

ARTS INTEGRATION:
POTENTIAL APPLICATIONS

by

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ABSTRACT

This paper attempts to answer the question, What are the effects of arts integration on promoting creative thinking, student academic achievement, and student motivation and self-esteem. This question is significant to the educational community because the arguments in favor of arts integration contend that integration provides intellectually and emotionally stimulating educative experiences. Historically, the education theorist John Dewey emphasized aesthetic experience and holistic learning. This paper concludes that arts integration can and does often increase creative thinking and student motivation, but in regards to academic achievement more research is necessary to find a causal relationship instead of merely a correlational connection.

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CHAPTER 1: INTRODUCTION

Introduction

Exploring the merit of using the arts as yet another means to reach more children in a classroom is important for any teacher who values an experiential learning environment for students. It is the belief of the author of this paper that the arts can prove to be a powerful tool which teachers can use in the classroom to provide an educative experience to spark the desire of learning for many students. The intent of the following Master's paper will examine the effects of integrating the arts within other academic areas, in regards to student academic achievement and student motivation. It is the purpose of this paper to critically examine research that has been conducted on the subject to deduce if integration of the arts in other subject areas is firstly beneficial to students' academic achievement, and secondly, if incorporation of the arts has any substantial positive motivational value for students. Through critical research on the subject, this paper will determine if there is an affirmative correlation between higher academic success and inclusion of the arts into one or more subject areas. This paper will also investigate if assimilating the arts into other content areas will provide positive influences on student motivation to learn.

Teachers may ponder this research question because they want to know if using different forms of art to present or learn subject matter will help in student retention of information and will reach more students; will arts integration therefore increase understanding of subject matter, reach various types of learners within the classroom, and potentially raise student motivation as well as

test scores. Teachers might incorporate the arts within other content areas in their classroom as a means to increase student interest in other subject matter, using this as a possible avenue to increase academic achievement. Teachers who are looking to introduce different subject matter would use the arts as a tool to present information in more than one way, thereby presenting information in a manner that children may accept more readily, rather than merely presenting facts. Teachers should consider integrating the arts into their daily curricula because art fosters creative problem solving, which is considered an important skill found throughout the Washington State learning standards. Incorporation of the arts as a teaching tool would also provide a learning experience that all the students in a classroom can relate to and recall when learning a concept.

By learning to use various teaching methods, such as incorporating the arts as a manner of presenting subject matter, a teacher is exploring the various options available to be an effective teacher. Since children all learn in a different manner and no single teaching method will ever reach every child in a classroom, an efficient teacher will constantly seek many possible teaching methods, thus providing the highest quality of education possible. When a teacher employs numerous methods of teaching and continually searches for innovative ways to convey knowledge to the students, there is a greater potential of meeting each of these individual learning needs. The various forms of art could offer many different opportunities to effectively meet student learning needs, and using the arts in conjunction with other content areas could be used as a way to foster students' motivation to learn. For example, in a study

conducted by Grant, Hutchison & Hornsby in 2008, researchers found that story was generative of language and that through play and story, under-achieving students became more socially confident and articulate.

Any means of teaching that provides an experience which propels the desire to learn is going to be beneficial to students. Discovering the answer to this research question will enable a teacher to decide if incorporating the arts as a means to teach other content areas is beneficial to student learning, especially if the integration of the arts proves to be a successful method to raise test scores and motivation.

Rationale

The answer to the question for this paper is significant to the educational community because many arguments in favor of arts integration have the contention that integration provides intellectually and emotionally stimulating educative experiences. It is also thought that integration of the arts teaches students to think more holistically, thus providing the students with a more well-rounded education. Supporters of the idea often state the benefits to promoting creativity and incorporating the culturally-mediated processes of making meaning. This has become especially common since the acknowledgement of the cognitive theories from social constructivists, and Gardner's *Multiple Intelligences Theory*. Many believe there is a connection between the arts and mental development. Some believe there is a cognitive path that links participating in the production of the arts to literacy processes, such as reading and writing. Specifically, this hypothesis is derived from Lev Vygotsky's work

regarding how people develop symbolic representations. In this work, “Vygotsky described a process of increasing abstract representation, distancing the object from the symbol, and leading to higher order thinking (Trainin, 2006, p.140). For example, if students use visual art as a part of the writing process, they are utilizing non-verbal resources as a means of expression. One can see how this would be useful for younger (as well as older students) who do not have as firm a grasp on expressing themselves in written form as a way of communicating their thinking more elaborately. In addition, those in favor of arts integration argue that the arts are a means of fostering ideals and promoting morality. It is essential that the educational community discover not only if these claims are true, but also if these claims can be supported with data and reliable practices, thus disproving the argument that they are merely claims made by supporters of the arts.

A study by Darrow, Cassidy & Flowers in 2009, after analyzing pre- and posttest data revealed that students with a specific disability in reading improved significantly on all subtests of the Gates-MacGinitie Reading Test for second grade when teachers integrated music as part of a reading curriculum. In a different study conducted by Dunn & Finley in 2010, storytelling and visual arts were used as a means to teach writing. The findings concluded that using arts-based pre-writing activities gave the students practical applications and strategies they could use in their writing efforts which made their writing more cohesive and in many cases more elaborate. In short, the importance of this research question lies in assessing whether integration of the arts within other

content areas will enhance learning in a classroom and help to develop the full potential of each student.

The strongest controversy facing supporters of integration of the arts in other content areas is the lack of strong empirical research. Supporters hold the position that arts improve student achievement; however, these claims are often unsubstantiated due to lack of empirical evidence and lack of causal relationships. Another common argument against integration is that incorporating it would add to an already overloaded curriculum. In an education system that is seemingly focused on providing test scores as a measurement for learning, it is a challenge to ask teachers to use a subject such as the arts, which is not a focus of standardized tests, as a means to educate students. Many teachers also argue they do not have enough experience in the arts to feel comfortable using it as a means to provide experiences in other subject areas. Correcting this would require training which would consume even more of a teacher's already overcrowded schedule.

Studies attest to a definite interest in integration of the arts by members in the academic community. All of the articles considered were peer-assessed and endorsed the inclusion of arts as a valuable tool. Research showed that arts are most commonly used in conjunction with teaching concepts in English, math and social studies. Examples of this can be found in a study conducted by Trainin, Andrzejczak, & Poldberg (2006), who posed two questions: is there a link between art integration and academic achievement and is there a positive effect of visual arts on literacy, writing and reading? These researchers implemented

an art integration curriculum in individual classrooms where all students were presented with a visual prompt in the form of a piece of art and asked to write in response. The researchers concluded that students who engage in art-making produce larger and higher-quality written products. Using visual arts in the writing process adds motivation, attention to detail and memory placeholders, which in turn lead to more practice and elaboration. The impact varied by grade (as the researchers expected), with higher grades scoring higher. In addition to traditional integration, there were also studies consulted that infused the arts with untraditional subjects, such as Branagan (2005), who believed that the arts can be a means to both enliven environmental education through a variety of creative media, and engage large sections of the populace. The conclusion of this researcher was that the arts have many qualities that enhance information transfer and instrumental learning in addition to educating people holistically. Branagan (2005) also believed that the arts assist communicative learning, thus promoting networking and creative group processes, while reaching a large audience due to the wide variety of avenues for self expression. The high volume of professional literature on this topic definitely shows an ardent interest in the subject of arts integration as a means to teach other subjects. This idea is of course not novel since integration of the arts has been in place since the early 20th century.

Historical Background

In Western civilization, the idea of integrating the arts into other academic subjects can be traced back to the early twentieth century, and included within

the ideals of progressive education. In the early 1900's integrated curriculum was advertised as a means to prepare children for adult life. The education theorist John Dewey emphasized aesthetic experience and holistic learning. He encouraged educators to explore interrelations of the arts and other subjects in education. He believed that providing positive, quality experiences to students should be a part of teaching. By providing an experiential learning environment for students, teachers are creating more avenues of learning for students to access the knowledge being presented to them. Burnaford (2007), in regard to the historical context of arts integrations, stated that "the idea of arts integration is related to structural, conceptual, and philosophical notions that are connected to curricular movements in schools" (p.1). William Heard Kilpatrick, a colleague of John Dewey, outlined the project method (a precursor to later integration approaches) in 1918, proposing to use the interests of children as the units or themes of study. Effective teachers understand that by providing learning experiences in the classroom that relate to the students' own lives, they are creating a necessary connection between the student's personal and academic lives. This connection can increase student motivation as can be seen in the study conducted by Obiozor (2010) in which the teacher integrated popular music into the curriculum and used it as a means of introducing topics in different subjects; for example addition of an artist earnings per annum, number of hits on Billboard Charts etc. In this research the teacher found that after incorporating something that is relevant to the students, motivation to succeed in the classroom as well as academic achievement increased. From the use of the

interests of students integrated into their studies, it is clear to see the influence Dewey had upon Kilpatrick, because this project method was a way to make learning more relevant and meaningful for students. Dewey responded to Kilpatrick in 1931 by saying that subjects should be reorganized so that children are taught to see the relationships between subjects, thus increasing their intelligence and understanding while preparing them for adulthood. Six years later, the National Council of Teachers of English (NCTE) issued *A Correlated Curriculum*, a significant report that described a democratic method of teaching that combined subject-specific learning with integrated options for learning. However, the report had only a minimum impact at the time it was published. In the mid-twentieth century, problem-based instruction and inquiry learning developed, based upon the notions expressed in *A Correlated Curriculum* (Burnaford, 2007). These teaching methods encourage students to answer questions through investigation and take an interdisciplinary approach to learning that is relevant to the real world and not confined to the classroom. By including connections to the real world, students can develop skills in the classroom that are transferable to their own lives outside of school, such as creative thinking and systems thinking. A study conducted by Costantino, Kellam, Cramond, and Crowder (2010) studied the effects of arts integration into an environmental engineering program, only to discover that the students became more creative problem-solvers and system thinkers (as described by their professors), while the students themselves felt a deeper engagement with the academics because of the inclusion of the arts. Inclusion of the arts as a means of teaching traditional

subjects is a solid way to provide experiences for students in the classroom. Integration of the arts acquired more recognition during the 1960's and 1970's, a period in which arts and art as a way of experience gained a more respectable standing. As a result, more emphasis was placed on the student's experiences and explorations, and pedagogies were formed around the idea of amalgamating arts into other subject matter. During the 1980's and 1990's Gardner's Multiple Intelligences theory created a foundation for researched-based evidence that human knowledge is multi-faceted, thus bringing the discussion of arts integration into the field of developmental psychology.

Definitions

The focus of this paper is to examine the link between integrating the arts as a means to deepen other subjects and the effect this has on academic achievement and motivation to learn.

It is necessary to define what is meant by the term *arts integration*. This description is used to define the practice of teaching one or more subjects through the arts in a way that is mutually beneficial for both subjects being used. Effective integration of the arts requires a solid connection between two (or possibly more) traditional disciplines. For example, in the article *From the Stage to the Classroom: The Performing Arts and Social Studies*, Taylor (2008) describes a situation in which teachers use a theatre production that presents the concept of slavery to start an on-going discussion in social studies involving the Civil War and the struggle for voting rights by African Americans.

For the purpose of this paper, *academic achievement* will be defined as measurable results of student accomplishment or the proficiency students have achieved in an academic area. The word *motivation* is classified as an emotion or psychological need that provokes a person to do something. Motivation is the force that accounts for the arousal, direction and continuation of behavior. A simplistic example is if a student chooses goals and expends effort to achieve those goals.

Limitations

This paper will be limited to studies conducted in the United States, Europe, Malaysia, Australia and Canada. The subjects referenced in these studies included male and female students as well as teachers. Due to the broad range of locations referenced, student ethnicities include: Turkish, Arabic, African American, Hispanic, Pacific Islander, and Caucasian. These students were enrolled in rural, urban, and suburban schools. Of the thirty studies referenced, sixteen studies focused on elementary, kindergarten through fifth-grade students. Seven studies included subjects in secondary level, sixth grade through twelfth grade. One study used subjects in an undergraduate program. Another single study included subjects at the pre-school level. Four studies had teachers of primary and secondary students as the subjects and one study addressed decodable books used in the primary grades as the subject of the study. The majority of the studies' subjects were students in the general education classroom; however, the Schunk (1999) study used English Language Learners as the subject, Kabilan, M.K. and Kamaruddin, F. (2010) incorporated subjects

from advanced level courses, and Dunn, M. and Finley, S. (2010) used elementary students enrolled in a summer program as the subjects. Lastly, the term, the arts will be limited to music, visual art, dance and drama/theatre.

Statement of Purpose

The purpose of this study is to explore the value of employing the arts as a means to engage more children in a classroom. The integration of the arts provides an access point for students to connect with academic subjects at a deeper level by providing an experiential learning environment. A classroom is made up of a heterogeneous collection of students, each with a unique set of experiences and viewpoints. Many of these students require a different approach to learn the same concepts as their peers. Arts integration could provide bridges across the gaps faced by different types of learners within a classroom. The objective of this paper is to investigate the effects of integrating the arts within other academic areas; this paper will focus specifically on the effects of arts integration on student academic achievement and student motivation. This paper will examine published research conducted on arts integration to discover if the integration of the arts in other subject areas is beneficial to students' academic achievement, and if there is any significant motivational value for students. By reviewing the literature, this paper will conclude whether there is a positive correlation between higher academic success and inclusion of the arts as well as whether combining the arts into other content areas provides positive influences on student motivation to learn. It is important to know if the integration of the arts positively affects students because teachers could use the arts as a

tool to present information in more than one way to the various learners found within a classroom. This paper is written to evaluate the current research available to show if using the various forms of the arts to present information will help in engaging more students in their education.

Summary

This inquiry is intended for all those interested in integrating any form of the arts as a means to help instruct students in other content areas. Chapter one gave an overview of how this question pertains to the educational community, the arguments in favor of and against arts integration, and the historical significance of the issue. A key idea to remember when considering claims from supporters is that making statements which say that integrating the arts improve test scores, without substantial empirical evidence supporting those statements, could damage the concept itself even if strong evidence does become available at a later time. Thus, the objective of this paper is to verify if there is any solid evidence supporting arts integration as a means to improve test scores and increase motivation. This inquiry is intended for educators who are interested in providing an experience-rich education to their students. The second chapter will review the professional literature, including major schools of thought regarding the question posed in this paper, and the extent of research and depth of analysis conducted within those studies; chapter two will also present an analysis of the current state of knowledge on arts integration and the effects on academic achievement and motivation. The discussion will conclude in chapter three with a

summary of the findings, how these findings pertain to the classroom, and areas of further research.

CHAPTER TWO: CRITICAL REVIEW OF THE LITERATURE

Introduction

Chapter one discussed the idea of integrating arts into the curriculum. There are many underlying reasons for this type of infused curricula, such as creating an experiential learning for students. Chapter one examined the importance of integrating the arts for educators as a means of reaching various types of learners within the classroom, and potentially raising student motivation as well as test scores. It also emphasized the importance of integrating the arts into teachers' daily curricula due to the fact that many researchers have inferred that the arts foster creative problem-solving, which is considered an important skill found throughout the Washington State learning standards. The various forms of art, such as dance, theatre, music and visual art, could offer many different opportunities to effectively meet student learning needs. Chapter one also introduced the idea that integration of the arts teaches students to think more holistically, thus providing the students with a more well-rounded education. Supporters of the idea often state the benefits to be promoting creativity and incorporating the culturally-mediated processes of making meaning. Chapter one addressed the controversies surrounding the notion of arts integration. The strongest controversy facing supporters of integration of the arts in other content areas is the lack of strong empirical research and lack of causal relation between arts integration and academic achievement.

Chapter two will review the research surrounding these beliefs and controversy in arts integration and its effects on academic achievement and

motivation. The research used in this chapter is organized into three sections: advantages and effects of using arts integration in other subject areas, arts integration and the effects on academic achievement, and arts integration and the effects on motivation and self-esteem. Each of the following studies is summarized and analyzed, stated in the conclusions provided by each study. The following research is reviewed to examine the effects on student academic achievement and student motivation when teachers integrate the arts within other academic areas.

Advantages and Effects of Using Arts Integration in Other Subject Areas

The initial eleven studies of this section analyzed the advantages and effects of using art-infused curricula, such as providing more avenues to access knowledge, creating strong systems thinkers within a classroom, enhancing information transfer and educating students holistically. Andrzejczak, Trainin and Poldberg (2005) examined the benefits of integrating visual art creation into the writing process and found that by doing this, students used more time for thought elaboration, generated stronger descriptions, and developed a more concrete vocabulary. The analysis by Andrzejczak et. al. (2005) is followed by Dunn and Finley (2010), who examined elementary-aged students' struggles with the writing process by exploring storytelling when connected to visual arts and keyboarding, as a method to promote narrative story writing. In another qualitative study involving visual art, Smagorinsky (1997) studied the use of art as a way for students to represent their understanding relationships among a story's central characters. While Smagorinsky found that art allowed for

collaboration and deeper reflection of a topic, eight years later, Branagan (2005) conducted a study of the arts as a means to enliven environmental education through a variety of the arts. In another environmentally related article, Costantino, et al. (2010) investigated how the cognitive capacity of artistic, creative thinking improved the development of creative problem finding and solving in environmental engineering, and concluded that it led to more creative problem-solving skills. In addition to supporting creative problem-solving, DeMoss and Morris (2002) investigated the question to find if individual students value and gain from their arts-integrated learning differently from how they value and gain from their non-arts-integrated learning.

Taylor (2008) created a study to see if the deliberate integration of the arts and social studies enhanced teaching in both of the mentioned fields. Another study in which researchers found that arts integration promoted creative thinking was Kabilan and Kamaruddin's (2010) research, which looked at the effects on 20 advanced-level learners in Malaysia and determined they had an increase in comprehension, interest and motivation in learning literature as a result of using reader's theatre. Four years earlier, through the design and creation of rubrics to integrate the arts into the curriculum, Mason (2006) interviewed and conducted conferences with seven teachers who created and used rubrics to measure the effect of arts instruction and integration. It was found that the creation of the rubrics allowed the teachers to better evaluate what their students were truly learning through the use of the arts. In Gromko and Poorman's (1998) research, the effect of music training on preschoolers' spatial-temporal task performance

through tests and observations was studied. Similarly, in Oreck's study (2006), research was conducted on how teachers can overcome the constraints such as test scores and accountability, while using the arts within the curriculum.

As mentioned previously, in the first study examined for this research paper, Andrzejczak, Trainin and Poldberg (2005) explored the possible benefits of integrating visual art creation into the writing process. The researchers wanted to know if students who use visual art as a pre-writing stimulus have an easier time composing their ideas both in images and in words, and if the art creation process allows students the capability to elaborate, add details, and create more coherent text within their writing. In this qualitative design, the researchers created case studies around two students who had previously engaged in the Picturing-Writing sequence, so that there was familiarity with the process. One of the students was a seven-year-old male and the other participant was an eight-year-old female.

These students attended an elementary school for the arts in southern California. It is located in a rural area, but it is quickly becoming a suburb of the greater Los Angeles area. The study itself was part of a multi-year research project. The target school was chosen for numerous reasons: the administration was supportive, the faculty was interested in the study, and the school had a diverse student population comprising 38% Hispanic students, 55% Caucasian students, and 7% students of other races, with 68% of students qualifying for free/reduced lunch.

The creation of these case studies consisted of the instruction of the two students, student, parent, and teacher interviews, field observations, and artifact analysis. A significant part of this case study was the interviews, consisting of two, forty-five minute interviews for each student. Beyond the initial project discussion, the teachers were interviewed once, for one hour each. Parent interviews were less than thirty minutes. The interview relied on student portfolios referring directly to students' paintings, graphic organizers and texts. During student interviews, the questions were kept open-ended and general because they were designed to probe into the child's creative process without creating a bias. Parents and teachers were interviewed to discover more about how the students learn and their typical behavioral patterns. The parents and teachers were asked both general and specific questions inquiring about vocabulary, attitudes towards school, at-home activities such as creative art and writing, and interactions with natural experiences within their environment.

Finally, during classroom observations, the observer took notes and recorded student interactions. The observers sat with the target students as they worked, asking questions about their work in real time. All interviews and observations were transcribed and analyzed with field-notes taken during classroom observations. Digital photographs of student artwork, copies of the products from the Picturing-Writing program, responses to the district writing prompt, and excerpts from the students' daily journals were all included in the analysis and collected into the case study.

Andrzejczak, Trainin and Poldberg (2005) felt certain that visual art creation enhanced the writing process. They found that since students used more time for thought elaboration, they increased their vocabulary and were able to generate stronger descriptions in their writing assignments. The advantages of using production of art and artwork in the pre-writing process provided a motivational entry point, and assisted students to develop and elaborate on a scene or a narrative. This study shows that the “benefits of a rich visual art experience can enhance thought and writing in response to the finished artwork” (p. 7).

While the researchers did provide adequate information which would allow another outside source to transfer this research into another situation, the fact that there were only two subjects makes the inclusion of the future research section of this research article important. The researchers described two suggestions: one for a wider age range of subjects, and a second suggestion to focus on the benefits of such a study for Special Education and English Language Learners. The credibility and dependability of this study was enhanced by the inclusion of clearly described data analysis and coding categories for such data. In addition, the findings of this research were checked before publishing by outside, academic personnel, undisclosed within the study. The dependability of this research appears reasonable however, simply due to the fact that the findings are consistent with other, similar studies reviewed here.

A qualitative study conducted by Dunn and Finley (2010), examined how elementary-age students employed the use of writing assistance software as well

as art, in planning and composing their own narrative text after reviewing a published story example. This study collected information through verbal questionnaires between the researchers and the children as well as information gained from interviews with the cooperating teachers and parents. The researchers compiled information gained from the interviews and questionnaires and examples of student art and writing into a portfolio for analysis in this study.

The students involved in this study were enrolled in a summer literacy program and came from low socio-economic status backgrounds. There were 43 students involved in the research; however, the researchers chose to focus on three students (2 male students and 1 female student). The female student was about to enter second grade, while the two male students were going to enter into third and fourth grade respectively. These students were chosen because each of them had researcher-declared sufficient interview data, a completed story plan, an art product, and a story text. Each of the three students was involved in a writing workshop titled *Thirsty Thinkers*. Dunn and Finley's (2010) workshop allowed students to learn a "narrative story-writing strategy which incorporated using art in the pre-writing stage of creating their own story" (p.35). In these workshops students listened to a teacher or one of the researchers read a story aloud and then discussed story elements such as characters and events. Then the strategy titled Ask, Reflect, Text was taught to the students, which involved seven different questions students could ask themselves to help them think about what could be included in a story. Students then reflected upon these questions and which ones helped them by illustrating their responses to the

questions and their story ideas through art. The researchers provided many different types of art materials for the students to use in this process, such as clay, markers, paints, crayons, etc. Using this art as part of the pre-writing phase, students then generated their stories using both pencils and paper or were offered the use of a laptop to type their stories, using their art work as their visual outline.

The research for this project was considered action research because the researchers and teachers involved in the process observed as well as planned and enacted strategies for improving narrative writing. The researchers and teachers compiled a cumulative file (case study) on each student by collecting work the student had produced and documenting interviews. After analyzing these case files, researchers concluded that using arts-based pre-writing activities gave the students practical applications and strategies they could use in their writing efforts that made their writing more cohesive and in many cases more elaborate. When they incorporated the arts into the pre-writing process, students later exhibited more engagement in the task of writing itself. For all three students involved in the case study, the creation of art helped the students create more ideas for their stories.

The credibility of the study is strengthened by the fact that the researchers used triangulation by having external auditors for the analysis of the case studies. However, the descriptions of data analysis procedures and how coding categories were derived are vague, which makes the transferability of this study more challenging. Despite this flaw, the research conducted by Dunn and Finley

(2010) does provide examples of advantages of incorporating the arts into the writing process as a means of initiating pre-writing.

In a similar qualitative study involving the use of visual art, Smagorinsky (1997) studied the effect of using art as a medium for students in rendering their conceptions of the relationships among the central characters in a story with the overall goal of helping students make sense of a short story. Smagorinsky believes that creating art allows students a medium to reflect on the “objectification of their own experiences and consequently better understand them” (p. 88). The location of the research is important to note because the study was conducted in a drug and alcohol rehabilitation center. The students in the study were placed in the drug and alcohol rehabilitation center, for recovery and therapy. Within the center, the students were also enrolled in classes that provided public school course credits. The center itself was located in a rural community, and the students had to relocate to the center, where they were introduced to this research.

The subjects of this study included 30 to 35 students under the supervision of two teachers. The enrollment of the program fluctuated due to the fact that some students completed their therapy and moved out of the facility. From these students, ten were selected for case studies. Three of the students were female and seven were male. The facility itself only housed three minority students, and two of the case studies were created around minority students. Some of the students chose to work in small groups, while others chose to work alone. Entry was gained to the subjects by having the research explained to the

students prior to data collection; all the students involved in these case studies signed a consent document that indicated they understood the reasons behind the research.

For this qualitative research, the case studies were created by the researcher by videotaping the students as they read a short story and developed representations of the story. The students were also interviewed, which was audio recorded for later consultation. During the 90-minute interviews, the video of the student reading was played back to the student to stimulate recall. During the reading, students were given an hour to read a short story, decide if they wanted to work in a small group or by themselves, and then use art of some sort to express their reaction to the text. The task presented to the students was open-ended, and required them to create some type of product that represented their understanding of the literary text. The experiment room was filled with resources such as pens, paper, tinker toys, tape players, guitars and many other media. A teacher also moved through the room to serve as a resource.

The conclusions of the study were that the students revealed that their initial attribution of meaning to the story came through their empathetic responses to the characters. In the cases of collaboration, students reported that their artistic productions enabled them to get distance from their immediate behavior and allowed the students to reflect on the object used to represent the literary text. The case studies also suggested that the process of representation itself involves important developmental changes due to the mediation of thinking and action provided by the individual's use of tools and signs.

As in the last study, Smagorinsky (1997) does not provide detailed explanation of the data analysis procedures. However, all the interviews of the subjects from the case studies are clearly dictated and presented in the research article, which lends strength to the transferability of the study. The researcher also included member checking by an outside party before the article was published. As in the previous article, which showed visual art as a means of assisting in the narrative writing process, this research by Smagorinsky demonstrates how art can assist students in understanding the relationships between characters within a story, which will help students develop more meaning and comprehension from the story.

A qualitative study conducted by Branagan in 2005 created a case study based upon in-depth observations of a conference of the Ecological Society of Australia. The researcher created this case study based upon the notion that the arts can be used as a means to both enliven environmental education through a variety of creative media, and to engage large sections of the populace at once. The “arts” within this study refers to all artistic activity. Some of the forms stated in the article included street-theatre and film making. One major strength of the research was that the author stated his theoretical position, which was that he acted from an environmental education activist’s point of view. The author stated that he gained access to the participants in the study by attending the same conference. While Branagan incorporated his observations of the participants, he also included autobiographical observations as well as the surveys that had been conducted on the attendants of the conference.

Demographics on the attendees of the conference of Ecological Society of Australia were not described by the researcher. The author merely stated that there were 500 attendees at the conference. Branagan surveyed 239 of the 500 attendees and concluded that the arts program received excellent reviews and that “around half said that the Arts Program encouraged them to reflect on alternative ways to communicate science, helped to provide a conducive environment to receive information, helped people to understand complex scientific information, and assisted in conference processes” (p.36). In another survey of 100 audience members present at an artistic representation meant to enhance ecological awareness, roughly two thirds of those surveyed said that, because of the art, they felt as though they were more aware of what was being done to the environment and wanted to be more active in preservation.

Branagan (2005) concluded that the arts have many qualities that enhance information transfer and can be instrumental in educating people holistically. Additionally, the arts assist communicative learning, promoting networking and creative group processes, while reaching a large audience because of the wide variety of avenues for self expression. It is the expressed opinion of Branagan (2005) that environmentalism often has a confronting, and heavy message, and that art is one form of lightening these often dark messages while still portraying a message.

The dependability of this research is weak, due to the fact that it is based heavily upon observational and autobiographical perspectives. The transferability is also problematic because of the researcher’s autobiographical inclusion and

the surveys only being conducted at an environmental education conference. However, the research does offer a unique use of the arts for teachers to consider: that of activism in the arts as a form of promoting environmental education. Branagan's (2005) idea that "the arts greatly benefit environmental education, through their ability to communicate complex information in simple but powerful ways" is an example of the possibilities the arts can hold for education (p.37).

In another qualitative study involving the arts and environmentalism, Costantino, Kellam, Cramond and Crowder (2010) looked at how art and environmental engineering students could work together to increase student creativity. The researchers wanted to know if the cognitive capacity of artistic, creative thinking would improve development of creative problem finding and solving in environmental engineering. They felt this was important because it is a skill which is increasingly called upon to devise mechanisms for complex human and environmental systems. The study examined how creative thinking and problem-solving skills could be used in addressing environmental engineering problems.

To conduct this qualitative research, Costantino et al. (2010) created focus groups, evaluated student presentations and performed surveys. For this study, nine environmental engineering students and 11 art students attended interdisciplinary courses focused on design for the duration of two semesters from a four-year course sequence. For these two semesters, students specifically focused on two- and three-dimensional foundations of art, art history, and

aesthetics, and on creative thinking strategies for representing issues such as food sustainability through visual metaphor. Art lessons, critique sessions and creative thinking strategies were integrated into the undergraduate environmental engineering program. The first half of the semester focused on problem framing, and for the remaining time engineering students developed their design plans. The art education graduate students in the art and cognition course, working with the engineering undergraduates, taught six one-hour art lessons to the engineering students in a repeating three-part sequence focused on (1) observation in diverse contexts, (2) multiple perspectives and the use of metaphor, and (3) synthesis. Engineering and art students also created art in collaboration using diverse media such as ceramics, collage, found objects, watercolor, pencil, and pastels, and experienced a reflective studio critique process at the end of each lesson.

What Costantino et. al. (2010) found from the study was that art and engineering students became more creative, systems thinkers who appeared (to the professor and researchers) to be more prepared to deal with the complex issues they will be facing in their future careers. From the surveys, students acknowledged feeling lost and overwhelmed at first, but several students asserted that they were now not as afraid to be lost and more confident that they could become immersed in the engagement and exploration processes as an essential stage in solving problems creatively. Regarding the role art lessons played in the overall process, the engineering students realized the power of images to convey a concept. The collaborative nature of the art lessons was

considered important for developing a productive working environment and for team-building. Other students discussed the emphasis on multiple perspectives in the art lessons. Finally, the engineering students stressed the importance of aesthetics.

This research had two major flaws in that the authors did not state how the subjects used in this study were chosen, and the low chance of having another occasion when engineering and art students would be working together detracts from the transferability of this research. However, Costantino's (2010) research had many strengths because the researchers included their theoretical positioning, and they also used external auditors and triangulation for the data they collected. Overall, this research demonstrated that the incorporation of art can serve the sciences because the artistic process and the scientific process both benefit and need creative thinking and problem-solving skills. The following research also supports the idea that the arts promote analytical thinking skills in students.

Researchers DeMoss and Morris (2002) examined what individual students might value and gain from arts-integrated learning differently from how they value and gain from their more traditional learning that is without integration of arts content. They also looked at how students would describe the differences that arts-integrated education made in their learning. To examine the theory that arts integration supported student learning, the researchers selected ten teachers from eight different schools in the Chicago public school district. The teachers then selected three students who represented a range of comfort with

the traditional academic approaches used in their classrooms (from those who excelled easily in traditional basic academic tasks to those who found such tasks very challenging, as suggested by standardized achievement test scores). These 30 students represented a range and variety of academic strengths within diverse classrooms across the city of Chicago, providing a wide sampling of students, as defined by the researchers. The study explained that one of the schools used was a magnet school that required an entrance test and held a student body comprising a mix of four ethnic groups, of which half came from middle/upper class families. One of the other schools was described as a neighborhood school where 100% of the students were African American and 96% came from low income families. The other six schools were described as falling between these two ends of the spectrum. Overall, the student population of the sample schools comprised of 34% African American, 28% Anglo, 11% Asian, and 25% Hispanic students.

DeMoss and Morris created a correlational study that collected data in three different ways from each of the above-mentioned classes. The first method of data collection was gathered by interviewing students and asking the students questions about their preferred learning styles and overall feelings about school. This was done before the treatment and then again after the treatment, for a total of 90 interviews. The second method was written responses by students when they reflected on the topics they were studying. These writing samples were again collected before the treatment and after the treatment, for a total of 120 writing samples. The writing was in response to the topics the students were

studying (arts-integrated and non-integrated units). The third method was 30 classroom observations conducted by the researchers to examine the different units. The treatment the students participated in was an arts integrated unit followed by a non-integrated unit.

The concluding data showed little evidence of any increase in the amount of content knowledge that students gained from their arts-integrated unit. However, the student's knowledge from the arts-integrated units differed in the type of knowledge gained from their non-arts knowledge. The arts-integrated knowledge was more analytical and oriented more towards conceptual understanding than factual recollection. In addition, the affective connections with the content the students studied were generally deeper and more positive and personal in their arts units than in the non-integrated units. From the interviews, DeMoss and Morris (2002) concluded that students described the arts-integrated studies as being "much more fun" and commented that the subject matter "would have been boring if there hadn't been any art stuff" (p. 15).

One aspect of this research that weakens its equality with other studies is the fact that the selected teachers were allowed to choose which students were used in the study. In addition, the findings and conclusions of the researchers were vague, the researchers only used percentages to show differences between data, and not all conclusions were rated in the same manner. Despite these flaws, the data was audited by another person, and the researchers made clear definitions of all the terms they used throughout the study. The research article itself stated the limitations of the study and included a section of researcher-

suggested further research. While this study does not prove a positive correlation between arts integration and learning, it does show that the arts can be seen as a way to promote more analytical thinking skills and provide more personal connections between students and their learning, and, as mentioned by the students, it made learning more fun and less boring.

The following study provides an example that moves the integration of the arts within the subject area of environmental studies to the academic area of social studies. This qualitative research project conducted by Taylor (2008) examined integration of the arts with social studies to see if there was a positive effect on student comprehension in the subject of social studies. The main method used to gather data supporting this study was surveys. These surveys were sent out to 43 full time public school teachers, and an undisclosed number of students of those 43 teachers. The teachers were a part of a partnership between the University of Michigan and social studies teachers from secondary schools in the nearby area. The teachers had been working closely with the university's musical society and were asking for instructional materials to help them create integration between social studies and art.

The majority of the teachers that were surveyed in this study were art and or music teachers, although 40% also held social studies or English endorsements. Other methods of data collection were interviews that the researchers conducted with the students who were in a classroom run by a teacher who was working with the University of Michigan's Musical Society. The teachers who participated with the Society were involved in workshops which

were intended to enhance the teachers' comprehension and aptitude at integrating the arts with a social studies and/or English class. These workshops emphasized understanding the culture and history behind the arts that they integrated. The result of these workshops was the development of numerous lesson plans that combined a theatrical performance and a unit of study surrounding the background of the performance. For example, the students would be taken to see a play or watch a movie that centered around the treatment of slaves, and then they would be taught a unit on the civil rights movement and would connect what they learned back to what the play had represented.

From conducting the interviews and surveys of students and teachers, Taylor (2008) found that the teachers' participation in the study's workshops enhanced their understanding not only of music and art, but also of the history and culture that can be found within the different forms of art. These workshops also raised teachers' awareness of multiple historical perspectives. It was the opinion of the teachers and the students that the interdisciplinary work done by both educators and students could broaden a student's knowledge of history and diverse cultures. From the surveys it was concluded that many teachers thought that inclusion of the arts in social studies instruction may have pedagogical benefits.

This narrative study lacked any clear details regarding the ethnic or gender orientation of the students interviewed in this study and the teachers included in the study. Due to this fact, it is impossible to ascertain the

dependability or the transferability of this study. Although the credibility could be ascertained due to the fact that there was member-checking done, the checking was performed by other members in the Michigan University's Musical Society. Despite these facts, the research article does provide several examples of lesson plans that were created from teachers that attended the workshops. Also, the article included a section that stated what further research should be conducted in the area. Although more information and study needs to be conducted, overall, Taylor's (2008) research showed that interdisciplinary work at the very least holds strong educational promise.

The researchers Kabilan and Lamaruddin (2010) wanted to quantify what effects using a reader's theatre would have on students' interest and motivation in learning literature. The information regarding these effects would be based upon student's own perceptions. The reader's theatre was coupled with the academic learning of literature in the middle and junior high school grades, where the researchers randomly selected 20 different students from two advanced-level classes in a residential school in Malaysia. The genders of the students were evenly divided: 10 female students and 10 male students. The students chosen were considered average to good English language learners based upon a semester final exam in which the students received scores ranging from 70-80%.

To acquire the data used in this study, researchers conducted a five-level Likert scale questionnaire with a reliability of 0.8095. The questionnaire was designed to find out the learner's perceived comprehension level of the literature text that they had read, as well as to find out their interest and motivation to learn

about literature itself. The researchers also collected data through interviews with the students. These interviews were conducted twice: once before the students' experience with reader's theatre and another interview after they had experienced reader's theatre. Not all the students were interviewed, however. Only six of the 20 students were chosen for both interviews and the researchers did not state their reasoning behind which students were chosen for the interviews. The students chosen to participate in the interviews were again equally divided by gender; three female students and three male students. The researchers also included teacher observations as part of the data collection. This data was collected over a period of one school year, from September until June. The entire group of 20 students were given the same pre and post tests.

The findings of the questionnaire done by Kabilan and Lamaruddin (2010) did not demonstrate a significant difference between the learners' motivation level before experiencing reader's theatre and after experiencing reader's theatre. From the six interviews, the researchers concluded that students claim that the experience helped them think more about creativity and created a desire to want to be different than their classmates in their presentations of ideas. During the teacher/classroom observations, according to the researchers, students exhibited positive interactions with other students, and the teachers stated that they saw more interest and motivation in the learners. Overall, the researchers concluded that the data revealed that learners in this study perceived that they benefitted from the reader's theatre as a creative classroom approach to learning literature. The author of this paper concurs that if the

students perceive they benefit from this inclusion, it is a motivational tool that would be well worth the effort.

Kabilan and Lamaruddin (2010) stated that due to the small sample size there was not any generalization of findings. The history of the study was also not stated, which appears to be a weakness due to the fact that the study lasted for nine months. In addition, regression of the students was not stated in the study despite the fact that the exact same pre- and posttests were given to the students. Despite these flaws, the researchers did provide a review of the literature consulted for the research as well as clearly stating the instrumentation of the study. The study itself was grounded in a theoretical framework in which the researchers worked (Kolb's Experimental Learning Model), and researchers provided a detailed dictation of all the interview questions and responses. While this research did not prove that arts increased motivation, it did show that integration of the arts, from the students' as well as the teachers' perspectives, allowed for more creative and individualized school work.

Four years earlier, Mason (2006) examined the integration of the arts from the standpoint of grading and the creation of rubrics to assess the incorporation of the arts into other subjects. To perform this research he examined what skills students might cultivate while they are engaged in the art-making process, and questioned whether or not the arts seem to have a purpose and a place in educating students with disabilities. Mason (2006) also examined if these art-focused experiences were a critical component of the educational experience

and in what ways student learning might be a function of sustained arts exposure.

To examine data for this qualitative study, the researcher created case studies based upon phone interviews and conferences. The subjects examined for this study were seven teachers. Three of these teachers were male and four were female. Most of these teachers were not using rubrics to measure the effect of arts instruction or integration. Mason (2006) created a set of rubrics and then these rubrics were used to assess different groups of children from “urban, suburban, and rural area in various regions of the country and at various grade levels” (p. 37).

This study was conducted in two phases. Phase one was an informal dissemination and feedback regarding the rubrics over a period of four months. The feedback was gathered through telephone conferences with the seven teachers who agreed to review the guide/rubrics that the researcher created. During the second phase of the research, the created rubrics were implemented with the sample of teachers who were located in three different states. To create the case studies, Mason surveyed these teachers as well as their students, and collected samples of student work.

Mason (2006) found that all of the participants in this study, according to the feedback from the telephone conferences, thought that participation in the study was a valuable activity. When participants were asked to use a scale of 1 to 5 to rate whether they learned new information (with 5 being the highest rating), the mean rating was 3.8. The teachers agreed that the most useful part

of the experience was developing and using the rubrics. The teachers indicated that they were eager to recommend this approach and experience to colleagues. Comments from the participants were also included as evidence, but no details regarding how the subjects were chosen, the subject's socioeconomic status, years of experience, or age were stated by the researcher in the write up of the study.

In addition to the author not explicitly stating the comments of the participants, Mason (2006) was also vague about the selection of the seven teachers included in this study. This lack of information makes transferability or reliability questionable. However, the researcher did include definitions of the terms used within the research and also provided numerous examples of the rubrics used in the study. In addition, confirmability was established through the use of an external auditor, and the author clearly stated the limitations and areas which indicated a need for further study within this research article. For people who are unsure of using arts integration in the classroom because they do not have a way of measuring its value academically, this research article may quell some of those fears while providing a resource for creating and utilizing these rubrics.

In an earlier study, Gromko and Poorman (1998) examined the effects of music training on preschoolers' spatial-temporal task performance. Through a quasi-experimental design, the researchers quantitatively gathered data after studying a group of 30 preschool children for the period of one school year. These children attended a Montessori school located in a small Midwestern town. The researchers divided the students into two groups: one control group with 15

students and one treatment group with 15 students. Both of these groups were given a pretest followed by an observation, and then both groups were given the same posttest. The overall p score of these tests was .049.

The tests performed on the students by Gromko and Poorman (1998) were performance IQ tests that used “5 spatial-temporal tasks from the Wechsler Preschool and Primary Intelligence Scale-Revised based on commonalities among spatial and musical developmental progressions” (p.175). As a means to test the foundation of the research in spatial memory, the treatment group was subjected to a musical treatment that engaged the students in sensory motor activities in response to music. The treatment group, which participated in music study, met once a week for thirty minutes for the duration of the school year. Each week the parents of these 15 students were given homework sheets so the students could practice when they were at home. The students in the control group interacted in everyday, non-integrated activities, and were left to their organic development without the added musical tasks dictated by researchers.

For the pre- and posttests, there were five subtests used. For the object assembly, students were asked to construct puzzles. For the geometric design portion, students were asked to match geometric designs. For the block design, students created designs using square blocks and used a picture as a model. For the picture completion portion, students had to point to what was missing in a given picture. Lastly, the animal pegs portion had students fill in holes row by row by using animal pegs that represented colors in a given picture. The scores from

these tests were recorded as raw scores and the performance IQ test was calculated with a mean of 100 and a standard deviation of 15.

The researchers found that the treatment group made significantly more gains in raw scores than the control group. From this information, the researchers concluded that creating an intellectually stimulating environment can result in a gain in a student's ability to perform spatial-temporal tasks. Gromko and Poorman (1998) also reported the regression of the tests by stating that "the regression showed that music training held the gain steady for older preschoolers in the treatment group, whereas without music training, the gains decreased significantly for children in the control group" (p.178).

In addition to stating the regression of the research, the mortality of the study was also referenced in the research article by stating that originally there were 17 students in each group, but two students dropped out of the research and then two students were removed from the study to ensure that the input matched the output. Maturation of the students was also taken into account, due to the subjects' age and duration of the study. The main weakness of the study was that the sample was self-selected by the researchers. Overall, the results of this research demonstrated that the inclusion of music study with more traditional studies could improve the spatial-temporal task development of younger children.

While Gromko and Poorman (1998) found that the inclusion of music could potentially improve the spatial-temporal task development of children, the following article found similar and additional positive results of art inclusion. This article, written in 2006 by Oreck, examined possible ways in which teachers

could overcome obstacles such as test scores, and accountability while using the arts within the curriculum. The research also looked at why teachers chose to use arts as part of the curriculum. In this qualitative study, Oreck (2006) chose to study six teachers from an original 423 teachers, in grades K-12 from 11 school districts in five regions of the country. These six teachers were equally distributed by gender: three female teachers and three male teachers. The six teachers were selected after completing the first phase of the study, a survey, because they represented a range of types of arts use in the classroom as well as a range in self-reported frequency of use levels, arts-based professional development experience, grade level taught, gender, current faculty position and years of teaching experience. All the teachers who participated in the study worked in schools that supported teachers participating in arts-based professional development workshops.

This study was conducted in two phases. In the first phase, the above-mentioned six teachers were asked to complete a survey designed to establish the teachers' self-proclaimed frequency of use of the arts in their classrooms as well as to discover the teachers' attitudes and personal characteristics in relation to the arts. The questions in the survey were open-ended, and these were analyzed and combined into topics and patterns by the use of an axial-coding schema. Teachers were selected for this study based on their responses to this survey in addition to the researcher's knowledge of each teacher's background and school setting.

After the surveys, the second phase of the study was conducting individual interviews, by phone or in person, of the six teachers. The researcher found that the six teachers frequently mentioned specific students in their classes who learned best through artistic means. There was also a pattern of teachers identifying students who responded better to non-verbal stimuli, those who needed to be active and moving or who recognized spatial patterns and relationships, and those who were leaders in musical experiences or dramatic situations; all of these students benefitted from inclusion of the arts in the classroom. The most frequent philosophical rationale cited by the teachers for the use of the arts was their conviction that although all students learn differently, all students are capable of learning and performing well in school. They were aware of the diversity of students' abilities, intelligences, and learning styles, and recognized that there was no single way to reach all students. This awareness and belief in the need to differentiate instruction contrasted with the perspective of the hundreds of other teachers surveyed who appeared to be less aware of specific student differences and were more likely to hold fixed beliefs about their students' academic potential. The six teachers also identified professional development workshops with artists as being a key to their ability to implement arts processes in their teaching.

While there was no triangulation of the data that was gathered in this study, the researcher did thoroughly define all the terms that were used in the research. The author failed to perform member-checking on the research, but there were detailed descriptions of the data-gathering techniques. Lastly, by including

dictations of the interview questions and answers as well as the survey questions that were used, transferability of the research is possible, although possibly hindered by the small size and the specific nature of the subject group. Overall, the study shows that the arts can successfully be used as one method of differentiation within the classroom.

It is apparent from the results of the preceding studies that the integration of any art form within the normal school curriculum offers advantages that provide increased interest and motivation with the students. Providing another avenue that students can explore in their learning endeavors and the opportunity to show their creativity enhances this learning experience. The students are not just acquiring new information; they are experiencing new ways of learning about themselves and their abilities, and they are applying this knowledge, making their learning personal to the world they live in.

Arts Integration and Effects on Academic Achievement

The following twelve studies examine the research evidence regarding the integration of the arts within other academic areas and its positive or neutral effects on test scores; researchers' conclusions vary greatly. However, most of the research articles concur that there may be a correlation between integration of the arts and test scores, although a causal connection has yet to be found. In the first study, Rickard, Vasquez, Murphy, Gill, and Toukhsati (2010) examined the benefits of an instrumental music program on the verbal memory of primary school children by conducting a quantitative study on students from different primary grades, to discover that students in the treatment group demonstrated a

greater improvement on every measure except verbal delayed recall. A year before, in another study involving the integration of music, Darrow, Cassidy and Flowers (2009) studied the benefits of music as a viable methodology for teaching reading skills in second grade classes, only to find that students with a specific disability in reading improved significantly while the total test gain scores of children receiving the music/reading curriculum were somewhat higher. Eighteen years earlier, Caldwell and Moore (1991) studied the idea of participation through drawing might lead to a difference in writing quality in comparison with participation through discussion, only to discover that the drawing group's scores were consistently higher than the control group's scores. A similar study conducted by Olshansky (1999) studied the proposal that there is significant improvement in the text of stories written by students who have participated in the Picturing Writing and Image-Making processes as compared to students who have not. Olshansky found that the text only score of the treatment group more than doubled that of the comparison group. Another study involving drama found similar results. Moore and Caldwell (1993) investigated the idea that there might be a positive effect on the quality of narrative writing when students' planning involved drama and drawing instead of the traditional planning activity of discussion. Thirteen years later, in a study conducted by Capraro and Capraro (2006), the researchers considered how integration of geometry-centric children's literature influences students' understanding of geometry and their performance on content and non-content specific measures of mathematics ability. In an additional study conducted by Schunk (1999),

students were studied to deduce the effect of singing when paired with signing in regards to receptive vocabulary skills of ELL students in the primary grades. The opinion that there is little causal relationship between arts integration and academic achievement was supported when the researchers Pellegrini and Galda (1982) examined the effects of thematic-fantasy play training on the development of children's story comprehension and discovered that the children from Kindergarten and 1st grades involved in the play group scored significantly higher than the children in the discussion or drawing group; however there were no significant differences among results for second graders. Further, to examine how the absence (no instruction), presence (intrinsic, studio-based), and type (instrumental, integrated) of instruction affect the artistic/drawing performances of students, a study was conducted by Brewer (2002) on fifth grade students, and it was found that there were no significant differences on thematic or observational drawings.

While Brewer examined artistic and drawing instruction and performance, Stanley and Strum (2008) researched whether sequential art books help students in the decoding process of reading, as these books claim to do, which resulted in the conclusion that the sequential art books used in this study did not provide adequate visual support to enable beginning readers to decode difficult text. Another co-relational study done by Kvet (1985) researched the question of what differences there may be in sixth-grade reading, language, and mathematics achievement between students who are excused from regular classroom activities for the study of instrumental music and those students not studying

instrumental music. A final correlational study conducted by researchers Vaughn and Winner (2000) tested the hypothesis that students who study the arts receive higher test scores by analyzing SAT scores. As with many other studies, the relationship between taking arts courses and higher SAT scores could not be concretely concluded because the data are purely correlation and allow no causal inference.

In a quantitative study conducted by Rickard et al. (2010), the authors studied what benefits, if any, existed on the verbal memory of primary school children enrolled in instrumental music programs. In this quasi-experimental, correlational designed research, the authors studied 89 students (45 female, 44 male) from nine regional state primary (K-6) schools. These students were placed in a treatment group in which they were given a pretest, administered the research treatment, and then given a posttest. From the same nine regional state primary schools, another 62 students (33 female, 29 male) were chosen to be a part of the control group. The same pretest and posttest were given but a different treatment was administered to the control group. The overall N=151 and the missing data was distributed fairly evenly across groups and genders and omission of these cases as well as several age outliers yielded a sample of 142 participants with 82 (41 female, 41 male; mean age 8.62 years) allocated to the intensive music program and 68 (37 female, 31 male; mean age 8.79 years) allocated to the control group. The research lasted for three years, with students being tested after one year and again at the end of the study.

The students involved in the treatment group were given a music-intensive integrated program for one hour on three days of the week which exposed them to an intensive, classroom-based strings program. This program included music, movement game play, and improvisational skills as methods to increase the frequency of student exposure to music instruction. Students receiving the music training program showed significant improvement after the program, with achievement scores improving from baseline ($M=39.88$, $SD=15.46$) to post-program ($M=56.61$, $SD=15.38$), $p<.05$. ANOVA was used to analyze the data.

The students involved in the control group continued to receive their usual music classes for one hour per week. To provide some equivalence of the music education initiative in this region of schools, additional group music classes were available to all schools. In this quasi-experimental design, the group was the between-group factor and time was the within-group factor. The school was entered as a nested factor. The overall findings were that students in the treatment group demonstrated a greater improvement than the control group on every measure except verbal delayed recall. The greatest improvement was shown during the first year.

One of the largest strengths of this research was that pre- and posttests were the same and they were given to both the control group and the treatment group, leading to stronger internal validity. Despite this strength, there were some flaws in this study, first because the allocation to the treatment group was not random, and secondly because the maturation was not taken into account for

this study, which seems to be a rather serious flaw due to the fact that the study lasted for three years.

Darrow, Cassidy and Flowers, (2009) used a correlational, quantitative study to examine the benefits of music as a viable methodology for teaching reading skills. The researchers performed this study by examining 59 second-grade students divided among experimental and control groups which featured various control conditions, instructional schedules, and teacher backgrounds and training. In this study, reading skills were evaluated before and after curriculum intervention via the Vocabulary and Reading Comprehension subtests of the Gates-MacGinitie Reading test. An analysis of pre- and posttest data revealed that students with a specific disability in reading improved significantly from pre- to posttest on all subtests. The subtest included: word decoding, in which $p = .04$; word knowledge, in which $p = .01$; reading comprehension, in which $p = .01$; and test total, in which $p = .01$. Paired t tests revealed that for second grade students, both treatment and control classes made gains from pretest to posttest on the subtest reading comprehension, but neither treatment nor control groups improved significantly. The 59 students analyzed for this research project were chosen from three different schools from a large Midwestern school district. The three schools housed 458 second grade students, of whom 75% were African American, 18% were Caucasian, and 7% were Hispanic. Of these students, 67% qualified as being economically disadvantaged. One second-grade class was chosen at random as the experimental group ($n=23$), and all other second graders served as control subjects ($n=36$). The children in the experimental

group attended music class once weekly for 45 minutes, and instruction covered the first seven lessons of the music/reading curriculum that the researchers implemented. At the beginning of the year, 39% of the experimental group and 47% of the control group were reading at the second-grade level or higher. Although 73% of the students improved in reading over the nine week period, a chi-square analysis showed that there was no relationship between student progress and group (experimental or control) progress. The overall result showed that the total test gain scores of children receiving the music/reading curriculum were somewhat higher but not significantly. The more times during the week a teacher provided the music/reading program, the higher the scores.

Some strengths of this research were that the authors included very detailed written analysis of specific students from the control and experiment groups. The authors also gave specific data regarding the ethnicity, age and socio-economic standing of the students used in the experiment, but not the gender of the students. The research does not contemplate any alternative possible relationships; however, due to the short length of time in which the research was conducted (nine weeks), and the fact that the researchers did not perform any follow-up of the students after the research was conducted to see if the results persisted or changed, the conclusions of this study are weak. While this research does not necessarily provide a positive correlation between the inclusion of a music program and non-disabled students increasing their reading skills, it does show that there was a significant increase in reading skills in

students with specific disabilities when a music program was included in their studies, and it provides one method that could be implemented in the classroom.

In a quantitative research design, Caldwell and Moore (1991) used a quasi-experimental design to see if participation in drawing would lead to a difference in writing quality in comparison with participation in discussion. The subjects of this test included 42 students from a rural elementary school in Utah, selected from an “available population of two second and one third grade class” (p. 209). These 42 students were divided into two groups: the drawing group and the control, or discussion group. The students were divided based on gender and grade level, but the authors did not go into any further detail regarding this division. To begin, all students were given the same pretest consisting of a writing assignment on the topic of fears.

The treatment for both groups began at the start of each week by focusing on developing the aspects of narrative writing. Examples included characterization, plot, and setting. These development trainings were conducted for 15 minutes in whole-group discussion settings. After the discussion, the drawing group performed a 45-minute drawing session and the control group participated in a 45-minute language arts lesson. These treatments were repeated 15 times.

For 15 weeks, writing samples were scored to enable examination of the overall quality of narrative writing from the subjects. These writing samples were collected weekly from all the subjects and included approximately 600 samples which were collected, typed and coded. The R value of the writing samples was r

= 94, with each of the samples being rated independently and blindly by three different raters and the final score of each sample being an average of the three ratings. The three raters used for this experiment were qualified as experienced elementary school teachers.

Findings from this study determined that the drawing group's mean scores were consistently higher than the control group's mean scores from the pretest to week 15 (drawing group gain score = 2.47, control group gain score = .67). The data showed that there was a statistically significant difference between the overall-score mean of the control group and the overall-score mean of the drawing group, which was $p=.0007$.

This research article had many strengths, including the fact that instrumentation was stated by having writing samples scored using a Narrative Rating Scale developed by Caldwell, and also by using ANOVA to measure the writing quality of the two groups. Yet another strength was the fact that the data was analyzed by two outside, blind parties, and that inter-rater reliability was also stated for each attribute of the 7-point scale used to assess writing; reliability ranged from .96-.97. Mortality of the study was clearly defined by the researchers, who reported that some student work was not collected every week due to absences, and that students who were absent for more than three weeks were excluded from the study. Although history and maturation were not stated due to the fact that the study only lasted for 15 weeks, maturation does not seem to be of high importance. Also, there was not sufficient evidence provided to tell if there was equivalency between the children chosen for each group. Overall,

however, the results of this study indicate that drawing is definitely a viable and effective form of rehearsal for narrative writing, at least for the second and third grade writing level. This research also demonstrates that if drawing is used as a planning activity, it can be a more successful form of rehearsal than the typical planning activity of discussion.

As in the previous study, Olshansky (1999) also examined the effects of combining art and literature. In this qualitative study, Olshansky (1999) considered two questions for this research. First, the researcher examined if there was any significant improvement in the text of stories written by students who had participated in the Picturing Writing and Image-Making processes as compared to students who had not, regardless of prior levels of achievement or socio-economic standing. The second question the author considered was if there was any improvement in the use and quality of visual elements for the purpose of conveying ideas for students who had participated in the Picturing Writing and Image-Making processes as compared to students who had not, again, regardless of prior levels of achievement or socio-economic standing. The subjects studied for this research included 555 first- and second-grade students from 13 schools in three different states: New Hampshire, Hawaii, and Texas. These sites were selected to insure that participating students represented a range of achievement levels, socio-economic levels, and geographic regions. The treatment group was comprised of 16 classes of students who participated in Picturing Writing and Image-Making as a year-long language arts program. The comparison group comprised 12 classes of students who were participating in

the language arts program that was currently being used in their classroom. Every effort was made to insure that the students in the comparison group were demographically matched to students in the treatment group. The percentage of students on free/reduced lunch programs was used as an indirect indicator of socio-economic status in order to match student populations. Students were also matched by geographic region and population density.

To evaluate the use of the two different languages used within Picturing Writing and Image-Making (the language of words and the language of pictures), two different scoring instruments were used. Two scoring instruments had been previously developed at the University of New Hampshire in 1991 by two different panels of first- and second-grade experts for use in a preliminary study of "Image-Making within the Writing Process". The researcher's were involved with the preliminary "Image-Making within the Writing Process" study prior to this study. Because these instruments had passed the rigorous evaluation process by the US Department of Education's National Diffusion Network Program Effectiveness Panel, it was determined that the evaluation instruments which were used in the previous study were both appropriate and effective.

For the purpose of conducting this study, completed art and writing samples were collected from students in the treatment and comparison groups at three different times over the year: in September, at the end of January, and at the end of May. The baseline writing samples from both groups consisted of one or more pictures and an accompanying story. In order to rate the text portion of each sample, a blind study was conducted. In this blind study, all writing samples

were extracted from their original form and typed in a uniform fashion without information regarding collection date, teacher, student name, or whether the piece was from the treatment or comparison group. In contrast, the Picture/Word Study was not a blind study because artwork often indicated which group the piece belonged to. These pieces were not scored on their aesthetic quality but on the student's ability to use key visual elements to communicate important information about the story.

The findings of this study compared the text only scores of the treatment group and the comparison group for September, January and May. In September, the two groups were roughly equal. In January, both groups grew but the treatment group grew almost twice as much the control group. In May, the treatment group again grew while the comparison group stayed roughly the same. The students who were considered at-risk achieved about the same results as the non-at-risk students.

In the Visual Element Study, at-risk students in the treatment group began the year with similar levels of skills to students were not considered to be at-risk. By January, at-risk students in the treatment group began to build a strong foundation of skill in the use and quality of visual information as compared to all students in the comparison group. These students still lagged only marginally behind students who were not at-risk. By the end of May, at-risk students in the treatment group had achieved scores marginally higher than students in the treatment group who were not considered to be at-risk. The at-risk students in the treatment group also excelled far beyond students in the comparison group.

This research had many strengths. In addition to those mentioned, this study also utilized two scoring instruments. Olshanky's (1999) research also noted that the precedent for using non-standardized tests for the evaluation of children's writing was established by Dr. Donald Graves, and that such tests have been used by many researchers in the field. The only weakness that really showed through this research was the fact that the author did not state how she gained entry to the subjects used in the study.

As in the previous study, Moore and Caldwell (1993) also looked at the effects of integrating the arts into the writing process; however, this research used drama in addition to the visual arts. The researchers Moore and Caldwell (1993) chose to examine if there was a positive effect on the quality of narrative writing when planning activities involve drama and drawing coupled with the traditional planning activity of discussion which is typically associated with the writing process. This quantitative design created a quasi-experimental research project to examine the effects of using drama and visual art when planning a writing activity, and using discussion as the foundation of beginning a writing activity. This study examined 63 second- and third-grade students from a rural school situated in the Rocky Mountain region. The population of the students was predominantly lower middle-class Caucasian. These 63 students were divided into one control and two experimental groups that mixed gender and grade levels randomly. The drama group had 22 students, the drawing group had 20 students and the discussion or control group had 21 students.

Writing samples were collected from all students each week during a 15-week period. Each writing sample was scored separately for organization, ideas, style and context. There were two main approaches to evaluating writing: holistic scoring, which assigns one overall score to a piece of writing based upon a global impression, and analytic scoring, which assigns separate scores for a number of attributes considered essential to good writing. All three groups received the same pre- and post- writing tests. At the beginning of each week, each of the three groups focused on an aspect of narrative writing during a 15-minute whole-group discussion. After the 15-minute discussion, the drama group participated in a 45-minute drama session and the drawing group participated in a 45-minute drawing session. Both then moved on to a 30-minute writing session. The control group only participated in a discussion: they drafted writing ideas for 30 minutes and then participated in what the author vaguely refers to as a traditional language arts lesson found in the school's text.

The data analysis of this study was carried out using the General Linear Model procedure for unbalanced designs in the statistical analysis software computer program. The pretest scores for all three groups were compared using one-way ANOVA as a means of testing for initial group equivalence. The findings of this study from week one to week two showed that the mean scores of all three groups illustrated an initial gain. However, after week one, the control group's scores remained fairly stable while the experimental group's scores from pretest to week 15 averaged 3.1 for the drama group, 2.47 for the drawing group, and 0.69 for the control group. Comparing the drama and control group shows

that there was a difference in the writing quality of the groups that averaged across time (15 weeks) as $p=.028$. The researcher compared the drawing and control group overall mean scores at week 15 to reveal that $p=.001$.

This research was strongly supported by the inclusion of detailed instrumentation process, mortality and history. While maturation was not addressed in the study, the length of the study does not seem long enough to warrant concern. In addition, there were outside auditors analyzing the data collected by the researchers and this was addressed under the reliability of the instruments. I believe that this study shows support for participation in drama and that drawing does lead to a positive difference in writing quality.

In another quasi-experimental quantitative design research project, researchers Capraro and Capraro (2006) investigated how geometry-centric children's literature, read aloud by the teacher, impacted the mathematical communication of students. For this study, the subjects were 105 students from the sixth grade in a middle school. According to the researchers, the students were purposefully assigned heterogeneously to teachers by reading levels. These students were divided into three groups: two control groups and one treatment group. The two control groups were qualified as the non-story groups and the treatment group was qualified as the story group. All students were given three measures before and after using a multiple choice format. These three measures were general reading, mathematics and a geometry-specific test, which were all created by both the researchers and the three teachers of the students. The experimental group and the control groups were given the same

pre- and posttests. The Cronbach's alphas for pre- and post testing for general reading were $\alpha=.78$ and $.89$; for the geometry test they were $\alpha=.45$ and $\alpha=.93$, and the general mathematics test were $\alpha=.82$ and $.95$. The testing in its entirety lasted four weeks, the duration of two units of study from a geometry textbook. The only difference between the groups was that while the two control groups received no different instruction for their general mathematics and geometry, the story group had their instruction supplemented with mathematics-specific literature. This literature was used as an advance organizer and/or as a review for the end of lessons.

The results were analyzed using a multivariate analysis (general reading, general mathematics and geometry) of co-variance. The MANCOVA analysis indicated that there were statistically significant differences between the story group and the two non-story groups in geometry and general mathematics but not in general reading. Students in the non-story groups (the two control groups) answered modestly better ($+.27$) in the geometry specific test, while the story group increased $+1.99$ from the geometry pretest to posttest. The results indicated that the story group outperformed both non-story groups when considering them jointly and individually in geometry and general mathematics, in which $p = .035$.

Although the researchers stated the Cronbach's alphas for pre- and posttest scores and supplied validity for the teacher-designed instruments by having them assessed with the Pearson product moment correlations, this study has weaknesses as well. For example, the research study does not state the

history of the research nor the mortality. The selection process for choosing the subjects was also extremely vague. Also, maturation and regression were not addressed, although this may not seem to be as important due to the fact that the duration of the research was so short (four weeks). Overall, this study is just one example of how integrated instruction can hold the attention and interest of students. This research shows that reading children's "mathematical literature either helps to solidify concepts for children with appropriate mathematical ideas or creates cognitive dissonance (either internal or external conflict) for those with misconceptions, and provides an avenue for remediation of naïve mathematical conceptions" (Capraro and Capraro, 2006, p. 23).

The following study included much more detail in regards to the subjects involved in the research. In a quantitative research conducted by Schunk (1999), the researcher examined the effects of singing paired with signing in regards to receptive vocabulary skills of ELL students in the primary grades. The researcher studied 80 students from three elementary schools in a large Mid-western school district, focusing on children from grades K-2 who were identified as belonging to either of the two most minimal classifications of English fluency (non-speakers or limited English proficient speakers). Of these 80 students, 42 were female and 38 were male. According to Schunk (1999), these students came from diverse nationalities and language backgrounds; however, the predominant languages spoken by the subjects were Spanish, Hmong, and Lao.

The method used by the researcher included three treatment groups and a control group. The four groups received the same pre- and posttests for 20

targeted vocabulary words. The pretest involved listening to a word spoken by the researcher and pointing to the corresponding picture from a set of six picture cards. After the pretest, the students were randomly assigned to one of the two groups. For this research, 20 vocabulary words were selected based upon educational objectives already chosen in the schools. These words also had to have an American Sign Language sign equivalency. In addition, lyrics and melodies from three songs served as the instructional texts for all of the participants, either as spoken or sung language. These songs were chosen based upon the targeted vocabulary. One treatment group paired sung texts with signs. In this group, students rehearsed texts by singing lines along with the researcher and simultaneously imitating each sign (which was paired with the targeted vocabulary words). A second treatment group paired spoken text with signs. These students rehearsed the text by reciting spoken lines with the investigator and simultaneously imitated each sign targeted with the paired vocabulary. The third treatment group used sung text only, and participants rehearsed the texts by singing lines along with the researcher. The control group involved spoken text only. All three of the groups met for 15 minutes, three times across one or two weeks, and during each session, each group rehearsed the 20 targeted vocabulary words which were embedded in the texts.

Schunk (1999) concluded that there were no significant differences at the .05 level of significance among pretest scores. However, there were initial differences in knowledge of the target vocabulary for grade level. For example, second graders scored higher than kindergarteners. For the posttest scores, the

test revealed that there were no significant differences for grade level, school or gender. However, there were significant differences in posttest scores between control and treatment groups. It appears the use of signs may have been more influential than singing, but students using signs or singing still scored higher on the posttest than the students who used neither. In conclusion, children made significantly greater gains in vocabulary recognition than those in the condition of spoken text only.

This research article had equal strengths and weaknesses. For example, one strength of this article is the pre- and posttests that were administered to the treatment and control groups were identical. In addition, Schunk (1999) stated the history of the research as there was a gap of two weeks because of snow and school closures. Unfortunately, the sample selection for this research was not random. Also, neither regression nor mortality was addressed in the analysis. Despite these flaws, Schunk's (1999) research shows that there are alternative methods for teaching English Language Learners vocabulary words in creative ways that engage the student in the learning process.

In a study conducted seventeen years earlier, Pellegrini and Galda (1982) performed a quantitative study examining the effects of thematic-fantasy play training on the development of children's story comprehension. For this study, the researchers randomly selected 108 students from the same school in rural northeast Georgia. Of the 108 students, 54 were male and 54 were female. The selected students all came from kindergarten, first or second grade. Within each of these grades, nine groups of four children were formed, again, by random

assignment; each group consisted of two male and two female students. Each group within each grade was assigned randomly to one of the three treatment conditions.

The design of the study was a 3 x 3 x 2 factorial design, in which 3 meant the grades K-2, x 3, applied to the conditions (thematic play, discussion and drawing), x 2 which referred to the identified sex of the student (male or female). The dependent measures were performance on a criterion-referenced test (10 multiple-choice questions) for the last story read and the total number and sequence of events recalled for this story. In the multiple-choice test, each question had one correct answer, and, as the researcher defined it, distracters. One aspect that strengthened this research was the fact that Pellegrini and Galda (1982) stated that the 10 questions on the test were composed of two items for each of five levels of Bloom's Taxonomy: knowledge, comprehension, application, analysis, and evaluation. The factor analysis for these items yielded two factors: story-based intelligence and judgmental intelligence. The recall part of the task simply had students retelling the story to the experimenter, and was judged based upon sequence and researcher-defined key aspects of the story.

Students were put through two trainings in which they learned the expected behavior for whichever treatment group they had been placed in. After the training, each group of four students was taken to a play room where the experimenter read a story aloud to them. After the story was complete, the children performed whatever training they had received (discussion, thematic play or drawing); they were then given the above-mentioned test. Once the test

was complete, the students were asked to retell the story to the experimenter and these were audiotaped for later reference.

Pellegrini and Galda (1982) discovered that in kindergarten, the play group scored significantly higher than the discussion or drawing group ($p < .0001$). For first grade, the same results were found, but for second grade there were no significant differences among conditions for second graders. From the results, it was clear to see that story-related comprehension for kindergarteners and first graders was higher in the students who participated in the thematic play. The students who participated in discussion regarding the book scored higher than the students who participated in the drawing group, but lower than the play group for story-related comprehension. The researchers speculated that the students who participated in the thematic play group were more effective in comprehension because children's concepts of stories had to accommodate to peers' story concepts. In order to sustain fantasy play, players had to agree on role, setting and prop definitions. During this verbal negotiation process, students became aware of more aspects of the story than they might have remembered if they had been working alone.

As stated before, this research had many strengths within its analysis. In addition to those mentioned, the researchers also clearly defined terms that were used within the study, as well as stating the instrumentation (ANOVA) and the selection process. This study also created inter-rater reliability for the coding of children's retellings by having two coders independently score all recall transcripts for events and sequence recalled; there was a 96 percent agreement.

The weaknesses of the analysis lie in the fact that the length of the observation and testing was not clearly stated, thus maturation cannot be assessed, and there was no pretest, simply a test after performing one of the three treatment conditions. Overall, however, this research indicates a strong reason for integrating thematic play into the reading process as an avenue to foster comprehension and group work.

In a quantitative, correlational study the absence, presence (intrinsic, studio-based), and type (instrumental, integrated) of art instruction were examined by Brewer (2002) as they related to the drawing achievement, demographic information, and gender of fifth-grade students. The sixty-nine fifth-grade students were divided into three groups as follows: group one had 20 students, 10 of whom were female and 10 of whom were male; group two had 25 students, 14 of whom were female and 11 of whom were male; and group three consisted of 24 students, which included 13 females and 11 males. There were three groups of fifth graders studied for this research. The first group was labeled as instruction-absent, where there was no integrated art instruction. The second group was known as intrinsic, or studio-based, where students had opportunities to learn about artistic production, and knowledge of art within the environment of an art studio. The third group was known as the instrumental or integrated group in which knowledge regarding art and its production was integrated into the student's regular studies. The researcher stated that the 69 students represented a cross-section of the general population. Data was gathered through a 20-item questionnaire for students that surveyed their art education background, art

preferences, and art knowledge, and a survey for their corresponding teachers that was used to assess instructional type, curriculum type, teacher background, and school information. Students at each school made one drawing based on a theme and one observational drawing of a still-life. Each drawing factor (thematic and observational) for the three groups of fifth graders was compared to determine if significant differences existed between groups related to the lack of or type of art instruction. Over a six-day period, the experimental setting and sequence of drawing tasks (thematic, then observational) were presented to fifth-grade classes that had received intrinsic, instrumental, or no instruction. The data collected was used to compare and contrast the effect of intrinsic, instrumental, or no instruction on student artistic development, knowledge of art, and preferences about art. Brewer (2006) specified that there were four independent variables as follows: artistic/drawing performance, knowledge of art, artistic preference, and demographic profile. The dependent variables were performance relative to instructional type, scores, outcomes, and results on the measures. Judges' ratings regarding the quality of two dependent drawing factors were examined between and within the independent variables of drawing (thematic or observational), instruction (intrinsic/studio, instrumental/ integrated, no instruction), gender factors (F and M), and as 2-way and 3-way interaction. ANOVA was used. The researcher found that there were no significant differences for any of the three groups on either the thematic or observational drawing. There were no significant differences on either drawing task according to gender. Researchers used a T-test for independent samples. They found that

Group 1 (intrinsic, studio) females significantly outscored males on the observational drawing and that males in Group 3 (no instruction) scored significantly higher on the thematic drawing as well as on the observational drawing. These varying differences are what created the statistically significant group-by-gender ANOVA interaction. Student demographic questions were asked to find out what all students' art learning and interests were and whether or not those experiences made a difference in their drawing performance. Only one of the eighteen student questions produced a significant difference in their drawing scores: When you are not in school, do you ever make artwork? 85% (55 kids) said yes, and those students scored significantly higher on the thematic drawing task, as is to be expected. When using this research design, the researcher could conclude that relationships exist between the two variables of high student interest in art and a positive impact on student artistic achievement, but could only make inferences about what caused the observed relationships.

Brewer analyzed 130 student drawings by using the Gestalt Holistic Assessment. The transferability of this study was increased by the actual surveys/questionnaires used in the research, which were also included in the research article itself, allowing for other researchers to more closely examine the questions and adapt them for themselves. Despite these positive factors, the actual data-gathering occurred only in a six-day period. Most of the four-month study time was spent gathering information from the students about their background in art and the teachers' use of art and their education in art, in order to find relationships to correlate. Also, the transferability of the study is limited

due to the fact that there is not enough information regarding the selection of the students (no statement of ethnic or socioeconomic status). All the students came from the same area in the United States, but there were not enough details regarding the students to make a judgment on whether this study was large enough to matter.

In another quantitative research article that examines integration and reading, Stanley and Strum (2008), studied if sequential art books assisted students in the decoding process of reading. In order to accomplish this task, the researchers conducted a correlational study by comparing the text and pictures of books in a sequential art format to see how many of the words actually represented in the art were deliberately put there to help in the decoding process.

To accomplish this task, Stanley and Strum (2008) examined eleven texts from sequential art books. These included texts from the two comic lines marketed specifically for the beginning reading group (Phonics Comics and Toon Books). All of the books used in this study were qualified as leveled texts. In order to conduct this study, the researchers excluded sight words and their plurals prior to analyzing the texts. These sight words were defined within the text as being from Dolch's vocabulary list. After these sight words were excluded, the individual picture frames of each book were analyzed to discern the connection between the remaining words and their corresponding images. According to the researchers, words were considered decodable by the pictures when there was an iconic or common symbolic representation within the immediate picture frame. Researchers looked at each word for its part of speech to see whether certain

types of words were more decodable than others. Lastly, the researchers compared what they qualified as the two more decodable books with the two least decodable books.

Stanley and Strum (2008) found in this examination that only 39% of the non-sight-words in the books were associated with a recognizable image within the same frame. Some books were more successful than others in representing words. In conclusion, the sequential art books used in this study do not provide adequate visual support to enable beginning readers to decode difficult text.

This research does provide areas for further study, and the authors state that an outside source checked the data the researchers collected, but the correlational size of the data analyzed does not appear to be large enough to be consequential, given the fact that there were only 11 texts examined. One also has to take into account that sequential art books are a relatively new phenomenon and due to that fact there is a limited selection. Thus, the extent of the study is limited. The researchers also provided minimal details regarding why they chose the books they did for this study. This article alerts teachers to the fact that they need to examine texts that claim to assist in the decoding process and try to find texts that include pictures that truly help students in this part of the reading process.

While the previous research only focused on the aspect of reading, Kvet (1985) compared the reading, language and mathematics achievement of sixth-grade students who were pulled from regular classrooms for instrumental music study to the achievement of students who were not pulled. For this study, Kvet

(1985) created a quantitative, correlational study between academic achievement and enrollment in a pull-out music program.

The researcher gathered subjects from a Midwestern metropolitan area with a population was 1,403,300 citizens. Within this area there were four public school districts. These schools were selected because the researcher wanted to include schools with wide variation in size, socioeconomic level, setting, and racial composition. However there were similarities in the music programs each of the schools used. The initial sample for the study was 2,167 sixth-grade students from 26 elementary schools during the academic year of 1980-81.

For this research, Kvet (1985) used a multivariate matched-pairs design to determine if there was a significant difference in sixth-grade reading, language, and mathematics achievement between students who participated in a pull-out instrumental program and those who did not participate. The above students mentioned were separated into four different groups by school district: (a) sixth-grade students who received instrumental training through the sixth grade, (b) students who did not receive any instrumental training, (c) students who received partial instrumental training through part of sixth grade, and (d) students who are considered simply as instrumentalists. Students who received partial training in the sixth grade were dropped from the study.

Based upon these matched-pairs, Kvet (1985) concluded that there was no significant difference in sixth-grade reading, language, or mathematics achievement between students who were excused from regular classroom activities for the study of instrumental music and students who were not studying

instrumental music. These results were consistent among the four school districts that differed in size, setting, socioeconomic level, and racial composition.

Kvet's (1985) research did state the theoretical background and it appears as though the results of this investigation can be generalized to other settings. The wide range of students chosen for the test and the nature of the two variables (students and whether they are in a music program) make this study fairly replicable in other schools. But this study still has some flaws. The weakness of this study was that the sample that the researcher chose was a self-selected sample. Additionally, Kvet (1985) did not include enough data within the write-up of the study to replicate the research process.

Although Kvet's (1985) study assessed the academic achievement of students who participated in an instrumental program in addition to traditional schooling, Vaughn and Winner (2000) expanded greatly upon this idea. Within Vaughn and Winner's (2000) research, they examined if the students' study of the arts and the number of years those students studied the arts actually affected students' SAT (Scholastic Aptitude Test) scores. In this correlational, quantitative design method, the researchers analyzed twelve available years of SAT data from 1987-1998, examining the amount of arts course experience as the between-subjects factor. The analysis was repeated three times: once for composite scores and then again for the verbal and math scores. These were conducted separately in order to determine which of these two types of scores was more highly associated with arts study. The researchers only analyzed SAT

score data from students who voluntarily responded to the Student Descriptive Questionnaire.

Examination of the SAT scores of students who also studied the arts showed the following: the scores appeared to increase gradually with each level of arts from 0-3 years and then the scores jumped sharply at four years. A one-way ANOVA analysis was conducted with the different levels of arts experience acting as the between-subjects factor and results showed a significance on the level of arts experience with $p < .0001$. The effect sizes for math scores are consistently smaller than those for verbal scores; however, the verbal and math SAT scores of students taking any form of art, irrespective of number of years, are significantly higher than for students who took no art. Despite these findings, the researchers stated that it cannot be concretely concluded that taking arts courses would result in higher SAT scores, due to the fact that the data are purely correlational and thus allow no causal inference. At the time of the publication of the article, the researchers did not understand what underlies this correlation. This is both a strength and weakness of this article because while the researchers did not limit themselves and say that music study caused higher SAT scores, they also did not attempt to explain any other possible relationships for the data presented. While the size of the data does appear to be large enough to constitute importance, this is another example where researchers believe there is a correlation between the arts and academic achievement, but there is no causal inference available.

These twelve studies confirm that the conclusions regarding the integration of the arts within other academic areas and its effects on test scores still vary on whether there is a positive correlation between arts integration and increased test scores. Each study has its strengths and weaknesses, yet each study used a different subject group and event or activity (music, singing, drama, etc.) to show the effects integration of the arts would have on performance and progress in the classroom. Each study's researcher(s) seem to agree that there may, quite possibly, be a correlation between integration of the arts and academic achievement as measured by test scores. Unfortunately, a causal connection has yet to be found. It is this author's opinion that integration of the arts in a classroom could only enhance student performance. It would build confidence and provide an experiential learning that students can relate to.

Arts Integration and the Effects on Motivation and Self-esteem

These final seven research articles examine the idea that art-infused curriculum programs can provide an avenue to encourage independence within students, thus creating intrinsically motivated students. Each article examines a different aspect of an arts-integrated program and will be discussed in detail throughout this paper. In a study conducted by Trainin, Andrzejczak and Poldberg (2006), they considered the possibility of a link between art integration and academic achievement and what effect visual arts had on literacy, writing and reading. In Turkey, in a study conducted by Yaman (2010), the researcher considered the effects of using cartoons in teaching rules and concepts of Turkish language grammar on student success and course performance. A year

earlier, to determine the measurable effects of readers' theatre on the literacy needs and motivation of low-achieving readers, Corcoran and Davis (2005) performed a qualitative study and concluded that the study indicated the readers' theatre program did have a positive impact on the reading attitudes and confidence of students. In yet another study involving literacy, Grant, Hutchinson and Hornsby (2008) conducted a study in an effort to determine what children take away from their engagement in arts-based activities and carry into the reading of literary texts, and potentially into writing from the perspective of another character. Similar findings regarding the arts as a means to improve students' social confidence were noted when Obiozor (2010) investigated that idea by integrating popular music into the curriculum, hoping it would encourage positive and active participation from students and motivate committed learning in the classroom. Smithrim and Upitis (2005) studied the concept that students involved in Learning Through the Arts (LTTA) schools benefited from the program as evidenced by positive changes in attitudes towards the arts and learning and by increased achievement in mathematics and language. Lastly, in Coutts, Soden and Seagraves' (2009) research, they examined the implementation of a country-wide arts-infused education model and discovered that the project had a strong, positive impact on psychological characteristics while providing the students with different ways of approaching academics.

In a quantitative study made to determine if there is a link between art integration and academic achievement and if there is a positive effect of visual arts on literacy, writing and reading, Trainin et al. (2006) investigated students

from rural and urban areas in a southern California school district in grades 2 to 4, over the period of two years. The study included 17 classrooms in four schools with a total of 269 students. The full sample was 52% male and 48% female. The ethnic distribution was 46% Caucasian, 42% Hispanic, 8% African American, and 4% other. According to the researchers, there were no significant group differences in terms of gender and ethnicity distributions. The researchers implemented an art integration curriculum in individual classrooms called "Picturing Writing." All students were presented with a piece of art as a visual prompt to complete their written assignment. Each grade level was provided with the same art print, text prompt, and teacher administration instructions. Students were asked to describe the scene presented and the story it depicted. The written products were analyzed in three domains: quantity, including the length of each writing sample; quality; and the use of color vocabulary. An analytic rubric was created so that individual traits could be quantified and tracked over time. Statewide standardized testing was also analyzed to examine transfer. An ANOVA was conducted to assess the impact of the Picturing Writing program on the quantitative measure of writing length. There was no interaction effect between grade level and experimental group. Both main effects were significant. The main effect for grade level was significant, $F(2,266) = 25.1, p < .0001$, and the main effect for the experimental group was also significant at $F(1,266) = 9.4, p < .005$ with an effect size of $d = .37$. The effect was especially large in the fourth grade where students in the project wrote on average 50% more than their classmates.

A second ANOVA was conducted to assess the impact of the Picturing Writing program on the measure of writing (the combined score). Here as well, there was no interaction effect between grade level and experimental group. Both main effects were significant. The main effect of grade was significant, $F(2,266) = 19.3$, $p < .0001$. Experimental group was also significant: $F(1,266) = 9.1$, $p < .005$ with an effect size of $d = .35$. The students involved in the project used complex descriptions of colors much more frequently than the students in the control group, resulting in $F(1,284) = 24.0$, $p < .0001$, $d = .58$. In conclusion, Trainin et al. (2006) found that engaging the students in the art first had a positive impact on their writing in general and specifically in their vocabulary and the length of the writing. The impact varied by grade, as is to be expected: higher grades scored higher. The researchers believed that concrete cognitive connections are made between image and text in this process which facilitate the students' writing processes. The analysis of this research and study across grades 2-4, proved that students who engage in art-making produce larger and higher quality written products. Using visual arts in the writing process has been shown to add attention to detail and memory place holders, which in turn lead to more practice and elaboration.

The fact that Trainin et al. (2006) included in their study a portion dedicated to implications for the classroom and a section on limitations and future research allows for more transferability and increases dependability because these sections allow the findings to be more easily compared to findings in other, similar studies. Confirmability and credibility were enhanced by having

the data analyzed by an outside party and member-checking of the findings with other researchers before the publication of the document. This study provides empirical evidence that support the researchers' argument that the arts (in this case, visual arts) play a critical role as a mediating event for the compositional process. Providing art as a motivational entry point for writing is just one of many tools teachers can use from the toolbox of art integration.

To determine the effect of using cartoons in teaching rules and concepts of Turkish language grammar on student success and course performance in second level of primary school, Yaman (2010) conducted qualitative research on 54 sixth graders for the duration of one school year. These students were divided in the following ways: 50% of the students (27 people) were in the experimental group, and the other 50% of the students (27 people) were in the control group. Data for this experiment was gathered by the students participating in a multiple-choice knowledge test consisting of 25 questions, and by interviews, as a means to determine the opinions of the students involved in the research. The 25-question knowledge test was intended for measuring the knowledge of the students regarding "Voice Knowledge," a Turkish-language program for elementary education. An SPSS 13.0 package program was used to analyze the data of this research. The interview records analyzed were known as content analysis, which is the process of data identification, and coding. The codes were symbols used for classifying/grouping word groups. These codes relate to the research questions. In the context of this study, codes undertake the function of turning independent components into full and meaningful groups,

and later the themes which explain the codes were determined and the findings were interpreted. Also, a computer-aided data-analysis program called QSR NVivo 7 was used in analyzing and modeling the data. The researcher found that the test scores of the students from the experimental group were slightly higher than the test scores of the students in the control group. The researcher concluded that cartoons increase success in grammar learning. All student interviews concluded that students responded positively to the cartoons in their learning, retained information better, increased motivation in the course, and developed more creativity in approaching language grammar.

The transferability of this study is high because the authors included the 25 questions used on the knowledge test; the method for administering the test and gathering the data was explained in detail. In addition, there were many examples from the program included within the study. Credibility of this research was enhanced by triangulation and member-checking done by three Turkish education experts. These experts assisted with the construction of the knowledge test, because they had experience working with the Voice Knowledge program, and the reliability of the test had already been determined before it was used with the students. The structure of the interview was also conducted by the three Turkish education experts along with the researchers. Despite these strengths, the researcher did not state many details about the subjects in the study except for their location and grade. The author also did not state how he gained access to the subjects. The relationship the researcher had to the research subjects prior to conducting this study was only that he is an assistant

professor, on the Faculty of education in the Department of Turkish Teaching at Istanbul University. Details regarding how the subjects of this research were chosen are vague, other than mention of the fact that the students were chosen because they already understood the Voice Knowledge program information. Another disadvantage to this study is that the author makes no mention of the ethnic demographic of the students chosen for this experiment. Despite these shortcomings, Yaman's (2010) research demonstrated that the method of utilizing cartoons as a means of engaging student interest is a productive method that shows results not only in student motivation but academically as well. Similar results can be seen in the following research.

In a smaller qualitative study to investigate the measurable effects of readers' theatre on the literacy needs and motivation of low-achieving students, Corcoran and Davis (2005) examined 12 students in a self-contained combination second- and third-grade classroom. This study was a measure of the attitudinal impact of a readers' theatre program designed to address the oral fluency needs of second- and third-grade students diagnosed with learning disabilities as well as a way to measure the confidence in reading and overall fluency in number of words read correctly per minute. Three of the twelve students were female and nine were male. The ethnicity of the students was as follows: one African American, one Hispanic, one Pacific Islander, and nine Caucasians. Four out of the twelve students received speech services twice a week; three of the twelve students were considered emotionally handicapped. In addition, one of the twelve students was diagnosed with Aspergers Syndrome,

and eight of the students were qualified as learning disabled, specifically with attention deficit disorder (ADD). Students were placed into three readers' theatre groups of four students based upon their reading ability as ascertained by their past oral fluency scores and reading level. Each group consisted of one female and three males. The routines of the study included the fact that readers' theatre always occurred in the morning, with students rotating from independent reading work to reading in a group setting with the teacher present, and then moving on to readers' theatre group meeting with the researcher. All three groups received individualized attention and each play was practiced on average for two weeks (or six sessions) and then performed for the pre-kindergarten classes. This study lasted for eight weeks. Through a pre- and post-survey, the researchers estimated students' attitudes toward reading before and after readers' theatre. From pre- to post-surveys, the comfort levels with the first six questions on the surveys showed a 2%-16% increase. While all questions increased in comfort, the most significant difference was found in the questions "How do you feel about reading out loud in school?" and "How do you feel when it is time for readers' theatre?" (p. 109). The pre-survey findings showed a comfort level of 81 percent in how readers' theater made them feel. In addition, between the end of January and the beginning of April, the oral fluency scores of the students for winter and spring were tested. The researchers found that the number of words read correctly per minute increased overall as a class by an increase of 17 additional words read correctly in spring. Through observations, student videotaped performances and surveys, Corcoran and Davis (2005) inferred that the results

from their study indicated that the readers' theatre program had a positive impact on reading attitudes and confidence level of the second- and third-grade students.

The fact that Corcoran and Davis (2005) had multiple researchers and external auditors provides more credibility to this research, by having both the process and the product of the data audited by an outside party. However, transferability seems possible only if given a situation with the same type of students. Transferability would also be difficult to achieve given the vague description of the coding method that was used. Regardless, this study gives teachers, especially teachers of students with learning disabilities, a method of approaching student learning in a way that is positive, fun and accessible to learners, where perhaps traditional methods of teaching were not as effective.

In a similar study involving the integration of the arts and literacy, Grant, Hutchinson and Hornsby (2008) researched what children might take from their engagement in arts-based activities into reading of literary texts, and potentially into writing from the perspective of another character. To discover an answer to their research question, Grant et al. qualitatively studied a primary school of 400 students in Australia, from self-proclaimed diverse cultural and ethnic backgrounds, for the period of one school year. Similarly to Yaman's (2010) research, Turkish was one of the main languages spoken at the primary school in this study; Arabic was also another common language. The majority of the students engaged in this research were from working-class families. This study collected information through video observations, interviews, writing samples and

working collaboratively with teachers to create case files. The term *art-full* used throughout this research was defined as “exploration of learning beginning with seeing (learning to look, to sustain visual focus) and doing (enacting, role-playing as in created or performance arts) accompanied by saying (inner speech, verbalizing, narrating) reading and writing” (p. 59).

There were five teachers who chose to participate in the creation of the case-studies component of the research. These teachers identified three students (high-, medium-, and low-achieving in literacy). To create the case studies, over the school year the five teachers compiled files of writing samples and classroom observations for their chosen students, while the researchers collected video and photographic data of students and the teachers at work. These various forms of data were discussed with the teachers throughout the year-long project, and final reflections were gathered in a group interview at the end of the year which included the teachers and the students. In addition to the case studies, interviews and observations, professional development workshops were also provided to the five participating teachers designed to provide experiences and extend the teachers’ repertoires in the creative arts. Each teacher adapted a sequence of activities on the theme of lifecycles. The sequence of activities included: a creative arts activity, reading and writing on the theme of lifecycles. The creative arts activity encompassed visual art, drama, and sculpture. The reading included shared reading of a text and various forms of written response. The research article included detailed transcripts of what students said in relation to their experiences regarding the “art-full” learning.

The researchers concluded that the project itself created spaces for teachers to talk about how individual students might benefit from arts-based activities, and to talk through the design of such activities and the practicalities of implementation. Teachers also learned to be intentional in their use of the arts and prioritized the time given to arts. In regards to students, teachers found that play and story were generative of language and that through play and story under-achieving students become more socially confident and articulate.

Transferability was addressed in this study by the researchers including in-depth details regarding the case studies, transcripts of video observations, interview questions and specific literature used in the study. Dependability of this research was consistent with other similar studies; however, the tentative nature in which the researchers stated their findings weakens the stability of this study. Despite this factor, the research conducted by Grant et al. (2008), does press upon any reader the importance of professional development so teachers can feel more comfortable in teaching using the arts, and the benefit of a varied presentation of information for students.

In another school year long qualitative study lasting one school year, Obiozor (2010) studied the effects of integrating popular music into the curriculum to see if it could encourage positive and active participation of students, promote better school attendance, encourage good behavior, and motivate committed learning in the classroom. Obiozor (2010) studied the students within his own middle school classroom in Cambridge, Maryland, which contained students enrolled in the Emotionally Challenged Program on Life

Skills, that focused on acquiring reading, mathematics, writing and social skills. The teacher gathered information on the students to construct case studies of participating students, including interviews with students, in-class student work, essays, critiques, group projects, book reports, and reflections by the students. Also included were teacher narrative (personal findings from working with the students) using Obiozor's personal experience implementing the following teaching strategy: the author redesigned hip-hop song lyrics and presented attitudes of some American artists, utilizing their music instrumentals in selected class lessons to fit into special life-skills topics. The teacher worked with his students in the Emotionally Challenged Program on Life Skills, as well as created opportunities for acquiring reading, math, writing and social skills. The various class lessons profiled different hip-hop artists and music, examined their lyrics and changed some of the songs to reflect positive messages. Obiozor (2010) explained that "the students recited the poetic lines from the songs, read aloud the word syllables, and wrote brief constructed responses (BCRs), essays, critiques and reflections on the lives of these artists, their messages and the implications to the society" (p.18). Furthermore, students worked independently and in groups to identify the main/supporting ideas in the music project, provided alternative statements for the negative words and letters contained in the lyrics, and participated in related group projects, book reports, class presentations, individual hip-hop music compositions, etc. The students were equally encouraged to design posters and display their creative sides in the area of fine arts and CD cover designs, such as drawings, paintings, poetry and general

math computation skills (i.e. addition of an artist's earnings per annum, number of hits on Billboard charts, etc.).

The author found after integrating modern music into the curriculum that the students were more excited and motivated to do class work. Obiozor (2010) also noted that the students within the classroom showed an improvement in self-esteem, self-awareness on critical societal issues, and development and acquisition of various skills (social, listening, writing, reading fluency, communication and ability to interact positively with each other).

One of the strengths of this article was that the researcher made careful note to define all the terms used throughout the study, such as how the researcher qualified emotional/behavioral disability, and hip-hop. Obiozor (2010) also stated his theoretical positioning throughout the article, using Slavin and Wynn as his theoretical reasoning for his focus on African American males. At the end of the article, the researcher stated the limitations of the research. Dependability of the research was enhanced by this as well as the fact that the findings were consistent with other similar studies, and the methods/types of lessons were defined enough that they could be replicated in a similar setting. However, the researcher does not state how the subjects were chosen for the case studies, nor the exact number of subjects, just that the subjects were students in the researcher's middle school classroom. In addition to this, the credibility of the study is questionable due to the fact that there was no triangulation or member-checking, although the researcher does describe data-gathering and data-analysis procedures. Although there are flaws to this case

study, Obiozor (2010), does provide an example of how integrating arts into a curriculum can not only motivate and engage students, but also how understanding one's own students can influence one's teaching practice in a positive manner.

In the penultimate quantitative study conducted by Smithrim and Upitis (2005) lasting three years, the authors examined 8-11 schools at each of six different sites (Vancouver, Calgary, Regina, Windsor, Cape Breton, and Western Newfoundland). From these schools, a random sample was selected of approximately 650 students per grade. Also at each site, a control school was selected. The control schools were matched as closely as possible with the sample schools for size, location (urban/rural) and socioeconomic status. The end result was a sample of 2,602 students chosen from the control schools. Smithrim and Upitis (2005) studied students involved in the Learning through the Arts (LTTA) schools to see if they benefited from the program as evidenced by positive changes in attitudes towards the arts and learning and by achievement in mathematics and language. Learning through the Arts schools are schools which have adopted an arts-integrated curriculum created and sponsored by The Royal Conservatory, one of the world's largest music education institutions.

In this study, the treatment groups were tested, the arts-integrated curriculum designed by The Royal Conservatory was implemented upon the groups for three years and then the groups were again tested with the same test. For the control groups, the students were tested, but no methods were implemented upon them, and after three years the same test was given to them

once again. The same test was used for both control and experimental groups. For the purposes of this study, the researchers analyzed standardized achievement tests (Canadian Achievement Test), to find that $p < .05$, in regards to differences in group means in pre- and posttest Canadian Achievement Test scores for Mathematics and Language and Writing samples. The researchers also holistically scored writing samples and conducted surveys, interviews, and focus-group interviews.

The analysis provided strong indications that involvement in the arts went hand-in-hand with engagement. In interviews and surveys, the students from the treatment groups, the teachers, parents and administrators talked about how the arts engaged children in learning, with frequent references to the cognitive, physical, emotional, and social benefits of learning in and through the arts.

Smithrim and Upitis (2005) provided strong research by including the survey questions within the article, transcripts of the interviews and implications for further research. Another strength of the research was that the data measured in the research was measured by two different outside sources and also accounted for maturation in the analysis. In addition, regression analysis showed that higher performance for the treatment group only existed on the test of computation and estimation. However, history was not stated within the research, and the instrumentation used within the study was extremely vague, so duplicating the research would prove difficult. Despite these flaws, this study indicates that widespread as well as small studies regarding arts integration are being enacted within schools world-wide.

In the final article of this paper Coutts et al. (2009) looked at how efficient the implementation of a country-wide arts-infused education model was to elementary and secondary schools in Scotland over the course of three years. In this qualitative research, the authors conducted surveys and interviews, structured observations, and compiled video diaries as part of the data-gathering process. The subjects involved in this study included 50 teachers, 30 artists, 400 secondary pupils and 600 primary pupils. The participants comprised a range of arts disciplines including three drama specialists, one dance specialist and two visual artists. Involved in the evaluation, which was carried out over two phases of data collection, surveys and interviews were conducted on “key participant” pupils, teachers and artists. Specifically, six artists provided more detailed data through the compilation of video diaries. In addition, there was an in-depth study in three schools that involved semi-participant observation, where a researcher would participate in a lesson planning discussion between a general education teacher and an arts teacher.

Coutts et al. used interviews and video dairies to gain more detailed data than might be gathered using only questionnaires. Questionnaires were also sent to the participants at all phases of the study. The questionnaires, video dairies, and interviews posed open-ended questions regarding the processes of implementation of the curriculum, and reflection on the outcomes for participants. The data acquired from the interviews was analyzed by comparing and contrasting the themes that emerged from the interviews, and ended up being very similar to the original questions that were asked of participants. The data

from the video diaries was analyzed by Coutts, Soden and Seagraves (2009) “by transcribing the text and colour coding themes emerging from the responses” (p.199).

The researchers found that the data suggested that teachers and artists collaborated very well together on this three-year project. However, the perceived effects on academic attainment were ambiguous according to responses from interviews, video diaries and surveys. The project was seen by the reviewers to have a strong, positive impact on psychosocial characteristics such as confidence and working together in teams. The negative aspect of the model was that it was a very time-consuming process, even though many teachers said the extra time it took to implement resulted in not having to review those same concepts as much at a later time.

The credibility of this research was enhanced by the fact that there were data sources from multiple perspectives, thus incorporating triangulation. Member-checking done by having the data analyzed with other participants was also incorporated into this study. The process used for the collection of the data was documented clearly, which enhanced confirmability of the study. The transferability of the study appears as though it would be weak due to the length of the study and sheer size of the sample; however, the researchers did provide resources within the study that clearly documented the creation of the study, which also increases transferability.

The analysis of the research in arts integration and the effects on motivation and self-esteem suggests that arts-based activities help motivate

students who are qualified as under-achieving academically to become more socially confident and articulate. It shows that using visual arts in the writing process adds motivation, which typically leads to more practice and elaboration. Through the integration of music into reading, math, writing and social skills, students become more motivated to do class work, which in turn, can be instrumental in improving self-esteem. The research also contends that, as some researchers hypothesize, the arts can serve as a motivational entry point to reading and writing, thus engaging students in text and reinforcing positive behavior.

Although more analysis may be necessary before the fine arts becomes integrated into the study/learning process within our school system, there are definite advantages to its amalgamation. The researchers' findings present convincing evidence to argue for integration of the arts into our classrooms. Arts integration will not only prove to be beneficial for the students, but it provides our teachers with one more avenue (of teaching) that can only help lead to success within our schools.

Summary

Chapter two reviewed the research literature regarding arts integration into the curriculum. The findings of the studies were summarized and analyzed, leading to the conclusions above. The thirty research articles were reviewed as a way to examine how integrating the arts into other subjects affects student academic achievement and motivation, and what advantages, if any, there are in integration. The research in the advantages and effects of using arts integration

in other subject areas indicated that the integration of any art form within the normal school curriculum offer advantages that provide increased interest and motivation with the students. The arts can act as a means of providing another avenue that students can explore in their learning endeavors; being given the opportunity to show their creativity often enhances the learning experience by helping students become more creative systems-thinkers. The research in arts integration and effects on academic achievement revealed that the opinions regarding the integration of the arts within other academic areas and its effects on test scores still vary greatly. Each study's researcher(s) seem to agree that there may, quite possibly, be a correlation between integration of the arts and academic achievement or test scores. The majority of the studies found that there was a correlational relationship between arts integration and academic achievement, but a causal connection has yet to be found. The research of the arts integration and the effects on motivation and self-esteem suggest that art-based activities help motivate students who are qualified as under-achieving academically to become more socially confident and articulate. Many of the researchers also concluded that the integration of the arts also appears to help students' self esteem. Chapter three outlines the summary of the findings from chapter two with respect to the advantages and effects of using arts integration in other subject areas, arts integration and effects on academic achievement, and arts integration and the effects on motivation and self-esteem. Chapter three will also address classroom implications and provide suggestions for future research.

CHAPTER THREE: CONCLUSION

Introduction

Chapter one examined the idea of integrating arts into the curriculum. One argument for the integration of the arts is that it creates an experiential learning environment for students. Chapter one presented the rationale for integrating the arts for teachers and other educators as a way of reaching various types of learning styles within the classroom, and potentially raising student motivation as well as test scores as an additional benefit. Chapter one also emphasized the importance of integrating the arts into teachers' daily curricula based on the fact that researchers, such as Costantino et al. (2010), have inferred that the arts foster creative problem-solving, which is considered an important skill found throughout the Washington State Essential Academic Learning Requirements. The various art forms could potentially offer many different opportunities to effectively meet different learning needs. Chapter one also introduced the idea that integration of the arts teaches students to think more holistically, thus providing the students with a more well-rounded education. Supporters of the idea often state the benefits to be promoting creativity and incorporating the culturally-mediated processes of making meaning. Chapter one addressed the counterargument that there are only correlational relationships between the arts and academic achievement, not a causal relationship.

Chapter two reviewed the research literature surrounding the above beliefs and controversy related to arts integration and its effects on academic achievement, motivation, student self-esteem, and the promotion of a creative thinking process. The research reviewed in chapter two was organized into three sections: advantages and effects of using arts integration in other subject areas, arts integration and the effects on academic achievement, and arts integration and the effects on motivation and self-esteem. The research was reviewed in order to examine the effects when arts are integrated into other academic areas.

Chapter three includes a summary of the findings that were reviewed in chapter two, based upon the three distinct topics mentioned above. From these findings, chapter three will provide implications for classroom practice and suggestions for further research on the topic of arts integration.

Summary of Findings

What are the effects of integrating the arts within other academic areas, in regards to student academic achievement, student motivation and student self-esteem? The first section of chapter two covered advantages and effects of using arts integration in other subject areas. Eight of the eleven studies in this section were qualitative, and many researchers used similar tests and methods to conduct their studies. Among the eight qualitative studies, six of the eight utilized interviews as part of the data gathering process. Observations were used in three of the eleven studies as well as questionnaires. Case studies were also commonly used as data. The demographics for these studies were mostly students at the elementary level in the United States and Malaysia. The studies

did not concentrate on any particular ethnic group, but tried to represent a sampling of all groups, including students who come from a lower socio-economic background. Oreck (2006) and Taylor (2008) performed surveys and interviews only on teachers. Mason (2006) conducted studies of teachers of elementary students; in addition to interviews he also created case studies of the teachers. Branagan, in 2005, merely used observations, but again, only with teachers and adults. Taylor's (2008) and Branagan's (2005) findings were weak due to a lack of details regarding the ethnic or gender orientation of the subjects included in the study. Also, due to a lack of descriptions regarding how the study was conducted, transferability and dependability of the studies were questionable. The basic findings of Banagan (2005) were that the arts can enhance information transfer and communicative learning, while Taylor's study showed that the arts can increase teacher and student awareness of ethnic and historical perspectives.

In a stronger study, Oreck's (2006) major findings were that spatial patterns and relations were enhanced with the inclusion of the arts. This study was strengthened due to the inclusion of a description of data-gathering techniques, definitions of all terms used within the paper, and inclusion of the interview and survey questions used within the study. Mason's (2006) research was also credible, for the same reasons as are listed for Oreck (2006); in addition Mason used an external auditor and stated the limitations of the study. The fact that Mason (2006) introduced rubrics into the study gives teachers a way to

assess their students' acquisition of knowledge through the use of the arts, in a way that none of the other 29 studies showed.

The qualitative studies that had more transferability and dependability in this section included Dunn and Finley (2010), Smagorinsky (1997), Andrzejczak et al. (2005), and Costantino et al. (2010). These studies were similar in that they were conducted through interviews, and observations, or questionnaires, although Smagorinsky (1997) also created case studies of the subjects. Both the studies conducted by Andrzejczak et al. (2005) and Dunn and Finley (2010) involved the integration of the arts with writing. Dunn and Finley (2010) showed that the use of the arts incorporated with pre-writing gave students practical applications and strategies they could use in their writing efforts that overall made their writing more cohesive and in many cases more elaborate. Through the inclusion of external auditors, the credibility of this study was increased. The study by Andrzejczak et al. (2005) resulted in the students using more time for thoughtful elaboration, which helped students generate stronger descriptions in their writing as well as develop a more concrete vocabulary. The credibility and dependability of this study was enhanced by the inclusion of clearly described data-analysis and coding categories for research data. In addition, the findings of this research were member-checked before publishing. The dependability of this research appears reasonable however, simply due to the fact that the findings are consistent with other, similar studies, such as Dunn and Finley (2010).

In 1997, Smagorinsky concluded that the use of the arts allowed students to reflect on the process and provided a more experiential learning process. The fact that all the interviews of the subjects from the case studies were clearly dictated and presented in the research article strengthened the transferability of the study. The researcher also included member-checking by an outside party before the article was published, which also increased transferability. In contrast, Costantino et al. (2010) used focus groups, surveys and student presentations as data-collection to find that undergraduate college students became more creative systems-thinkers through the collaboration between engineering and arts majors. The research by Costantino et. al. was strong due to the fact that the study used external auditors and triangulation for the data that was collected.

The three quantitative studies included in this section differ in using subjects at different academic levels; preschool students, elementary students, and middle school students. The methods used were also different. Where Gromko and Poorman (1998) used a quasi-experimental design and Kabilan and Kamaruddin (2010) studied a treatment group, DeMoss and Morris (2002) used a correlational study to determine that students' knowledge was more analytical in nature and was more oriented towards conceptual understanding rather than factual recollection. Students also expressed a deeper connection with the content and expressed that learning the content was more fun. The correlation of this study is rather weak due to the small number of subjects and the vague findings. In contrast, Gromko and Poorman (1998) used a quasi-experimental design on preschool children to determine that an intellectually stimulating

environment results in a gain in the ability to perform spatial-temporal tasks. This research was very strong due to the inclusion of maturation, instrumentation, and mortality; the use of identical pretest and posttest; and the use of outside auditors of the data. The final strong argument for integration of the arts was presented by Kabilan and Kamaruddin (2010), whose study of middle school students concluded that the students in the treatment group believed that they thought more creatively, wanted to be different in their presentations of ideas from their classmates, and exhibited positive interactions with other students. The research was strong due to the inclusion of a review of the literature included in the study, the grounding in theoretical framework, the identical pre- and posttests used in the research, and the detailed account of all the interview questions and responses.

The section of chapter two on integration of the arts and the effects on academic achievement contained only one qualitative study and eleven quantitative studies. The qualitative study was conducted by Olshansky in 1999 and dealt mainly with first and second graders; Olshansky found that, for the treatment group that received arts training with their literature, academic achievement almost doubled, while the control group's achievement stayed roughly the same.

Within the eleven quantitative studies, Moore and Caldwell (1993) also focused on student writing samples within control and treatment groups. This study dealt with second- and third-grade students, and the researchers concluded that between week 2 and week 15 of the study, the control group's

scores stayed roughly the same while the scores of treatment groups for drama and art increased greatly. This is a very strong study because the reliability of the instrumentation was tested, the samples were blindly rated, and the authors included definitions of terms used within the study. Caldwell and Moore (1991) also performed a quasi-experimental study with the same grade levels as above, giving identical pre- and posttests, but one group used drawing and one group used discussion as preparation for narrative writing. The results showed that the mean scores were consistently higher for the drawing treatment group from pretest to the week 15 posttest. This was a strong study due to the statement of instrumentation, the blind analysis of the data by two outside parties, and the statement of mortality in the research.

Another quasi-experimental study that utilized identical pre- and posttests on primary grades K-6 was performed by Rickard et al. (2010). As in Caldwell and Moore (1991), the results of this study showed that students in the treatment group demonstrated a greater improvement than the control group on every measure (excluding verbal delayed recall). This study was weaker than the aforementioned studies due to the fact that allocation to the treatment group was not random, maturation was not taken into account, and even though the study lasted for three years, history and mortality were not mentioned.

There were three other quasi-experimental studies conducted using treatment and control groups. Pelligrini and Galda (1982) as well as Schunk (1999) concentrated on grades K-2. Pelligrini and Galda (1982) integrated dramatic play, discussion and drama as part of learning story comprehension

and found that for kindergarten and first grade, the play group scored significantly higher than the discussion or drawing groups; however, for second grade there were no significant differences among results. This study demonstrated strength in the areas of inter-rater reliability, the inclusion of instrumentation, and the selection and definition of terms used throughout the study. The study by Schunk (1999) differed in that the study integrated singing and sign language, and although the grade levels were the same as the previous study, the students included in this study were ELL. The results of the study concluded that the use of sign language may have been more influential than singing, but students using signs or singing still scored higher on the posttest than the students who used neither. This research article had equal strengths and weaknesses. For example, the pre- and posttests that were administered to the treatment and control groups were identical. In addition, Schunk (1999) stated the history of the research, which included a gap of two weeks because of snow and school closures. Unfortunately, the sample selection for this research was not random. Also, neither regression nor mortality was addressed in the analysis.

The final quasi-experimental designed study concentrated on sixth graders divided into three groups, two of which were control groups and one a treatment group in which students were read a geometry-centric children's literature book. This study by Capraro and Capraro in 2006 discovered that there were statistically significant differences between the story group and the two non-story groups in geometry and general mathematics but not in general reading.

This study was weaker than some of the other studies included due to the fact that history, maturation, regression, selection and mortality were not stated.

There were five correlational studies consulted for this research paper. Vaughn and Winner (2000) analyzed 12 available years of SAT data from 1987-1998 and examined the amount of arts course experience as the between-subjects factor. The researchers found that the verbal and math SAT scores of students taking any form of art, irrespective of number of years, are significantly higher than for students who take no art. However, the data is purely correlational and no causal inferences can be made.

Stanley and Strum (2008) studied sequential art books and their assistance in the decoding process. Their results showed that only 39% of the non-sight-words in the books were associated with a recognizable image within the same frame. Some books were more successful than others in representing words. The researchers concluded that the sequential art books used in this study do not provide adequate visual support to enable beginning readers to decode difficult text. While this research does provide areas for further study and states that an outside source checked the data, the correlational size of the data analyzed does not appear to be large enough to be consequential, given the fact that there were only 11 texts examined. The researchers also provided minimal details regarding why they chose these books for this study.

The following year, another correlational study was done by Darrow et al. (2009), who dealt only with second-grade students with specific disabilities in reading. Through integration of music with reading, the researchers found that

students improved significantly from pretest to posttest on all subtests. Results of this test showed that the total score gains of children receiving the music/reading curriculum were somewhat higher but not significantly for students without reading disabilities. This study is important because it shows that there are alternative methods to teaching reading to students with specific reading disabilities. This was a strong study because the authors included very detailed written analysis of specific students from control and experiment groups. The authors also gave specific data regarding the ethnicity, age and socio-economic standing of the students used in the experiment.

Fifth graders were the subjects of the correlational study performed by Brewer (2002), who compared students who participated in some form of art instruction to students who did not. Brewer found that 85% of the students did art work outside of the school, and those students scored significantly higher on the thematic drawing task. This article is strong in the fact that ANOVA was used for the analysis of judges' scoring of the students' drawings; the actual surveys and questionnaires used in the study were also included in the write-up of the research.

In the final correlational study of the integration of the arts and the effects on academic achievement, Kvet (1985) examined the connections between academic achievement and enrollment in a pull-out music program. What the researcher discovered was that there was no significant difference in sixth-grade reading, language, or mathematics achievement between students. The research

is questionable, however, due to the fact that the sample was self-selected and the pull-out music programs reviewed were different.

Lastly, in the section on arts integration and the effects on motivation and self-esteem, two of the qualitative studies were conducted in Turkey. In Yaman (2010) the effect of teaching grammar through cartoons was studied through interviews and knowledge tests performed on sixth graders. Five years prior, Corcoran and Davis (2005) studied the integration of readers' theatre and reading for second- and third-grade Turkish and Arabic students through the creation of case studies. Both of these studies showed positive, but slight, academic gains. However, both studies indicated that students were much more motivated by the learning experience. Yaman (2010) found that test scores were slightly higher, but from student interviews it was clear that student motivation was increased through the incorporation of cartoons. While this research did not include many details regarding the subjects, the researcher built credibility by stating that the test used on the students was constructed with the assistance of an outside party, and the reliability of the test had previously been tested. Corcoran and Davis's (2005) research also showed a slight academic increase with the inclusion of readers' theatre, but importantly, the results from the readers' theatre indicated that the program had a positive impact on reading attitudes and confidence level of the second- and third-grade students. This study was stronger than the study mentioned before, due to the fact that the researchers stated the theoretical background, used multiple external auditors, and included a detailed data-analysis description of the research process. A third

qualitative study, based around the creation of case studies with middle school students, was conducted by Obiozor in 2010. This researcher used music as a motivational entry point with students with emotional disabilities. Through the integration of popular music by substituting subject matter for popular musical lyrics, the researcher found that students were much more excited and motivated to perform class work; these students also improved in student self-esteem, self-awareness on critical societal issues, communication, and ability to interact positively with one another. This research was strong in the fact that the author carefully defined all the terms used in the paper, included the theoretical reasoning and limitations of the study, and described the methods and types of lessons fully enough that they could be replicable in a similar setting.

Art and literacy were combined in the primary school setting in the data gathered through student interviews and student writing samples by Grant et al. (2008). The researcher looked at what children might take from their engagement in arts-based activities into reading of literary texts, as well as into writing from the perspective of another character. The teachers and students interviewed for this study found that drawing, play and story were generative of language and that through drawing, play, and story, under-achieving students became more socially confident and articulate. The transferability of this research was strong because researchers included in-depth details regarding the case studies, transcripts of video observations, interview questions and specific literature used in the study. Dependability of this research was consistent with other similar studies as well.

The final qualitative study was conducted on secondary and primary students using surveys, interviews, and observations. Through a country-wide arts-infused education model over the course of three years in Scotland, Coutts et al. (2009) found that while the perceived effects on academic achievement were ambiguous, the project was agreed to have a strong, positive impact on psychosocial characteristics such as confidence and working together collaboratively. The credibility of this research was enhanced by the fact that there were data sources from multiple perspectives, thus incorporating triangulation. Member-checking done by other participants was also incorporated into this study. The process used for the collection of the data was documented clearly, which enhanced confirmability of the study.

The two quantitative studies included in this section were performed by Trainin et al. (2006) and Smithrim and Uptis (2005). Trainin et al. worked with second and fourth graders combining visual arts and writing. Their study was accomplished by analyzing students' writings. The findings of this study indicated that students who engage in art-making produce larger and higher quality written products. The authors also found that using visual arts in the writing process increases motivation, attention to detail and memory place holders, which in turn lead to more practice and elaboration. The fact that Trainin et al. (2006) included in their study a portion dedicated to implications for the classroom and a section on limitations and future research allows for more transferability and makes dependability more possible because their findings can be more easily compared to other, similar studies. Confirmability and credibility were enhanced by data-

analysis by an outside party and by member-checking of the findings by other researchers. This study provides empirical evidence that supports the researchers' argument that the arts (in this case, visual arts) play a critical role as a mediating event for the compositional process.

In another three-year year study, researchers Smithrim and Upitis in 2005 attempted to integrate all forms of art across a country-wide curriculum adaptation in Canada, for children at grades K-12. The analysis provided strong indications that involvement in the arts went hand-in-hand with engagement. In interviews and surveys, the students from the treatment groups, teachers, parents, and administrators talked about how the arts engaged children in learning, referring to the cognitive, physical, emotional, and social benefits of learning in and through the arts. Smithrim and Upitis (2005) provided strong research by including the survey questions within the article, transcripts of the interviews and implications for further research. Further strengths of the research are that the data measured in the research was measured by two different outside sources and that the researchers took maturation into account in their analysis. In addition, regression analysis was conducted, which showed that higher performance for the treatment group only existed on the test of computation and estimation.

Classroom Implications

Integration of the arts has been shown to have many positive effects and advantages for students. Oreck's (2006) study shows through student and teacher interviews that many students learn best through artistic means.

Teachers need to be aware of the diversity of student abilities, intelligences and learning styles, and should recognize that there is no single way to reach all children. The inclusion of the arts as a means of presenting information to students is one of many different ways to differentiate instruction for the many different types of learners within one classroom.

In the study conducted by Taylor in 2008, it was found that integration of the performing arts and social studies enhanced student's knowledge of history and diverse cultures. This implies to teachers that providing an experience, such as a play, as the foundation for a unit of study, gives students encounter to reflect upon and connect their studies to.

Perhaps one of the most important findings for teachers from this research is Mason's (2006) study involving the creation of rubrics as a way to assess the skills students cultivate while they are engaged in the art-making process. Many teachers are apprehensive of including the arts because they are unsure of how to assess the knowledge attained through the inclusion of the arts. Mason's study in 2006 provides a viable avenue of access to the arts for these teachers.

The research conducted by Dunn and Finley (2010) and Andrzejczak et al. (2005) both found that through the integration of the arts, the writing process was enhanced. To classroom teachers this means that inclusion of the arts allows students to create more cohesive and more elaborate writing due to the use of visual art creation as part of the prewriting process.

The use of readers' theatre techniques was shown in Kabilan and Kamaruddin in 2010 to help students think more creatively as well as promote

positive interactions between students. The DeMoss and Morris (2002) study found similar classroom implications in that using readers' theatre allowed students to create different kinds of knowledge, moving to analytical and oriented more towards conceptual understanding rather than factual recollection. Both studies found that by integrating the arts the connections students made to their learning were more personal and generally deeper.

One of the strongest studies was conducted by Gromko and Poorman in 1998, which found that by including music as part of the teaching process, the spatial-temporal performance of preschoolers was enhanced. Teachers of the younger grades should be particularly interested in this research, due to the developmental level of students from preschool to first grade, where the development of spatial-temporal knowledge is of such importance to growth.

Lastly, as many educational theorists, such as John Dewey and Jean Piaget would support, Smagorinsky's (1997) research suggests to teachers that the inclusion of the arts allows for the students to reflect upon what they have created and the meaning their creation holds in relation to their knowledge of the content area with which art is being integrated.

The research on integration of the arts and the effects on academic achievement shows that many researchers supported and believed that the integration of the arts had a positive effect on student academic achievement, but overall, only a correlational relationship could be found, not a causal relationship. This was exemplified by Vaugh and Winner (2000), who analyzed SAT scores in connection with the amount of arts training students had.

Only two of the twelve studies consulted for the section on arts integration and academic achievement found no significant academic achievement through integration. Kvet (1985) investigated student reading, language and mathematics scores of students who participated in instrumental music programs in comparison to those who did not, only to determine that there was no significant difference in reading, language or mathematics scores. The second study by Stanley and Strum (2008) examined sequential art books to see if the books actually provided enough pictorial representation to assist beginning readers in the decoding process. Their conclusion was that these books did not. This would imply to teachers that they need to be wary of books that claim to assist students in the decoding process. However, since the books selected for this particular study were extremely limited and because the study examined so few of the books now available, teachers merely need to be aware that although some books do not provide enough pictures to help with decoding, with the wide array of books now available, there are other options and it should not be difficult to find ones that will work in their classrooms.

Pellegrini and Galda's (1982) study provided a positive correlation between the integration of thematic play and student comprehension of story elements. When students in the younger, primary grades are just beginning to be introduced to different story elements, it is important to know that there are other methods, such as thematic play, available to the classroom teacher to spark the students' interest and increase their comprehension as well.

There were four different studies completed which dealt with the integration of drawing coupled with the writing process. Brewer (2002) found that students who frequently participated in drawing scored much higher on writing prompts. Caldwell and Moore in two different studies, one performed in 1991 and the other in 1993, found that when drawing was incorporated as part of the narrative writing process, students performed much higher. This alerts teachers to the implication that a visual mental aid, such as drawing, can be used as part of the writing process to enhance performance. Similarly, in 1999, Olshansky incorporated drawing and painting as part of the prewriting process and found that there were positive academic results for students labeled as at-risk, as well as students who were not considered at-risk. In today's world, where teachers have students in their classrooms from all socio-economic backgrounds, teachers will value knowing that there are alternative methods to reach children for whom writing may be a daunting task.

Three studies which examined the art of music being incorporated into the curriculum, found positive results for students. Rickard et al. (2010) found that there were academic benefits of including an instrumental music program on the verbal memory of primary grade students. While not all schools may have an instrumental music program readily available, there are many easily-acquired musical instruments that can be made a part of a classroom environment which could provide this resource. The study conducted by Darrow et al. (2009) found similar results from integrating music as part of a reading curriculum. This research revealed that students with a specific disability in reading greatly

benefitted from the incorporation of music with their reading. Another study used signs and singing as a method to teach vocabulary skills to elementary ELL students. This research showed that while the test-score gains were most significant for the students who used signing to learn vocabulary, the students who were taught the vocabulary through singing also increased their test scores. This could prove to be extremely beneficial in today's classrooms, where an increasing number of ELL students may need some form of differentiation in order to help them grow as learners; music could potentially be one form of differentiation that could be useful for this.

Research on student motivation and self-esteem provided the most positive evidence for implementing a program that includes the arts. A study conducted by Grant et al. in 2008, found that, as observed by teachers and stated by students, when integrating the art of drawing into the curriculum, the self-esteem of students in reading and writing was definitely heightened. Engagement was also increased in students by the inclusion of arts, as was demonstrated by Smithrim and Upitis (2005). Three additional studies positively attributed the integration of the arts as leading to more student motivation in the learning process. Yaman in 2010 found that students were more motivated to learn grammar when it was coupled with the study of the cartooning art form. Obiozor (2010) used music as a way to get students with emotional disabilities to become motivated to perform their studies in school. This study also showed higher self-esteem, as in the studies previously mentioned. The research conducted by Obiozor (2010) demonstrated the importance of knowing one's

students and understanding where they come from. By utilizing a curriculum infused with popular music that the students could relate to, the researcher discovered that connecting learning to student's lives increased their motivation to learn.

Trainin et al. (2006) also found that visual arts could be used as a way to gain a motivational entry point into the writing process for elementary students. Confidence was also seen as a byproduct of the inclusion of the arts, as seen in Corcoran and Davis (2005). In addition, the research performed by Coutts et al. (2009) found that the integration of the arts led to not only a higher confidence level in student work, but also that arts integration showed a positive impact on psychosocial characteristics, including the ability to work collaboratively.

These studies suggest that art-based activities within the classroom help motivate students who are qualified as under-achieving academically and help them to become more socially confident and articulate. It shows that using visual arts in the writing process adds motivation, which, from an academic standpoint, typically leads to more practice and elaboration. Integrating music into reading, math, writing and social skills assists students in becoming more motivated to do class work, which in turn, can be instrumental in improving self-esteem. The research also contends that the arts can serve as a motivational entry point to reading and writing, thus engaging students in text and reinforcing positive behavior, both of which are desirable in a classroom setting.

Although the quantitative research often found only a correlational relationship and not a causal relationship when integrating the arts with other

subjects, it appears obvious that, when included in the classroom, it can prove to have many benefits and offers teachers yet another way to reach their students and potentially be more successful in their teaching.

Suggestions for Further Research

Of the eleven research articles that were reviewed for the effects and advantages for students through the integration of the arts portion of the paper, three were quantitative. While these three articles had their own strengths, they also included weaknesses in their research. DeMoss and Morris (2002) and Gromko and Poorman (1998) were strong articles but the researchers' samples were self-selected. Self-selecting the subjects of research can create a bias in the researchers and skew the results of the experiment. Research should be as bias-free as humanly possible. The third quantitative research included in this portion displayed many weaknesses within the research. In addition to the above issue, Kabilan and Kamaruddin (2010) stated that due to the small sample size of their study, they could not make any generalizations of their findings. All three of these studies would benefit from more data. Typically, more data can lead to a stronger conclusion.

In relation to samples, the qualitative study conducted by Mason (2006) also was vague. By not including how the subjects were chosen, where the subjects were from, their socio-economic status, their gender and other important details, the researcher weakened the transferability of this study. If details such as these just mentioned are included in a study, other researchers and teachers can more readily duplicate the experience, thus enabling them to further prove or

disprove the research that was conducted. If teachers are reading this research and want to know if the knowledge found in the study is duplicable, this is much harder to discern unless details regarding demographics, location, and other data are included. Another aspect that makes transferability challenging is if researchers do not include details regarding the data-analysis or data-coding processes. These weaknesses were apparent in the Dunn and Finley (2010) study as well as the Smagorinsky (1997) article. By including the data-coding and -analysis processes they used, researchers enable others to understand how the data they collected was analyzed, regardless of the criteria of design. This allows readers to copy the analysis process if they perform the study themselves and also helps readers understand the research in greater depth and verify its validity. In regards to data sources, Oreck's (2006) study lacked triangulation. While this does not annul the research, it does detract from the credibility of the study. Triangulation reveals to the readers of the study that the researchers included external auditors in the examination of the data that was collected. If possible, all research should include triangulation because it detracts from biases and provides more stability to the research itself.

The majority of these studies on the effects on academic achievement through arts integration were quantitative, quasi-experimental studies. A major weakness found in some of the quantitative studies was that a pre- and posttest were administered to the subjects to judge how much the subjects had grown or not grown over the course of the treatment, but the pre- and posttests were not the same. This was the main weakness of Capraro and Capraro's study in 2006.

Some studies, such as Pelligrini and Galda's study in 1982, merely had the subjects participate in a posttest, but there was no pretest. Research findings questionable when there is no pretest to compare the posttest scores against. If researchers are going to test students to see how much growth they've made because they are involved in a study, there needs to be a pretest; ideally the pretest and posttest will be identical, in order to accurately judge any change in a subject's performance.

Another common weakness among the quantitative research consulted for this portion of the paper, was that researchers did not state the history of the study. Such was the case in the Rickard et al. (2010) and Caldwell and Moore (1991) studies. Excluding the history of the study detracts from the validity of the research. Researchers should include the history of their studies so that other researchers who are reading the study or teachers who are reading the study can know if there were any interruptions, such as a ringing cell phone, during the research that might have affected the results of the study.

A common weakness of the correlational quantitative studies consulted for this paper was that in studies such as Stanley and Strum (2008) the correlation was not large enough to matter. In the research conducted by Brewer (2002) there were so few details regarding the selection of subjects and the number of subjects that it was impossible to even tell if the correlation was large enough or not. The validity of a study can be put into question if the correlational size of the data being compared is small. The smaller the data sets that are being compared, the harder it is to tell if the researchers' findings actually are pertinent.

The two quantitative studies that were reviewed for the effects on student motivation and self-esteem had similar weaknesses to those mentioned above. In Smithrim and Uptisis' (2005) study, history was not stated, and in addition there was no mention of mortality, which seems extremely odd, due to the fact that the study lasted for three years. For studies that last for long periods of time, maturation, history and mortality should be included if researchers want to increase the validity of their studies.

Weaknesses included in the qualitative studies included in this portion were similar to those mentioned above. For example, Corcoran and Davis (2005) did not describe the coding methods used in the data analysis of the study, thus detracting from the confirmability of the study. Yaman (2010) and Obiozor (2010) also had this issue as they did not include details regarding the selection of the subjects. It is important to include the ethnicity, genders, and other information about the subjects because this adds to the transferability of the study.

One aspect of arts integration that requires further study is which arts skills, concepts, structure, and strategies are most effectively integrated and at which developmental levels. Many teachers express hesitation at integration of the arts because of their own lack of knowledge and confidence in the subject area; further research in regards to teacher development and professional education classes would provide opportunities for teachers. The generalist classroom teacher can spend time creating art in meaningful ways integrating the creative process into the language arts curriculum. As Trainin et al. (2006) show, arts integration will actually increase achievement in language arts. This

however, cannot happen in a vacuum. Teachers need training, a structure they can easily use, ongoing support, and perhaps most importantly, a clear sense that the process is leading to better student performance.

Whole school case studies should also be further researched, in order to provide large bodies of data to balance the many studies with a limited number of subjects included here. Further research needs to be conducted in regards to assessing the integration of the arts, such as Mason's (2006) study, especially in today's world of teacher accountability and often strict curriculum requirements. A conversation including causation, correlation and connection must continue if a stronger connection between the arts and its benefits to academic achievement and motivation is to be found.

Conclusion

Chapter one examined the idea of arts integration. While there are arguments in favor of arts integration, such as the fact it creates an experiential learning environment for students, there are also counterarguments. Two counterarguments are that there are only correlational relationships between the arts in academic achievement, not causal relationships, and that there are no proven connections between arts integration and academic achievement. The rationale for integrating the arts, also presented in chapter one, includes reaching various types of learning styles within the classroom and the additional benefits of potentially raising student motivation as well as test scores. The importance of integrating the arts into teachers' daily curricula was also introduced in chapter one and discussed in further detail in chapter two through studies such as

Costantino et al. (2010), who asserted that the arts foster creative problem-solving. This skill is considered significant and found throughout the Washington State Essential Academic Learning Requirements. The integration of the arts, through its various forms such as drama and music, could also potentially offer many different opportunities to effectively meet different student learning needs. In addition, chapter one introduced the idea that integration of the arts teaches students to be more creative systems-thinkers, thus providing the students with a more holistic education.

Chapter two reviewed the research literature surrounding the above-stated beliefs and controversy related to arts integration and the promotion of a creative thinking processes, and its effects on academic achievement, motivation, and student self-esteem. The research reviewed in chapter two was organized into three sections: advantages and effects of using arts integration in other subject areas; arts integration and the effects on academic achievement; and arts integration and the effects on motivation and self-esteem. The research was reviewed to enable examination of the effects that integrating the arts within other academic areas has on student academic achievement, promoting the creative thinking process, and on student motivation.

Chapter three was the concluding chapter of this paper. It included a summary of the findings that were reviewed in chapter two, based upon the same three areas of study: advantages and effects of using arts integration in other subject areas; arts integration and the effects on academic achievement; and arts integration and the effects on motivation and self-esteem. These findings

showed that arts integration was one method of differentiation available to teachers that often promoted a more creative thinking process in students and allowed them access to knowledge in un-traditional ways, which for some students proved beneficial. In regards to academic achievement, only two studies showed no relationship, positive or negative with the integration of the arts. The other ten studies consulted did find positive relationships between arts integration and academic achievement even though only a correlational connection, not a causal one, could be concluded. These studies suggested that art-based activities within the classroom help motivate students who are qualified as under-achieving academically and help them to become more socially confident and articulate. It shows that using visual arts in the writing process adds motivation, which, from an academic standpoint, typically leads to more practice and elaboration, which in turn, could potentially lead to better writing. . “Students who struggle with writing usually do not need anything different from other typically-achieving children; they just need more examples and practice” (Dunn and Finley, 2010, p.40). The arts provide these examples.

Through examination of the thirty studies, the author of this paper has concluded that there is still much research that needs to be performed. In regard to the nineteen qualitative studies consulted for this research, generally, data-coding methods and further details of the subjects included in the studies need to be addressed more completely. The lack of these elements detracted from the transferability of the studies. For the eleven quantitative studies, the inclusion of maturation, history and mortality was needed in order to increase the validity of

the studies. Further research should be conducted in the areas of professional development for teachers who are hesitant to include the arts due to lack of their own exposure to the process. Whole school studies should also be further researched after the number of studies consulted that included too small of a correlation or sample size to truly present an accurate representation of arts integration. Although in the study of Mason (2006), rubrics were introduced as an option for teachers, due to the rising concern for assessment of student growth, researching how to evaluate the integration of the arts needs to be conducted. Overall, further research should be done in regards to the different structures, strategies, and concepts that are most effectively integrated, with careful attention to developmental appropriateness.

Although more analysis may be necessary before the fine arts becomes integrated into the study/learning process within our school system, the research presented in this paper shows that there are definite advantages to its amalgamation. The researchers' findings present convincing evidence to argue for integration of the arts into our classrooms. It will not only prove to be beneficial for the students, but it provides our teachers with one more avenue of teaching that can only help lead to success within our schools.

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