, and their perceptions of the impact arts integration on their classroom implementation skills?</td>
<td>VI. Impact of Arts Integration on Student Achievement</td>
</tr>
</tbody>
</table>
The recommended AIIS scoring procedure is to simply add and find the sum of the numeric values of the responses for the related items to produce for subscales scores. One item has negative wording (item number 14) and must be reversed before adding to the others. The sum of each subscale item was totaled and divided by the numbers from each subscale. The preliminary analysis included running a reliability analysis on each set of items in each subscale. As mentioned earlier, each subscale measures a given target. Scales were developed for each subscale based on the reliability results. To obtain the maximum alpha value, I ran an item-total to investigate the internal consistency of those items that contribute to the maximum alpha value. None of the items hurt the internal consistency of the measure; therefore I kept all items of each subscale for subsequent analysis. Item g-2 (I believe integrating the arts positively affects student achievement) from subscale IV was eliminated because it was irrelevant for measuring teachers’ subject knowledge. The elimination of item 2-g changed the Cronbach alpha score from .753 to .701. Item numbers, sample questions and reliability data results are for each subscale are illustrated in table 6.

Table 6

<table>
<thead>
<tr>
<th>Subscale</th>
<th>Item Number</th>
<th>Sample questions</th>
<th>Reliability Data Cronbach’s Alpha Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Subscale III</td>
<td>a-1,b-1,c1,d-1, e-1,f-1,g-1,h-1,i-1</td>
<td>My attitude towards professional development experiences is very positive.</td>
<td>.910</td>
</tr>
<tr>
<td>Subscale IV</td>
<td>a-2, b-2, c-2, d-2, e-2, f-2</td>
<td>I am confident in my knowledge of subject area(s) I teach</td>
<td>.701</td>
</tr>
<tr>
<td>-----------------------------</td>
<td>-----------------------------</td>
<td>----------------------------------------------------------</td>
<td>------</td>
</tr>
<tr>
<td>Subscale V</td>
<td>a-3, b-3, c-3, d-3, e-3</td>
<td>My participation in professional development in arts integration has influenced my process of designing lessons</td>
<td>.885</td>
</tr>
</tbody>
</table>

Note: A Likert scale was used to measure participant’s responses for subscales III-VI.

Researcher’s Role

I am an assistant principal at Victoria Lee Middle School and a member of the Principals’ Arts Education Forum sponsored by The John F. Kennedy Center for the Performing Arts. Victoria Lee Middle School is currently a member school of the Kennedy Center’s CETA Program, and I have participated in several professional development activities sponsored by CETA and Victoria Lee Middle School. On the other hand, Payton Tatum School is a former CETA Program participant.

For the purpose of this research, I acted only in the capacity of researcher; that is, I collected, analyzed, and reported the data collected from the surveys for the purpose of this dissertation. My professional responsibility as an assistant principal had no influence on the collection of the teachers' responses to the questionnaire.

Validation

For this study I adapted questions used in the CETA pretest survey to design the Arts Integration Impact Survey (AIIS). A draft of the survey was distributed to the dissertation committee for feedback. The survey was revised as necessary.
The survey was field-tested for face and content validity by having participants in the CETA Program respond to each of the items. Participants in the field testing were asked to review the survey and respond to the following:

1. Are the questions stated clearly?
2. Are the questions relevant to the subject?
3. Is it written with sufficient appeal to ensure response?
4. Are the questions too restrictive or too broad?
5. Are the questions phrased in the appropriate jargon for school faculty and staff?
6. Are there questions that should be eliminated and others included?
7. Will participants be able to respond to all of the questions?

The field-test survey was administered during a training session for CETA participants. The responses were presented to the dissertation committee chairperson for further refinement. After refining the survey, I sent a final copy of the survey to each of the subjects.

Data Collection Procedures

The data collection for this study consisted of the following procedural steps:

1. *Distribution and collection of surveys to teachers and administrators.* The survey packet included a letter describing the study, a consent form, and the actual survey. The survey was distributed to the faculty and staff at Victoria Lee Middle School during a faculty meeting. The principal agreed to allow the staff time to complete the survey at the beginning of the meeting. The
survey was returned to my in-house mailbox in a sealed envelope. I distributed the survey to the staff of Payton Tatum School during small team meetings. The survey was returned to me in sealed envelopes at the end of each meeting or through the U.S. mail.

2. **Handling of completed surveys.** The data in this study was confidential. The data collected was reported as a composite score with no individual names given. Names of participants were being included on the surveys and other collected data. A code was placed on each survey. No names, pseudonyms, or initials were used. An identification key was used to link surveys to participants. Only the researcher and her advisor had access to the identification key.

Data Analysis

The data collected from the returned survey instruments was analyzed using the Statistical Package for Social Sciences (SPSS), version 15. Both descriptive and inferential statistics were used to analyze data. The data collected from the surveys were coded numerically and entered into the computer system at George Mason University for analysis. The independent and dependent variables were defined quantitatively using a 1-5 Likert scale. Descriptive statistics, including frequency and percentages of responses distributions, means, and standard deviations, were used to report the profiles of participants and to provide a comparative representation of the findings for the research questions. Descriptive statistics also included bivariate correlations; multiple linear regressions was used to assess the relative value of each to the independent variables.
explicated in hypothesis 6 in accounting for the variance in teachers' perceptions of the impact of arts integration on students achievement. A probability level of $p<.05$ significance was used in all inferential tests.

Research Limitations

The study was affected by several limitations. Since convenience sampling was used rather than random sampling the sample population the sample may not be representative of the total population of school staffs that integrate the arts. As this study was limited to the collection of data from teachers and administrators from two middle schools that participate in the CETA Program, generalizing the results would be limited to only those teachers who work in similar settings. The study was also limited to teachers and administrators willing to participate in the study. Consequently, the sample population may only include only respondents who highly favor arts integration or those who oppose arts integration. Furthermore, the survey approach to data collection generated responses biased by the researcher’s reliance on the respondent’s account of his/her own behavior. Data were based on what the respondents’ report rather than on behaviors observed by the investigator. Also, the faculty may not respond to the survey honestly because I am an administrator at one of the schools. I tried to prevent these biases by assigning codes to each returned survey.
4. Results

The purpose of this chapter is to present the results of the study that examined the impact of professional development related to arts integration on teachers’ attitudes, subject knowledge, classroom implementation skills and teachers’ perception toward arts integration’s impact on student achievement of two middle schools. To ensure confidentiality, all names referring to the school districts, schools, the faculty and staff and the schools’ test data have been changed.

Characteristics of the Sample

One hundred and forty-five surveys were distributed and 55 surveys were returned for a return rate of 37%. Table 7 illustrates the distribution of respondents by gender. The vast majority of respondents are female.

Table 7

*Distribution of Respondents by Gender*

<table>
<thead>
<tr>
<th></th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Valid</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>46</td>
<td>83.6</td>
</tr>
<tr>
<td>Male</td>
<td>9</td>
<td>16.4</td>
</tr>
<tr>
<td>Total</td>
<td>55</td>
<td>100.0</td>
</tr>
</tbody>
</table>
Table 8 illustrates the percentage and frequency of respondents by grade. Seven teachers (12.5%) taught only sixth grade, four teachers (7.1%) taught only seventh grade, and eleven teachers (19.6%) taught only eighth grade. One teacher (1.8%) taught a combination of sixth and seventh grade, and three teachers (5.4%) taught a combination of seventh and eighth grades. Thirty teachers (53.6%) taught all grade levels.

Table 8

*Distribution of Respondents by Grade*

<table>
<thead>
<tr>
<th></th>
<th>Frequency</th>
<th>Percent</th>
<th>Valid Percent</th>
<th>Cumulative Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Valid</td>
<td>6th</td>
<td>7</td>
<td>12.5</td>
<td>12.5</td>
</tr>
<tr>
<td></td>
<td>7th</td>
<td>4</td>
<td>7.1</td>
<td>19.6</td>
</tr>
<tr>
<td></td>
<td>8th</td>
<td>8</td>
<td>14.3</td>
<td>33.9</td>
</tr>
<tr>
<td></td>
<td>6th/7th</td>
<td>1</td>
<td>1.8</td>
<td>35.7</td>
</tr>
<tr>
<td></td>
<td>7th/8th</td>
<td>3</td>
<td>5.4</td>
<td>41.1</td>
</tr>
<tr>
<td></td>
<td>all</td>
<td>30</td>
<td>53.6</td>
<td>94.6</td>
</tr>
<tr>
<td></td>
<td>8</td>
<td>3</td>
<td>5.4</td>
<td>100.0</td>
</tr>
<tr>
<td>Total</td>
<td>56</td>
<td>100.0</td>
<td>100.0</td>
<td></td>
</tr>
</tbody>
</table>

The largest percentage (30%) of respondents taught all subject areas. In this sample, nine teachers taught specifically visual or performing arts (drama, art, dance, music). Including those teachers that taught primarily the specific subject matter in ESL or special education classrooms, 12 teachers taught English, Language Arts, or Reading; six taught Math; three taught Social Studies; and 2 taught Science. For the purposes of analysis of the relationship between subject taught and perceptions, teachers of English, Language Arts, Social Studies and Reading have been grouped together under the subject
type “Humanities,” math and science teachers have been grouped together, and visual and performing arts teachers have been grouped together. Administrators and other respondents were removed from this particular analysis.

One teacher in this sample had not attended a cultural event in the last 3 years (1.8%). However, ten teachers (17.9%) attended cultural events twice a year, 28 teachers (50.0%) attended cultural events five to six times per year, 10 teachers attended one event per month (17.9%), and 7 teachers (12.5%) attended two or more events per month.

The most common professional development experiences were teacher to teacher (44.6%), coursework (33.9%), coaching (12.5%), team teaching (5.4%), and planning time (3.6%). However, when asked about their preferred professional development formats, most preferred coursework (37.5%) followed by planning time (19.6%), coaching (17.9%), team teaching (14.3%), and teacher-to-teacher training (10.7%). Teachers in this sample had a mean 15.7 years of teaching experience (SD 9.6, range 1-32). They had taught at their current arts focus school for a mean 6.2 years (SD 5.8, range 1-24). The results of their responses to the questionnaires and the research questions will now be addressed.

Research Question Group 1

1.1 What are teachers’ general perceptions concerning professional development experiences for arts integration?

Teachers’ perceptions of professional development experiences in arts integration are measured by Subscale III. The sum total of a teacher’s responses could range from 9 to 45, with 9 meaning that the teacher had strongly negative perceptions and 45 meaning
the teacher had strongly positive perceptions. A score of 27 would indicate ambivalence. In this sample, the mean score for all teachers surveyed was 37.8 (SD = 4.8, range 9 to 45). All but one teacher scored above a 25 indicating that the teachers had mostly positive perceptions of their professional development experiences in arts integration.

1.2 Do teachers differ in their perceptions based on their subject matter area?

Mean scores for humanities teachers, math and science teachers, and visual and performing arts teachers were computed and summarized in Table 9. The box plot in Figure 1 graphically illustrates the data. Upon visual inspection, the mean for the visual and performing arts group appeared slightly lower than the other two groups, but it displayed the most variance. The means were compared using one-way ANOVA. No statistically significant differences were found between the groups' mean perception scores, $F (2, 28) = 2.51, p = 0.099$ (Table 10).

Table 9

Descriptive Statistics of Subscale III scores by subject matter taught

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>Std. Error</th>
<th>95% Confidence Interval for Mean</th>
<th>Lower Bound</th>
<th>Upper Bound</th>
<th>Minimum</th>
<th>Maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td>Humanities</td>
<td>14</td>
<td>38.8571</td>
<td>4.2732</td>
<td>1.1429</td>
<td>36.382 - 41.329</td>
<td>31.00</td>
<td>44.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Math/Science</td>
<td>6</td>
<td>39.3750</td>
<td>2.7223</td>
<td>.9625</td>
<td>37.099 - 41.659</td>
<td>35.00</td>
<td>43.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Arts</td>
<td>9</td>
<td>35.0000</td>
<td>6.1237</td>
<td>2.0412</td>
<td>30.292 - 39.707</td>
<td>26.00</td>
<td>45.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>31</td>
<td>37.8710</td>
<td>4.6149</td>
<td>.8548</td>
<td>36.104 - 39.637</td>
<td>26.00</td>
<td>45.00</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Figure 1. Box plot of Subscale III score by subject matter taught

Table 10

ANOVA for Subscale III by Subject Matter Taught

<table>
<thead>
<tr>
<th></th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Groups</td>
<td>105.895</td>
<td>2</td>
<td>52.947</td>
<td>2.515</td>
<td>.099</td>
</tr>
<tr>
<td>Within Groups</td>
<td>589.589</td>
<td>28</td>
<td>21.057</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>695.484</td>
<td>30</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

1.3 Is there a difference between teachers’ general perceptions of their professional development experiences of arts integration and total years of teaching experience? No correlation between total years of teaching experience and perceptions of professional development related to arts integration was found ($r = 0.094, p = 0.51$).
1.4 Is there a difference between teachers’ general perceptions of their professional development experiences of arts integration and number of years teaching at an arts focus school?

Again, no correlation was found between years at the current arts focus school and perceptions of professional development experiences \( (r = 0.096, p = 0.50) \).

1.5 Is there a difference between teachers’ general perceptions of their professional development experiences for arts integration and their frequency of attendance at cultural events?

No correlation was found between the frequency of cultural event attendance and perceptions of professional development in arts integration \( (r_s = 0.191, p=0.17) \).

Research Question Group 2

2.1 What are teachers’ general perceptions of arts integration in their classrooms?

Teachers’ general perceptions of arts integration are reflected in Subscale IV. The sum total of a teacher’s responses could range from 7 to 35, with a score of 7 indicating strongly negative perceptions, a score of 35 indication strongly positive perceptions, and a score of 21 indicating ambivalence. In this sample the mean score was 24.6 \( (SD 3.4, \text{ range } 16 \text{ to } 30) \). The mean and range of these scores seem to indicate that while many teachers have positive perceptions, many are also ambivalent or even have negative perceptions.

2.2 Do teachers differ in their perceptions based on their subject matter area?

Mean scores for humanities teachers, math and science teachers, and visual and performing arts teachers were computed and summarized in Table 11. The box plot in
Figure 2 graphically illustrates the data. Upon visual inspection, it appears that the math/science group differs from the other two groups. A statistically significant difference among the groups was detected by a one way ANOVA, $F (2, 29) = 3.34$, $p = 0.049$ (Table 12). However, equal variances could not be assumed (Levene Statistic $(2, 29) = 0.733$, $p = 0.50$), and sample sizes were not equal which weakened the power of post-hoc testing. The Dunnett $T^3$ test was used and no statistically significant differences were identified (Table 13).

Table 11

Descriptive Statistics for Subscale IV by Subject Area Taught

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>Std. Error</th>
<th>Lower Bound</th>
<th>Upper Bound</th>
<th>Minimum</th>
<th>Maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td>Humanities</td>
<td>15</td>
<td>25.533</td>
<td>2.4456</td>
<td>.6315</td>
<td>24.1790</td>
<td>26.8877</td>
<td>21.00</td>
<td>30.00</td>
</tr>
<tr>
<td>Math/Science</td>
<td>8</td>
<td>22.1250</td>
<td>4.2573</td>
<td>1.5052</td>
<td>18.5658</td>
<td>26.6842</td>
<td>16.00</td>
<td>29.00</td>
</tr>
<tr>
<td>Arts</td>
<td>9</td>
<td>25.4444</td>
<td>3.2830</td>
<td>1.0943</td>
<td>22.9209</td>
<td>27.9679</td>
<td>19.00</td>
<td>30.00</td>
</tr>
<tr>
<td>Total</td>
<td>32</td>
<td>24.6963</td>
<td>3.4324</td>
<td>.6688</td>
<td>23.4187</td>
<td>25.8938</td>
<td>16.00</td>
<td>30.00</td>
</tr>
</tbody>
</table>

Figure 2. Box plot of Subscale IV score by area

90
Table 12

One Way ANOVA for Subscale IV by Subject Area Taught

<table>
<thead>
<tr>
<th></th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Groups</td>
<td>68.388</td>
<td>2</td>
<td>34.194</td>
<td>3.341</td>
<td>.049</td>
</tr>
<tr>
<td>Within Groups</td>
<td>296.831</td>
<td>29</td>
<td>10.236</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>365.219</td>
<td>31</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 13

Results of Dunnett’s Tests for Subscale IV by Subject Area Taught

<table>
<thead>
<tr>
<th>(I) SUBTYPE</th>
<th>(J) SUBTYPE</th>
<th>Mean Difference (I-J)</th>
<th>Std. Error</th>
<th>Sig.</th>
<th>95% Confidence Interval</th>
</tr>
</thead>
<tbody>
<tr>
<td>Humanities</td>
<td>Math/Science</td>
<td>3.4083</td>
<td>1.401</td>
<td>.168</td>
<td>-1.2091 - 8.0257</td>
</tr>
<tr>
<td></td>
<td>Arts</td>
<td>8.889E-02</td>
<td>1.349</td>
<td>1.000</td>
<td>-3.3435 - 3.5213</td>
</tr>
<tr>
<td>Math/Science</td>
<td>Humanities</td>
<td>-3.4083</td>
<td>1.401</td>
<td>.168</td>
<td>-8.0257 - 1.2091</td>
</tr>
<tr>
<td></td>
<td>Arts</td>
<td>-3.3194</td>
<td>1.555</td>
<td>.254</td>
<td>-8.3752 - 1.7363</td>
</tr>
<tr>
<td>Arts</td>
<td>Humanities</td>
<td>8.889E-02</td>
<td>1.349</td>
<td>1.000</td>
<td>-3.5213 - 3.3435</td>
</tr>
<tr>
<td></td>
<td>Math/Science</td>
<td>3.3194</td>
<td>1.555</td>
<td>.254</td>
<td>-1.7363 - 8.3752</td>
</tr>
</tbody>
</table>

2.3 Is there a relationship between teachers’ general perceptions of arts integration and total years of teaching experience?

No correlation between total years of teaching experience and perceptions of professional development related to arts integration was found ($r = 0.008, p = 0.95$).

2.4 Is there a relationship between teachers’ general perceptions of arts integration and number of years teaching at an arts focus school?

Again, no correlation was found between years at the current arts focus school and perceptions of professional development experiences ($r = -0.094, p = 0.50$).
2.5 Is there a relationship between teachers’ general perceptions of arts integration and their frequency of attendance at cultural events?

A weak but statistically significant correlation was found between the frequency of cultural event attendance and teachers' perceptions of professional development in arts integration \((r_s = 0.398, p = 0.002)\). This finding suggests that teachers who enjoy the arts more (as indicated by their voluntary attendance of cultural events) are more likely to enjoy professional development experiences in the arts.

Research Question Group 3

3.1 What are teachers’ general perceptions of the extent to which professional development activities have impacted their instructional practices?

Teachers’ perceptions of the impact of professional development on their classroom implementation skills were measured by Subscale V. The sum total of a teacher’s responses could range from 5 to 25, with a score of 5 indicating strongly negative perceptions, a score of 25 indication strongly positive perceptions, and a score of 15 indicating ambivalence. In this sample the mean score was 19.1 (\(SD\ 3.6\), range 12 to 25) meaning more teachers felt that professional development had impacted their instructional practices but that many teachers did not.

3.2 Do teachers differ in their perceptions based on their subject matter area?

Mean scores for humanities teachers, math and science teachers, and visual and performing arts teachers were computed and summarized in Table 14. The box plot in Figure 3 graphically illustrates the data. No differences were apparent on visual inspection of the group means. The one-way ANOVA confirmed that no statistically
significant differences were found among the groups $F(2, 28) = 0.624, p = 0.543$ (Table 15).

Table 14

*Descriptive Statistics of Subscale V scores by Subject Matter Taught*

<table>
<thead>
<tr>
<th>Subtype</th>
<th>N</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>Std. Error</th>
<th>Mean 95% Confidence Interval for Mean</th>
<th>Lower Bound</th>
<th>Upper Bound</th>
<th>Minimum</th>
<th>Maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td>Humanities</td>
<td>15</td>
<td>19.9333</td>
<td>2.9633</td>
<td>.7651</td>
<td>18.2923 to 21.5743</td>
<td>14.00</td>
<td>25.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Math/Science</td>
<td>8</td>
<td>18.1250</td>
<td>4.0861</td>
<td>1.4447</td>
<td>14.7089 to 21.5411</td>
<td>13.00</td>
<td>25.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Arts</td>
<td>9</td>
<td>18.8889</td>
<td>4.7813</td>
<td>1.5938</td>
<td>15.2136 to 22.5641</td>
<td>13.00</td>
<td>25.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>32</td>
<td>19.1875</td>
<td>3.7712</td>
<td>.6667</td>
<td>17.8278 to 20.5472</td>
<td>13.00</td>
<td>25.00</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

![Boxplot](image)

SUBTYPE

Figure 3. Box plot of Subscale V score by subject matter taught

Table 15

*One Way ANOVA of Subscale V scores by Subject Matter Taught*

<table>
<thead>
<tr>
<th></th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>$F$</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Groups</td>
<td>18.178</td>
<td>2</td>
<td>9.089</td>
<td>.624</td>
<td>.543</td>
</tr>
<tr>
<td>Within Groups</td>
<td>422.697</td>
<td>29</td>
<td>14.576</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>440.875</td>
<td>31</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
3.3 Is there a relationship between teachers’ general perceptions of the extent to which professional development activities have impacted their instructional practices and total years of teaching experience?

No correlation between total years of teaching experience and perceptions of professional development related to arts integration was found ($r = 0.066, p = 0.64$).

3.4 Is there a relationship between teachers’ general perceptions of the extent to which professional development activities have impacted their instructional practices and number of years teaching at an arts focus school?

Again, no correlation was found between years at the current arts focus school and perceptions of professional development experiences ($r = -0.102, p = 0.50$).

3.5 Is there a relationship between teachers’ general perceptions of the extent to which professional development activities have impacted their instructional practices and the frequency that they attend cultural events?

A weak but statistically significant correlation was found between the frequency of cultural event attendance and perceptions of professional development in arts integration ($r_s = 0.325, p = 0.02$). Thus, the more a teacher enjoyed the arts (as indicated by voluntary attendance at cultural events), the more enthusiastic they were to implement the arts in their classrooms.

Research Question Group 4

4.1 What are teachers’ perceptions of the impact of arts integration on student achievement?
Teachers’ perceptions of the impact of arts integration on student achievement were measured by Subscale VI. The sum total of a teacher’s responses could range from 5 to 25, with a score of 5 indicating strongly negative perceptions, a score of 25 indication strongly positive perceptions, and a score of 15 indicating ambivalence. In this sample the mean score was 17.8 (SD = 3.8, range 10 to 25) indicating that only a little more than half of the teachers sample believe that arts integration improve student achievement.

4.2 Do teachers differ in their perceptions based on their subject matter area?

Mean scores for humanities teachers, math and science teachers, and visual and performing arts teachers were computed and summarized in Table 16. The box plot in Figure 5 graphically illustrates the data. No differences were apparent on visual inspection, and in fact, when the means were compared using one-way ANOVA no statistically significant differences were found between the among the groups $F (2, 28) = 1.534, p = 0.233$ (Table 17).

Table 16

*Descriptive Statistics of Subscale VI scores by Subject Matter Taught*

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>Std. Error</th>
<th>95% Confidence Interval for Mean</th>
<th>Lower Bound</th>
<th>Upper Bound</th>
<th>Minimum</th>
<th>Maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td>Humanities</td>
<td>14</td>
<td>18.4286</td>
<td>2.6620</td>
<td>.7088</td>
<td>16.8974, 19.9598</td>
<td>14.00</td>
<td>22.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Math/Science</td>
<td>8</td>
<td>15.8750</td>
<td>3.0909</td>
<td>1.0928</td>
<td>13.2910, 18.4590</td>
<td>13.00</td>
<td>20.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Arts</td>
<td>9</td>
<td>18.6667</td>
<td>5.2915</td>
<td>1.7638</td>
<td>14.5893, 22.7341</td>
<td>10.00</td>
<td>25.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>31</td>
<td>17.8387</td>
<td>3.7603</td>
<td>.6754</td>
<td>16.4594, 19.2180</td>
<td>10.00</td>
<td>25.00</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Figure 4. Box plot of Subscale VI score by subject matter taught

Table 17

One Way ANOVA of Subscale VI Scores by Subject Matter Taught

<table>
<thead>
<tr>
<th></th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Groups</td>
<td>41.890</td>
<td>2</td>
<td>20.945</td>
<td>1.534</td>
<td>.233</td>
</tr>
<tr>
<td>Within Groups</td>
<td>382.304</td>
<td>28</td>
<td>13.654</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>424.194</td>
<td>30</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

4.3 Is there a relationship between teachers’ general perceptions of the impact of arts integration on student achievement and total years of teaching experience?

No correlation between total years of teaching experience and perceptions of professional development related to arts integration was found ($r = 0.038, p = 0.80$).
4.4 Is there a relationship between teachers’ general perceptions of the impact of arts integration on student achievement and number of years teaching at an arts focus school?

Again, no correlation was found between years at the current arts focus school and perceptions of professional development experiences ($r = -0.131, p = 0.38$).

4.5 Is there a relationship between teachers’ general perceptions of the impact of arts integration on student achievement and the frequency that they attend cultural events?

A weak correlation was found between the frequency of cultural event attendance and perceptions of professional development in arts integration ($r_s = 0.325, p=0.017$) which would indicate that the more a teacher enjoyed the arts (as indicated by their voluntary attendance at cultural events), the more likely they would be to feel that arts integration is important to student achievement.

Research Question Group 5

How much of the variance in teachers’ perceptions of the impact of arts integration on students achievement is accounted for by their perceptions of professional development in arts integration, their perceptions of arts integration in general, and their perceptions of the impact arts integration on their classroom implementation skills?

To address this question a multiple linear regression was performed using teacher perceptions of professional development in arts integration, their perceptions of arts integration in general, and their perceptions of the impact arts integration on their classroom implementation skills as predictor variables and teachers’ perceptions of the impact of arts integration on students achievement as the criterion variable. The stepwise
method was used with the probability of $F<=0.05$ needed for inclusion and a probability of $F=>0.1$ for removal. Table 18 shows the model summary. Teachers’ general perceptions of arts integration in their classrooms (Variable TWO) was not entered because it did not contribute to the variance of the criterion at a statistically significant level.

Table 18

*Model Summary*

| Variable ONE                      | Teachers’ general perceptions concerning professional development experiences for arts integration |
| Variable TWO                     | Teachers’ general perceptions of arts integration in their classrooms |
| Variable THREE                   | Teachers’ general perceptions of the extent to which professional development activities have impacted their instructional practices |
| Variable FOUR                    | Teachers’ perceptions of the impact of arts integration on student achievement |

<table>
<thead>
<tr>
<th>Model</th>
<th>Variables Entered</th>
<th>Variables Removed</th>
<th>Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>FIVE</td>
<td>.</td>
<td>Stepwise (Criteria:Probability-of-$F$-to-enter $&lt;=$ .050, Probability-of-$F$-to-remove $&lt;=$0.100)</td>
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<td>2</td>
<td>THREE</td>
<td>.</td>
<td>Stepwise (Criteria:Probability-of-$F$-to-enter $&lt;=$ .050, Probability-of-$F$-to-remove $&lt;=$0.100)</td>
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<tr>
<th>Model</th>
<th>$R$</th>
<th>$R$ Square</th>
<th>Adjusted $R$ Square</th>
<th>Std. Error of the Estimate</th>
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<tbody>
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<td>1</td>
<td>.762*</td>
<td>.581</td>
<td>.571</td>
<td>2.6485</td>
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<tr>
<td>2</td>
<td>.802*</td>
<td>.644</td>
<td>.626</td>
<td>2.4728</td>
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To test the null hypothesis that in fact the coefficient of multiple determination, $R^2$, equals zero and no linear relationship truly exists, ANOVA was used and the results shown in Table 19. The $F$ statistics and observed significance levels show that both models fit the data well. Thus it can be concluded that the scores on Subscale V (teachers’ general perceptions of the extent to which professional development activities have impacted their instructional practices) explained 58.1% of the variance of teachers’ perceptions of the impact of arts integration on students achievement by itself ($R^2 = 0.581$), but that with the addition of the scores on Subscale III (teachers’ general perceptions concerning professional development experiences for arts integration), 64.4% of the variance was explained ($R^2 = 0.644$).

Table 19

ANOVA

<table>
<thead>
<tr>
<th>Model</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
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<tr>
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<td>Regression</td>
<td>399.147</td>
<td>1</td>
<td>399.147</td>
<td>56.903</td>
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<td>287.597</td>
<td>41</td>
<td>7.015</td>
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</tr>
<tr>
<td></td>
<td>Total</td>
<td>686.744</td>
<td>42</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Regression</td>
<td>442.163</td>
<td>2</td>
<td>221.081</td>
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<td>Residual</td>
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<td>40</td>
<td>6.115</td>
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<td></td>
<td>Total</td>
<td>686.744</td>
<td>42</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

a. Predictors: (Constant), FIVE
b. Predictors: (Constant), FIVE, THREE
c. Dependent Variable: SIX
5. Conclusions and Discussion

Introduction

The purpose of this research study is to identify changes in teachers’ attitudes, teaching practices and perceptions towards student achievement and arts integration as a result of professional development in arts integration (i.e., dance, music, drama, and visual arts). For purposes of this research, I investigated perceived changes in teachers’ attitudes toward the arts, teachers’ ability to integrate the arts into their practice, and changes in teachers’ perceptions about overall improvement in student achievement as a result of teacher professional development in the integration of the arts. I studied such an impact using the CETA professional development program model.

The targeted population consisted of teachers and administrators who taught various content subjects for grades 6-8 (i.e., mathematics, science, English, physical education, foreign language, reading, special education, and fine and performing arts). These teachers and administrators were employed at two middle schools that participate and/or are partners in the Kennedy Center’s Changing Education through the Arts (CETA) program. At these two schools, participation in professional development activities related to arts integration was mandatory and participation in CETA was optional. The teaching staff at both schools includes beginning teachers as well as teachers with up to 35 years of experience.
Interpretation of Major Findings

Perceptions concerning professional development experiences related to arts integration. The results from this study indicate that, on average, teachers had relatively positive perceptions concerning professional development experiences related to art integration. These findings imply that there were relatively positive perceptions regardless of the area in which teachers taught, thus suggesting that teachers of all subject areas valued art integration in a relatively positive way in relation to professional development. This gives support to Burton et al. (1999) research in which they concluded that administrators and teachers in high-arts schools attributed many positive features of their school climate to the arts. They found that schools with strong arts programs had administrators who encouraged teachers to take risks, learn new skills and broaden their curriculum. Burton et al. suggest that teachers can and will implement arts integrated lessons when they perceive that the arts can contribute to improved student achievement and when they receive effective professional development in arts integration that is supported by the school’s administration.

In contrast to subject matter areas, the findings from this dissertation study showed a relationship between years of experience and perceptions concerning professional development. The results imply that teachers with a greater number of years of experience tended to have more positive perceptions about professional development experiences related to art integration. A potential explanation for this finding is that arts integration may have a positive impact on professional development, but teachers with
more experience have a more clear perspective about the importance of professional
development related to arts integration than inexperienced teachers. Teachers with less
experience have to base their perceptions on limited experiential knowledge and their
subjective knowledge more than on actual observations of the impact of arts integration
on professional development. More experienced teachers, on the other hand, have likely
witnessed different degrees of arts integration during their careers and might have a more
informed opinion on its impact on professional development. The research findings of
this dissertation study are contrary to the research conducted by Torff et al. (2005) in
which Torff et al. assert that perceptions toward professional development have been less
than positive, especially when teachers have accrued substantial classroom experience.
This would be in contrast with the findings from the present study, which suggest that
teachers with more experience tended to have more positive attitudes toward professional
development initiatives. However, Torff et al. state that the purported negative
relationship between experience and perceptions has not been proven.

In other research related to professional development in teachers’ subject areas,
the research indicates that teachers tend to have a positive perception of professional
development related to their subject area. For instance, Bonner (2006) stated that teachers
reported developing new ways of thinking about learning, about their students and about
themselves after implementing professional development initiatives. Those teachers also
reported that it resulted in a transformation of their students’ attitudes toward their class
work and their sense of competence.
Rooney (2004) asserted that teachers who implement arts integrated instructional strategies are more enthusiastic, better instructors and develop a higher order of thinking than those who do not. Eisner (2002) suggested that dance, drama, music, and the visual arts often communicate within nonverbal avenues of expression and use symbols that are not translatable to human language but, by doing so, they provide important ways of knowing as essential forms of human discourse and inquiry. Horowitz (2005) found that in classrooms with effective instruction and collaboration between teachers and artists, students were more likely to demonstrate increased skills in respective subject area. This would be consistent with the fact that the average perception regarding professional development for teachers in the present study was relatively positive. The research of Eisner, Horowitz and Rooney supports these teachers’ relatively positive perceptions about professional development related to arts integration and why these relatively positive perceptions were stable across teachers with different disciplines.

My findings also indicate that there is a relationship between attendance at cultural events and positive perceptions towards professional development related to arts integration. The relationship between frequency of attendance to cultural events and perceptions of arts integration in classrooms does not appear as a surprise. The results from this research study indicate that people who attend cultural events more frequently perceive arts to have a higher importance. Therefore, people for whom arts is a more significant part of their life (as measured by the frequency of attendance to cultural events) would likely state that arts integration in the classroom is more positive for students. MacDonald and Fisher, (2002) and Snyder (2001) suggested that when you link
disciplines or intelligences with relevant cultural and day to day experiences, you also enhance learning. It is possible that teachers and administrators who regularly attend cultural and arts events have an increased awareness of the natural connection between the arts and other disciplines or venues for learning. McDonald and Fisher conclude that art appreciation serve to uniquely stimulate the senses and provide direct pathways to perceptions about the world around us. From this, we can conclude that the arts provide important ways of knowing as essential forms of human discourse and inquiry (Eisner, 1980).

*Teachers’ perceptions of the value of arts integration in their classrooms.* The findings from my first research question suggest that teachers had relatively positive perceptions about professional development related to arts integration in general. This implies that teachers’ perceptions in general are relatively high. Question two examined teachers’ perceptions by specific primary subject areas. The dissertation findings indicate that, on average, teachers' responses ranged between ambivalent to positive in their perceptions of the value of arts integration in their classrooms. Results showed that Math and Science teachers had less positive perceptions. Teachers in these areas were very close to “ambivalence”, while Language Arts, English, Reading, Social Studies and visual/performing arts teachers had more positive responses. These findings suggest that Math and Science teachers consider arts integration in the classroom as less useful than do teachers in other curriculum areas. Therefore, Math and Science teachers would be less likely to integrate the arts into their daily lessons and to participate in professional development activities related to arts integration such as CETA.
It is possible that the Math and Science teachers do not see a connection between arts integrated professional development and an enhancement of their knowledge and skills. Guskey (2003) suggests that in order for a professional development program to be successful, teachers must believe that it will enhance their knowledge and skill level. Borko and Putnam (1995) concluded that successful professional development efforts are those that help teachers to acquire or develop new ways of thinking about learning, learners and subject matter. Bonner (2006) suggested that teachers and teaching can be changed individually and thereby effecting a positive change on the entire system. These research findings along with the findings within this study may suggest that the arts integrated professional development provided for Science and Math teachers may need to differ from that for teachers of other disciplines.

*Impact of professional development activities on instructional practices.* The dissertation findings showed that, on average, teachers’ perceptions ranged from positive to ambivalent in their perceptions of the extent to which professional development activities have impacted their instructional practices. The results of this study suggest that there is a relationship between teachers’ perceptions of the extent to which professional development activities have impacted their instructional practices and primary subject matter taught. The results of my study also indicated that teachers in the same content area had similar measured perceptions. Further analysis of the relationship between the criterion (perceptions of arts integration in classrooms) and three independent variables (years of teaching experience, years at current art focus and
frequency of attendance at cultural events) revealed that only attendance at cultural events was statistically significant.

*Impact of arts integration on student achievement.* The dissertation findings indicated that there was variability in teachers’ responses about their perceptions of the impact of arts integration on student achievement. Further analysis of the results to assess whether the perceptions of the impact of arts integration on student achievement were related to primary subject matter taught suggested that there was no relationship between these perceptions and primary subject matter taught. These findings imply that there were relatively high perceptions regardless of the area in which teachers taught, thus suggesting that all types of teachers had similar perceptions of the impact on student achievement.

Analyses were performed in order to assess whether there was variability between perceptions of the impact on student achievement and years of teaching experience, years at current art focus and frequency of attendance at cultural events. The analyses revealed significant variability between attendance of cultural events and perceptions. While the number of years at the current arts focus school and the years of experience were unrelated to these perceptions. As in the prior case of findings, the positive variability between frequency of attendance of cultural events and perceptions of the impact on student achievement does not appear as a surprise. People who attend a greater number of events might be more likely to have a higher perception of the benefits of arts-related activities (otherwise, they would not attend as many cultural events). Therefore, following this reasoning, teachers who have a higher view of the benefits of arts would be
more likely to perceive that arts integration also have a positive impact on student achievement. This would be consistent with the fact that teachers who attended cultural events more frequently have higher perceptions of the impact of arts integration on student achievement than those who attended less frequently.

The fact that a large percentage of teachers were mostly ambivalent regarding their perceptions about arts integration on student achievement is somewhat striking in light of the relatively large body of literature in which the benefits of arts integration are established. For example, McDonald and Fisher (2002) argued that arts make all kinds of learning exciting. They state that art making and art appreciation uniquely stimulate the senses and improve perceptions about the world around us. Moreover, the arts provide important ways of knowing as essential forms of human discourse and inquiry (Eisner, 1980). Fiske (1999) reported several benefits of arts integration on student achievement, such as: (a) potential dropout students are motivated to reduce their school absences and tardiness, (b) better communication skills, friendship with others and fewer instances of violence, racism and other negative behaviors, (c) students can learn to become self-directed learners and willingly experiment with possible solutions to current problems, among many others benefits. Moreover, Fiske argued that that students coming from underserved populations have much more to gain from educational experiences in the arts.

Hancock (2000) also reported improvement in student achievement related to arts integration in the classroom. He argued that purposeful integrated arts’ teaching contains many active avenues toward the literacy development of young readers. As mentioned
earlier, Horowitz (2005) reported an increase in students’ cognitive skills as a result of an increased ability to integrate the arts. Finally, Catterall, et al. (1999) reported that students with high levels of arts participation outperformed students in “arts-poor” schools, even after controlling for socioeconomic factors. These findings also showed that involvement in arts was highly correlated with success in mathematics and reading. Heath and Roach (1999) also reported dramatic increases in language skills associated programs with arts integration.

Given that the positive effect of arts integration on student achievement is well documented, the fact that teachers in this study do not perceive that arts integration has a positive impact on student achievement is a cause for concern. These ambivalent perceptions might cause teachers to delay or even not consider the implementation of arts integration in the classroom, thus preventing students from enjoying the benefits associated with the arts. A possible solution to this divergence between teachers’ perceptions and documented results would be to emphasize the benefits of arts integration in the classroom in professional development and undergraduate and graduate teacher education programs in order to increase awareness about the benefits associated with arts integration as it relates to student achievement.

_Variance in teachers’ perceptions of arts integration on student achievement in relation to other factors._ The dissertation findings indicate that the strongest effect associated with the perception of the impact of professional development activities on teaching practices was teachers’ perceptions of arts integration on student achievement. An analysis was performed in order to assess the proportion of the variance in
perceptions of arts integration on student achievement in relation to other factors. In particular, it was found that teachers with higher levels of perceptions of the impact of professional development activities on their classroom implementation skills tended to have higher levels of perceptions of arts integration on student achievement. The strong positive relationship between these two perceptions is expected. Perceptions of the impact of professional development activities on the teachers in this study’s classroom implementation skills might also be a measure of the extent to which the teacher was involved in the implementation of professional development activities related to arts integration in his or her lessons. Therefore, it is likely that teachers integrated the arts into their lessons to a greater extent only if he or she thought that arts integration would have a more positive impact on the student achievement of the students. This explanation, however, suggests that causality between these two constructs is not clear. Correlation analysis alone cannot tell whether perceptions of the impact of professional development activities on their classroom implementation skills explained perceptions of arts integration on student achievement, or if the reverse relationship held.

The results from this study support the notion that the impact of professional development is greater and more positive when teachers perceive that it can be measured in terms of student results (Sparks, 1997). Therefore, it is likely that when teachers perceive that professional development in the arts is meaningful, they are more likely to acquire and develop new ways of thinking about learning, learners, and subject matter (Borko & Putnam, 1995). My research findings are supported by previous research
findings in the literature that reiterate that reform in educational practice will not occur as a result of teachers being told to teach differently but through teachers making the desired changes through their acquisition of richer knowledge of subject matter, pedagogy and subject specific pedagogy and they must come to hold new beliefs in these domains (Borko & Putnam; Guskey, 2000). Although the results do not clearly illustrate a direct cause between teachers perceptions of professional development related to arts integration and the impact of arts integration on student achievement, the research does support previous research that indicates when teachers perceive that the professional development is meaningful and connected to student learning, they are more likely to implement the new instructional strategies in their classrooms.

Conclusions

This dissertation research yielded three primary conclusions. First, the research from this study revealed that the main characteristic of teachers’ perceptions towards arts integration in the classroom was the frequency with which teachers attended cultural events. Second, teachers in this sample had ambivalent perceptions regarding the implementation of arts integration practices in their lessons. And third, teachers’ perceptions of the impact of arts integration on student achievement were also ambivalent.

The main characteristic of teachers’ perceptions towards arts integration in the classroom was the frequency with which teachers attended cultural events. This relationship is likely due to the fact that teachers with more positive perceptions about the benefits of the arts (either implemented in classrooms, or through attending cultural
events) would also tend to have a more positive perception about the way arts integration can help students. Other variables, such as teachers’ subject and years of experience, were generally unrelated to their perceptions about arts integration in classrooms and its impact on student achievement.

The second conclusion was that teachers in this sample had ambivalent perceptions regarding the implementation of professional development practices in their lessons. Given that both professional development and arts integration in the classroom have been shown to have positive effects on student learning (Sparks, 2002) and on academic and social development (Catterall, 1998; Dowling, 1993; Hanshumacher, 1980; Winner & Hetland, 2000), it is apparent that teachers are not aware of these studies and thus fail to recognize the benefits of professional development practices and arts integration. This could be due to lack of exposure and access to lack of professional development opportunities related to arts integration. It is important for universities and school districts to work collaboratively to design teacher preparation programs for both prospective and practicing teachers that emphasize the benefits of professional development related to arts integration. More importantly, school districts must ensure that teachers have access to professional development activities and current research that include arts integration.

The third primary conclusion from this study was that most teachers were ambivalent about the impact of arts integration on student achievement. This is troubling because there is a large body of literature revealing the benefits of arts integration on student achievement (Catterall, 1998; Eisner, 1980; Fiske, 1999; Hancock, 2000; Heath
& Roach, 1999; Horowitz, 2005; McDonald & Fisher, 2002). Teachers’ ambivalent perceptions towards arts integration may prevent teachers from integrating the arts into the curriculum. One possible solution to teachers’ ambivalent perceptions would be for school leaders to emphasize the benefits of arts integration in the classroom in professional development offerings. Undergraduate and graduate teacher education programs could also promote the benefits of arts integration.

Limitations of the Study

As in all correlational nonexperimental studies, results of the present research cannot be used in order to assess causality between the variables. For example, while a significant relationship was found between attendance to cultural events and positive perceptions about professional development practices and arts integration in the classroom, it was not possible to determine whether more positive perceptions were caused by higher attendance to cultural events, or if higher attendance was caused by better perceptions. It is even possible that both variables are dependent upon some other unmeasured variable related to an overall perception of the arts. However, the research design of the present study does not allow determining the nature of this relationship.

In terms of generalization, it is possible that the results cannot be extended to teachers outside of the two schools from which participants were selected for the present study. The two schools used in this study represent 15% of total school based staff in the Washington D.C., metropolitan area who are employed at schools that support the integration of the arts into the core curriculum and are current or past partners with the Kennedy Center’s Changing Education through the Arts program. Perceptions of teachers
at any given school may be inter-correlated, that is, the results might not be generalizable if the two schools represented in the sample are not representative of the U.S. school system (in terms of arts integration in classrooms and professional development practices).

Implications for Practice

One of the most significant findings of this study was the fact that perceptions about the benefits of arts integration in the classroom in terms of student achievement were relatively negative. This finding is in contrast with a substantial body of literature that shows a positive impact of arts integration. As noted earlier, this finding may be due to the small sample size and limited generalizability; however, teachers should be made aware of the positive impact of arts integration on student achievement. This might require a modification to teacher preparation, certification, or in-service programs for both prospective and practicing teachers. These programs should emphasize the importance of arts integration on student achievement in order to increase the implementation of arts integration in the classroom. The fact that teachers who attended cultural events more frequently tended to have a more positive perception about arts integration on student achievement also suggests that teachers should be encouraged to attend more of these events. Teachers who attend cultural and arts events regularly may have an increased awareness of the natural connection between the arts and other disciplines or venues of learning.
The aim of the proposed changes in teacher preparation programs would be increased implementation of arts integration in classrooms, in order to obtain higher levels of student achievement and enhanced appreciation of the arts.

Recommendations for Future Research

The fact that some research shows that students with lower socioeconomic backgrounds derive more benefits from arts integration only makes the implementation of arts integration more desirable (Catterall et al.; Fiske, 1999; Heath & Roach, 1999; Howes & Smith, 1995). This suggests that arts integration in the classroom might help reduce the student achievement gap among students with diverse backgrounds. Further research is needed to determine the best practices for the design of professional development activities and programs that support the integration of the arts into the classroom.

The nature of the relationship that was found between attendance at cultural events and perceptions about professional development practice and arts integration in the classroom should be further investigated. Specifically, research should be conducted in order to assess why teachers who attend cultural events more frequently tend to have more positive perceptions about arts integration in the classrooms. Such an investigation would be aligned with research that shows positive effects of both practices. Future research would likely be qualitative in nature, as it would primarily deal with the reasons teachers have the perceptions they do, how they are formed, and how they manifest themselves in classroom practice.
Future research should also examine the best ways for teachers to be made aware of the benefits of implementing arts integration in the classroom. Different professional development methods would be evaluated in order to determine which will maximize the positive effect on student achievement at the lowest possible cost.

Summary

The purpose of this study was to identify changes in teacher attitudes, teaching practice, and perceptions toward student achievement as a result of professional development for teachers in implementing arts-integrated lessons (i.e., dance, music, drama, and visual arts). The CETA professional development model was used to such an impact. Results showed that subject matter taught generally did not have an impact on teachers’ perceptions, except in the case of perceptions of arts integration in their classrooms, for which Math and Science teachers had more negative views. The main teacher characteristic that was related to perceptions towards arts integration in the classroom was the frequency with which the teacher attended cultural events. This relationship is likely due to the fact that teachers with more positive perceptions about the benefits of the arts (either implemented in classrooms, or through attending cultural events) would also tend to have a more positive perception about the way arts integration can help students.
APPENDICES
APPENDIX A

LETTER TO TEACHERS
APPENDIX A

LETTER TO TEACHERS

Victoria Lee Middle School  
200 South Carlin Springs Road  
Acting County, USA, VA 22204

May 19, 2004

Dear Teachers/Participants,

I am writing to request your participation in a research study that I am conducting through the George Mason University. This dissertation research investigates the impact of arts integration professional development programs and experiences on teachers’ attitudes, subject knowledge, and classroom implementation skills. More specifically, it seeks to determine if there has been any significant evidence of overall improvement in student achievement in required academic courses that contain elements of the integrated arts.

You can be assured that no names or data, which would expose your participation in this study, will be available to anyone other than the researcher. I pledge complete confidentiality in the handling of all data.

If you would be so kind as to complete the enclosed survey and return it to me in the envelope by September 30, 2007. Your cooperation and participation is essential. If you have questions please call me on (703) 228-66805. I sincerely appreciate any consideration you might give to this request. Please accept my humble thank you in advance.

Respectfully yours,

Betty Spencer, M.Ed.  
Assistant Principal  
Victoria Lee Middle School
APPENDIX B

CONSENT FORM
APPENDIX B

CONSENT FORM

Study: An Examination of Changes in Teacher Attitudes, Teaching Practice, And Student Achievement As A Result Of Professional Development in Arts Integration
Investigator: Betty Jean Spencer-Chapman

RESEARCH PROCEDURES
This research is designed to understand the impact that arts integrated professional development and experiences have on teacher attitudes, subject knowledge, and classroom implementation. If you agree to participate, you will be asked to complete one survey that should take no longer than 30 minutes to complete. You also may be randomly selected to participate in an individual audio taped interview. The interview should not take any longer than 20 minutes.

ADMINISTRATION OF SURVEY AND INTERVIEW
Betty Spencer-Chapman will administer the survey and interview randomly selected participants under the supervision of her advisor, Dr. Joan Isenberg.

The interview will be audio taped.

RISKS
This study does not involve any risks or expenses on the part of the participants.

BENEFITS
As a research participant, you will benefit from the study because the information you provide will be utilized to help evaluate the value of an arts integrated professional development program.

CONFIDENTIALITY
The data in this study will be confidential (not shared with others). Data collected will be reported as a composite score with no individual names given. Your name will not be included on the surveys and other collected data. A code will be placed on the survey. No names, pseudonyms or initials will be used for the individual interviews. Through the use of an identification key, the researcher will be able to link your survey to your identity. Only the researcher and her advisor, Dr. Joan Isenberg, will have access to the identification key.

PARTICIPATION
Your participation is voluntary, and you may withdraw from the study at any time and for any reason. If you decide not to participate or if you withdraw from the study, there is no penalty or loss of benefits to which you are otherwise entitled. There are no costs to you or any other party.

CONTACT
Betty Spencer-Chapman is conducting this research, under the supervision of her advisor Dr. Joan Isenberg, Graduate School of Education at George Mason University. Betty Spencer-Chapman can be reached at (703) 228-6805 and Dr. Joan Isenberg can be reached at (703) 993-2037 for questions or to report a research-related problem. You may contact the George Mason University Human Subjects Review Board at 703-993-2295 if you have any questions or concerns regarding your rights as a participant in this research.

I have read this form and agree to participate in this study.

_____ I agree to be audio taped

_____ I do not agree to be audio taped

__________________________________________
Signature of Participant

__________________________________________
Date Name of Participant (Please Print)
APPENDIX C

QUESTIONNAIRE
APPENDIX C

QUESTIONNAIRE

The Arts Integration Impact Survey (AIIS)

I. General Information

Which subject area(s) do you teach? ____________________________
Which grade level(s) do you teach? ____________________________
How many years of teaching experience do you have? _______
How many years have you been teaching at your current school? ______

II. Professional Development Experiences

1. You have participated in any of the following professional development formats related to arts integration in the past three years. Please check all that apply.

   ___ summer institutes  ___ site visits to other schools
   ___ teleconferences  ___ planning time for arts integrated lessons
   ___ video/instructional packet  ___ teacher book discussion group
   ___ participatory workshops for teachers
   ___ coaching (teachers or artists modeling arts integrated lessons in your classroom and helping you learn how to teach the lesson)
   ___ peer coaching (another teacher observing you teach an integrated lesson and offering feedback- and vice versa)
   ___ team teaching (arts specialist/artists teaching with teachers of other subject areas)
   ___ sharing arts integrated curricula with other teachers
   ___ course for graduate credit (5 or more sessions)
   ___ other (please describe) ____________________________
2. Please prioritize the top five professional development formats from the list above with a number ranking 1 to 5 with one being the most preferred and five being least preferred.

In the past three years, how frequently have you attended cultural events (performances, exhibits)? (Check One)

___ not at all  
___ once a year  
___ twice a year  
___ five to six times per year  
___ once a month  
___ twice or more per month
III. Please check the box with the response that most reflects your opinion/attitude about arts integration as a result of your participation in professional development related to arts integration.

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<th></th>
<th>Strongly disagree</th>
<th>Disagree</th>
<th>Somewhat Agree</th>
<th>Agree</th>
<th>Strongly Agree</th>
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<td>The past professional development experiences I have attended have been well planned and useful.</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>b-1</td>
<td>My attitude towards professional development experiences is very positive.</td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>c-1</td>
<td>In my experience, professional development is ongoing and job-embedded.</td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>d-1</td>
<td>I am likely to seek the advice of a colleague on a teaching problem I am experiencing.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>e-1</td>
<td>I am likely to choose professional development based on students’ needs.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>f-1</td>
<td>I am likely to attend professional development based on my students’ needs.</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>g-1</td>
<td>I frequently have conversations with other teachers about students’ needs at our school.</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>h-1</td>
<td>I feel that my needs and opinions are taken into consideration when professional development experiences are designed.</td>
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<tr>
<td>i-1</td>
<td>I feel that teachers are offered leadership roles connected to professional development, curriculum, and instruction at my school.</td>
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</tbody>
</table>
IV. Integrating the Arts with Other Subject Areas
   Note: Definitions of arts integration vary greatly. For this survey, arts integration refers to the classroom teacher or arts specialist teaching his/her subject areas through one or more art forms (i.e., teaching science through dance, music and creative movement together, literature using creative drama/theater, another culture through its dance, music, and visual arts).

Please check the box with the response that most reflects your opinion.

<table>
<thead>
<tr>
<th></th>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Somewhat Agree</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>a-2 I am confident in my knowledge of the subject area(s) I teach.</td>
<td></td>
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<tr>
<td>b-2 I am confident in my knowledge of at least one art form.</td>
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<td>c-2 I am confident in my ability to create arts integrated lessons.</td>
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<tr>
<td>d-2 I am confident in my ability to teach arts integrated lessons.</td>
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<tr>
<td>e-2* I sometimes have questions about how best to integrate the arts with other subject areas.</td>
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<tr>
<td>f-2 I seek advice from an arts specialist or other teachers in my school to make previously integrated lessons more successful.</td>
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<tr>
<td>g-4 I believe integrating the arts positively affects student achievement.</td>
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</tbody>
</table>
V. Impact of Arts Integration on Classroom Implementation Skills
Please check the box that most reflects your opinion on the impact that arts integration has had on your instructional practices.

<table>
<thead>
<tr>
<th>Statement</th>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Somewhat Agree</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>A-3. My participation in professional development in arts integration has influenced my process of designing lessons.</td>
<td></td>
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<td>B-3 My participation in professional development in the arts has influenced my development of resources I use in my class.</td>
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<tr>
<td>c-3 My participation in professional development in the arts has influenced my interaction with my students in the classroom.</td>
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<tr>
<td>d-3 My participation in professional development activities related to arts integration has influenced my assessment of student performance.</td>
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<tr>
<td>e-1 My participation in professional development activities related to arts integration has influenced my attitude towards my teaching practice.</td>
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</tbody>
</table>
VI. Impact of Arts Integration on Student Achievement

Please check the box with the response that most reflects your opinion.

<table>
<thead>
<tr>
<th></th>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Somewhat Agree</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>a-4 The impact of my learning from professional development in arts integration into my curriculum has improved my students’ motivation to learn.</td>
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<tr>
<td>b-4 The impact of learning from professional development in arts integration into my curriculum has improved my students’ attendance in class.</td>
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<tr>
<td>c-4 The impact of learning from professional development in arts integration into my curriculum has improved my students’ confidence as learners.</td>
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<tr>
<td>d-4 The impact of learning from professional development in arts integration into my curriculum has improved my students’ test results on teacher-made assessments.</td>
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<tr>
<td>e-4 The impact of learning from professional development in arts integration into my curriculum has improved my students’ general academic performance.</td>
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</tbody>
</table>

VII. Which of the following art forms do you currently integrate with your curricula? (Check all that apply)

- _____ dance/creative movement
- _____ drama/theater
- _____ music
- _____ visual arts
- _____ creative writing
- _____ media arts (video production, print media, computer-generated art work, photography)

How often do you integrate art forms (indicated above) with your curricula?

- _____ almost daily
- _____ a few times a year
- _____ once or twice a week
- _____ once or twice a month
- _____ never
VIII. List other ways that you were significantly impacted by your professional development in arts integration:


Please give examples/evidence of how your professional development in arts integration has improved your students’ academic achievement:


Think for a moment about your activities and ability to integrate the arts prior to your participation in professional development related to arts integration.

How has the professional development in arts development changed your instructional practices?


What did you do differently in your instructional practices prior to participating in professional development in arts integration?


Note: By completing and returning this survey in the enclosed self-addressed stamped envelope, you are giving the researcher permission to use the data for dissertation, research, presentations, and/or publications.

THANK YOU FOR COMPLETING THIS SURVEY

129
REFERENCES
REFERENCES


135


CURRICULUM VITAE

Betty J. Spencer, an American citizen, was born on January 3, 1962, in Norfolk, Virginia. After completing her high school work in Virginia Beach Public Schools, Virginia, she received her B.A. in Psychology in 1983 and her M.A. in Early Childhood and Special Education in 1985 from Hampton University, Hampton, Virginia.

Following completion of her initial graduate work at Hampton University, she began a career in education as a special education teacher for the Norfolk Public School System in 1984. She was employed for Norfolk Public Schools for five years from 1984-1989. She accepted a teaching position with Arlington Public Schools in 1989. She served as a special education teacher for students with emotional disabilities from 1989-1992. In 1992, she was promoted to Special Education Coordinator for Arlington Public Schools. She served in this position until 1997. In 1997, she was appointed to Assistant Principal of Arlington Public Schools.