

**FINE ARTS AND ACHIEVEMENT LEVELS IN  
MIDDLE SCHOOL STUDENTS**

**BY**

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# TABLE OF CONTENTS

I. INTRODUCTION .....	2
II. BACKGROUND INFORMATION .....	6
III. PROCEDURES .....	12
IV. CONCLUSION .....	27
REFERENCES .....	31

## CHAPTER 1

### INTRODUCTION

“The arts are unique languages and symbol systems for communicating ideas, feelings, and different ways of knowing about oneself and the world. The arts engage the whole individual in the acts of creating and performing, and involve the intellectual, the intuitive, the emotional, and the physical being. The arts provide a record of civilization through diverse cultural artifacts that reflect aspects of human thought, action, experience, and assist students in making connections across subject matter. Importantly, the arts develop the essential workplace qualities of teamwork, collaboration, flexibility, appreciation, and respect for others’ ideas and personal expression” (The National Assessment Governing Board).

The richness of the arts and their contribution to thinking and learning create an environment in which students can excel. The combination of art and academic courses students can take fosters higher academic achievement. Art education is related to two specific types of educational objectives. The first is to strengthen academic capabilities. The second objective is to promote career preparation.

“In Michigan, fine arts has been written into the core curriculum with the support of experts in education, governmental agencies at both the national and state levels, national professional organizations, parents’ groups and business leaders insisting on the need to make arts education a basic requirement” (Armstrong 1). To continue the support of these groups, the impact of arts education on academic achievement must be determined.

This issue has been examined at the elementary level in music education. In an article titled “Arts Not Apart, But A Part”, Judith Sukraw-Ebert states that

...over the years, my training, research, and experience in music-- as an educator, supervisor, consultant, and performer-- has shown me that music directly reinforces skills needed in other curriculum areas. A large and growing body of research supports my observations. Neurologist Frank Wilson, for example, has found a strong, positive correlation between music study and vocal, visual, and aural perception; muscular development; physical coordination; sense of timing; power of concentration; ability to cope with stress; and memory skills.

When music education is based on good teaching, and is compatible with the ways children learn, it directly reinforces academic skills. Instrument playing, hand jives and other combinations of movement and music, for example, develop the spatial awareness, laterality, and dexterity needed for writing. A student reading notes practices many of the skills used in reading words: left-to-right, carryover, pattern, sequencing, internalization and interpretation of symbols, speed reading, visual discrimination, and so on. Attentive listening, so necessary in music and dance, is the vocabulary, pronunciation, and memory skills developed in singing.

Singing also has applications, in the education of children and achievement levels. Through singing, students reinforce pronunciation, memory training, sequencing of verbal ideas, and sight vocabulary. As a language experience, singing can help the hearing-impaired child learn to speak naturally, and it is also useful in treating speech problems, such as stuttering. Because songs convey the folklore, rhythms, patterns, and vocal inflections of our language, singing is also probably one of our best- and least used- tools for teaching English to non-native speakers. As educators confront the challenges of using the arts and achievement, it is worth adding that success in music has often motivated the academic and personal development\ (Surkraw-Ebert 13).

Jennifer Davidson, an arts specialist from Oakland Intermediate School District, Michigan, reports that when a student participated in the arts, visual, and aural literacy might have transferred into other curricular areas. When a student examined an art piece or listened to a musical selection, the focused analysis increased the skill with which that student approached the next visual or aural task. Davidson found that close studying of a works of art heightened the visual competency needed for

examining a geometric math problem, selecting graphics or illustrations for a class science project, or understanding the star formations in the galaxy (Davidson 5). Davidson's findings are a result of a research project she conducted on her own students in a Michigan school.

Research has also been done at the high school level. Research on brain hemisphericity and learning styles, integration of fine arts to enhance whole brain learning, and motivation and engagement of students life is brought together in one project called the Sexton High School Program, in Lansing, Michigan (Semonick 22). Studies performed by neurosurgeons and scientists have determined that specific hemispheres are responsible for different functions, process information differently, and that one side usually is dominant. The left hemisphere controls the right side of the body while the right hemisphere controls the left side (Barrett 47). Although not all brains were found to function in the same way, for the vast majority, the left hemisphere controlled the following activities: language, sequential thinking, literal thinking, logical thinking, mathematical thinking, reasoning and analysis. The right hemisphere was considered to be more creative or emotional. Functions for this hemisphere included: simultaneous processing, imagination, sense of color, musical abilities, pattern thinking, spatial tasks, intuition, and metaphorical thinking (Barrett 47). Most of the time the two brains, or hemispheres, worked together to complete a task or combine a stream of thought.

The program was designed to give participants confidence to join clubs, take academic risks, and become part of the band, orchestra, drama, forensic classes, etc... during the next semester. The program involved the attempt to help disadvantaged students to have a support system in school to encourage participation. The total number of program participants was 68, of whom 54 were considered "at risk" (Semonick 22). "At risk" students are students who come from a lower income family,

have special needs, always carry a grade point average below 2.5 on a 4.0 scale, are participants in the free lunch program, and have low standardized test scores.

During the study, 45% of the participants increased their grade point average, 100% of participants joined a school club or sports team, and school staff documented an improvement in the behavior of the participants. Parents involved in the program reported positive changes in their children's home and school behavior. The findings suggest that students are unsuccessful at school not because they lack the mental ability to perform the task, but because they lack responsible behavior (Semonick 22). Responsible behavior is classified as following school rules, being respectful to adults and being accountable for the student's own actions.

Fine arts requires higher order thinking skills, individual and group effort, and an atmosphere of controlled freedom which teaches responsibility. In this particular high school, the program supported the theory that whole brain development is critical to learning theory and should assure the inclusion of fine arts in the school curriculum and extra curricular activities. This program also supported the premise that students involved in student life make a greater commitment to their academic achievement, and hence have greater success in high school (Semonick 22).

The results of the research allude to a correlation between arts education and academic achievement. The research demonstrates that the arts are important in the educational process. The fine arts role in education help strengthen students concentration, fine motor skills, and improve self esteem.

## CHAPTER 2

### BACKGROUND INFORMATION

Elliot Eisner, a well known writer and scholar on arts education, believes that providing arts in the schools is the first real step toward genuine school reform (Eisner 591). “Mere exposure to the best of the arts is not enough.” Eisner said, “the best of the arts needs to be “unwrapped”, to be studied in order to be understood. The schools already teach the vocabularies and ideas of good writing by including great literature in English studies, but great works of art also communicate in images, sounds, and movements. The schools need to teach the vocabularies of these images, sounds, and movements, as well as of words, if young Americans are to graduate from high school with a sense of civilization” (National Endowment for the Arts 2). Eisner also believes that the arts will help students develop higher level thinking skills due to experiences in the arts. These skills will in turn help students to be able to make choices in complex situations (Eisner 591).

In a 1983 study done through the Carnegie Foundation for the Advancement of Teaching, Ernest Boyer indicated that the arts should not be treated as a frill, but instead as a major component of the curriculum. Art education complements and reinforces learning in other curriculum areas. It is founded on solid educational principles, and its influence is felt everywhere in the school. It can make students’ attitudes more positive, pique their desire to learn, and improve their academic performance (Sukra-Ebert 13). Boyer also found that the arts promoted non-verbal communication skills and the use of symbols. Boyer’s findings strengthen the relationship between the arts and academic achievement levels. These skills help students to better develop individual performances.

In The Arts, Max Kaplan, a philosopher in arts education, writes, “the arts are integral, rather than peripheral, to society. Every human society has ways of stylizing some aspect of its value and perceptions. Its symbols consist not only of forms, as in the shape of huts and skyscrapers, but in ways of dress, masks or makeup, songs, cave paintings, and the shape of tools” (Kaplan 19). Kaplan is telling us that the arts are not only important to a school age person, but also to an adult. It is important to apply the arts to everyday life. Kaplan also states that the arts help develop humanistic skills needed to enhance academic learning.

For many students, participation in the arts is required at certain grade levels while for other students a more serious commitment in the arts (choral or instrumental music, visual arts, theater, or dance) could reflect a future career aspiration. In the article, “Jobs, Learning and the Arts”, a survey was taken on jobs in the future (Pitman 14). It was projected that high-technology jobs would only involve a small percentage of the job market and that participation in the arts would provide vocational training for occupations, specifically in entertainment and cultural arts industries, for many students (Armstrong 2).

Boyer, Eisner, Sukraw-Ebert, and Kaplan are known for their writings stressing the value and importance of the arts in education. Research in this area could be valuable for any school district in seeing if more arts courses should be offered and if current offerings need revision or elimination. Educators need to consider the value of the arts not only as a societal preparation, but as a possible means to improving academic achievement for students in schools. What needed to be developed was a test to see if the relationship between taking fine arts courses increased academic achievement versus not electing a fine arts opportunity.

Forseth’s research on students in grades K-5, found that the study of art improved activities, attitudes, and achievement in elementary mathematics. Results

indicated improved attitudes toward mathematics and increased elaboration ability (Forseth 22). Oddliefson documented the transfer of skills learned in music education to other content areas specifically in elementary reading, math, and science using music education. Both pieces of research were limited to elementary students, and did not examine the value of fine arts at the secondary level. (Oddliefson 25). Lutz, in a paper presented at the National Association of Research in Science Teaching, noted that the integration of arts education had a positive effect on science achievement. It was found that affective skills necessary for the development of artistic talent were similar to the development of research skills needed for science. It is possible that the arts have an impact on other content areas. In 1988, Ebert-Sukraw published an article stating that arts education reinforced learning in other curriculum areas. The state of Michigan has again come full circle in relation to what should be mandated in the arts curriculum. Depending on the political party in power the state continues to take a stand for arts education, but has also pushed for a reduction in arts education funding. It is time to look at the relationship of arts education and other curriculum areas. It is time to incorporate arts education into the core curriculum in our schools.

In order to understand the level of this research, it is important to look further at the different levels of learning and learning styles. Instructional practices in classrooms vary greatly. Each teacher has his/her view of best practices. Frederick Taylor's theory of a traditional structured environment might have met the needs of our early American society, but current trends in education support the theory that varied classroom strategies are needed for learning to take place. Today, many teachers have had numerous classes exploring the idea that not all students learn in the same way. The traditional practice has been that everybody learns at the same rate and that is how many teachers teach. It was not until the latter part of the twentieth century that teachers realized from experience and education that the traditional practices did not

work for every student in their classroom. To better understand how arts and achievement are related, it is necessary to explore learning styles, intelligence levels, and other theorists' findings.

Regina White discovered that non-conforming students must be given choices from appropriate alternative learning styles. According to White, students learned more, more easily, and remembered better when they were taught through their preferred learning style (Dunn 143). Unfortunately, there are a large number of identified learning styles, each with its own criteria, for evaluation and value in certain curricula. As White mentions, alternative learning styles and arts courses have provided students a better result in recorded performance levels.

One of the earliest recorded teachers was Plato, a Greek philosopher. He was well known for his teachings in a recollection style. In order for the student to achieve learning, prior knowledge of the subject must be present. He believed knowledge was innate or was instilled in the mind at birth. He used a method of story telling to get his points across.

John Locke was another theorist who studied the question of knowledge. Locke believed a child's mind was like a blank tablet. Once the child began to have experiences, they were stored in the memory. Slowly the child combined simple ideas and used powers of combination or abstraction, for example, to create a complex idea.

Another approach to learning is from the behaviorists. Behaviorists believed that humans were biologically equipped to interact with their surroundings. One element of this theory is classical conditioning or stimulus response. Ivan Pavlov studied the process of digestion in a dog and was able to condition the dog into salivation (a response) when ringing a bell (a conditioned stimulus). Plato, Locke, and the behaviorists all involve theories of practice that make studying the arts related to this study of arts and achievement levels. When humans interact in an environment

that they like, the results are positive learning.

The final area of research on learning styles that needs to be examined is the area of right-brain/left-brain. Although the concept was introduced in the 1950s by Roger Sperry, the theory expanded as research techniques became more sophisticated. Surgical procedures and medicine allowed scientists to study the brain and its many functions and to accurately define and explore the lobes of the brain.

In 1950, Roger Sperry suggested that humans had two brains: each one of equal importance, but with different ways of processing information. The right hemisphere, or brain, used information in a holistic non-verbal manner, while the left brain was linear, sequential and logical. This research on the left brain was expanded in the 1970's and 1980's to explain various learning styles. Sperry determined that there appeared to be two modes of thinking, verbal and non-verbal, represented rather separately in left and right hemispheres. Our educational system, as well as science in general, tends to neglect the non-verbal form of intellect. What it comes down to is that modern society discriminates against the right hemisphere (McCarthy 71).

The two hemispheres are connected by the corpus callosum, or thick strand of nerves. The corpus callosum relays information between the hemispheres. Studies performed by neurosurgeons and scientists determined that specific hemispheres were responsible for different functions, processed information differently, and one side was usually dominant. For example, the left hemisphere controlled the right side of the body while the right hemisphere controlled the left side (McCarthy 71).

Although not all brains functioned in the same way, for the majority of humans, the left hemisphere controlled the following activities: language, sequential thinking, literal thinking, logical thinking, mathematical thinking, reasoning, and analysis. This hemisphere was involved with verbal skills.

The right hemisphere we consider to be more creative or emotional. Functions

for this hemisphere include: simultaneous processing, imagination, sense of color, musical abilities, pattern thinking, spatial tasks, intuition, and metaphorical thinking (Barrett 47). Most of the time the two hemispheres work together to complete tasks or combine a stream of thought.

As students moved through the educational system, they tended to “self-select” into the fields/careers choices that favored their particular learning styles (Barrett 11). For example, science and arts students had consistent views about the types of learning these two broadly defined subject areas demanded. They also agreed on what the differences were. Learning tasks in science were typically described as hierarchical, logical, heterogeneous, and rule and procedure governed; humanities and social sciences tasks were seen to require interpretation, comparison, generalization, and self-direction (Barrett 47).

Learning styles have been successful in forcing educators to acknowledge that people think and process information in different ways. Brain research has demonstrated that brain hemispheres work together despite the specialization of the two hemispheres. For example, a classroom teacher might create a lesson to accommodate the various learning styles to maximize learning. A given course could be taught in a way that is advantageous (or disadvantageous) to a particular style (Sternberg 35). With teachers having the ability to know students different learning styles, classes can be taught to meet the students needs.

It is evident that with the competition in today’s world that students should have every opportunity to develop higher achievement than previous students. In a study by Kvet, student achievement was not affected when students were excused from the regular classroom to participate in elementary instrumental music (Kvet 33).

**CHAPTER 3**  
**ANALYSIS**  
**A PILOT STUDY**

**Methodology**

Arts education has usually been considered an extra, “fun” class. Now, it is being included as part of the core curriculum. Thus, this study is conducted during an important time in fine arts education and education in general. With the requirements mandated by the state and federal government, this study comes at an important time. The world of education is competing to produce quality educated children who no longer will be able to survive on just a high school degree anymore. These future children will need a more advanced competitive edge to be able to survive in the adult world. With this study the results provide information that arts education may be needed to provide a better education to children.

This correlational study has been conducted to discover whether a relationship exists between work in the fine arts and academic achievement. Grade point average and participation in the fine arts classes have been considered in determining the research results. Eighth grade students at a middle school are the population being studied. Their grade averages over a three year period will provide the data for this analysis.

**Hypothesis**

***There is a relationship between work in the fine arts and achievement in other academic areas. Eighth grade students involved in***

*the fine arts programs will show significant by higher academic achievement levels, using Grade Point Average and teacher observational assessment as a standard, than those students not involved in fine arts at the middle school level.*

The hypothesis will be tested by comparing eighth grade and sixth grade academic performance of students who do, and those who do not, elect courses in the fine arts. The underlying assumption is that course work in the fine arts strengthens students capabilities in other academic areas. What should be documented by comparison of sixth and eighth grade academic records is that students electing fine arts courses should demonstrate stronger academic performance than those who do not elect such courses. If, for example, students who do not elect fine arts courses, on the average, raise their grade point averages from the sixth grade to the eighth grade, those who do elect such courses should demonstrate even greater improvement.

### **Definitions**

Fine Arts: curriculum involving the areas of instrumental and vocal music, visual arts, and drama.

G.P.A: grade point average

Academic Achievement: the level students accomplish in grade point average

Fine Arts Program: involvement in a semester or more of fine arts within one year.

## **Limitations**

This study has been conducted with students who have completed the eighth grade. The data were taken from students' report cards over a three year period. This study was intended only to show how election of fine arts courses is related to academic achievement. It was not intended to compare programs or different students achievement levels in a specific art area. The number of student records examined was predetermined by student enrollment at the middle school.

## **Statement of Procedures**

Students are recognized for academic achievement by grade point average. Students' grade point averages were compiled for both sixth grade and eighth graders. Then, the data were analyzed to answer the following questions:

1. Is there a relationship between taking elective arts classes and academic achievement level?
2. Is there a relationship between election of arts courses and grades in other academic courses?

## **Data Collection**

Student course selection and grades were examined to permit comparison of academic performance of two groups of students. The first group included those who had taken two elective courses in the fine arts in middle school (covering the sixth to eighth grades); the second group comprised students who had not taken any elective fine arts courses. Examination of grade point averages for each group, at both levels

had the opportunity to test the assertions that the study of fine arts strengthens the abilities of students in other academic areas. Examination of sixth- and eighth-grade averages, while not seen as a definitive test of the impact of the study of fine arts on broader academic development, but was considered a useful basis for testing assertions about the broader academic implications of fine arts study. What was anticipated was that, in the sixth-to-eighth grade comparisons, students who had elected fine arts courses would show more positive results than did students who had not elected such courses.

Permission for use of student records was obtained from the building principal, Peg Sell. She gave permission to use any records needed to complete the research and test. She also requested a copy of the completed study.

To test the widely held view that the study of the arts strengthens abilities in other subject areas this project was developed based on academic selection and performance at the end of the eighth grade. Students in that list were divided into two groups, based on whether they had or had not taken elective courses in the fine arts. Grade point averages for the sixth grade were then compiled for students in each group. For students electing fine arts courses, it was possible to record in which class each student participated and the number of weeks he or she was enrolled. For example, an eighth grade art class would last for 20-weeks, but a student might repeat the course for a total of 40-weeks of art. Another student might drop out of a 20-week art course after 10 weeks to participate in another fine arts class. Student records were examined carefully to avoid the possibility of overlap in determining fine art credit.

The students whose records are examined in this analysis provided an opportunity to test the accuracy of the view that work in the fine arts strengthens performance in other academic areas. While all students have at least minimal

exposure to the arts, they also have the option of taking up to two semesters of elective fine arts course. Comparison of sixth and eighth grade academic performance provides the an opportunity to test for claimed beneficial effects of the study of the fine arts on academic performance in other subjects. Two groups of students--those who elected fine arts courses and those who did not elect fine arts course-- can be compared, based on changes in their grade point averages from the sixth grade to the eighth grade. The hypothesis to be tested is that students who elected the fine arts courses will outperform, as measured by, the sixth grade and eighth grade comparison of grade point averages, those who did not elect work in the fine arts.

Tables 1 and 2 present the data for this analysis. Table 1 lists the sixth-grade and eighth-grade grade point averages for each student who elected courses in the fine arts as part of his or her middle school curriculum; the eighth-grade grade point average is computed both including and excluding grades earned in fine arts courses. Table 2 presents the same information, sixth-grade grade point average and eighth-grade grade point average, for those who did not elect courses in the fine arts. Mean and median grade averages also are presented.

As Table 1 illustrates, those taking fine arts courses tended to be stronger students at the sixth grade level. Fifty-one percent had high grade point averages (3.5 and higher), as compared to thirty-seven percent of those not taking fine arts courses. Moreover, both the mean and median sixth-grade averages were higher for those in the group electing fine arts, as comparison of the two tables indicates.

The mean sixth grade grade point average was 3.20, and the median 3.50, for students who elected fine arts. the corresponding averages were 2.93 (mean) and 3.16 (median) for those not electing fine arts courses.

**TABLE 1****SIXTH GRADE AND EIGHTH GRADE STUDENTS  
ELECTING FINE ARTS COURSES**

<u>STUDENT</u>	<u>6TH GRADE GPA</u>	<u>8TH GPA WITH FINE ARTS</u>	<u>8TH GPA EXCLUDING FINE ARTS</u>
1.	1	0	0
2.	1	0	0
3.	1.5	0.166	0
4.	1.5	0.5	0.428
5.	1.6	1	0.5
6.	1.66	1.166	0.571
7.	1.66	1.166	0.66
8.	1.83	1.166	0.83
9.	1.833	1.166	0.875
10.	1.833	1.33	0.875
11.	2	1.333	1
12.	2	1.333	1.16
13.	2	1.6	1.25
14.	2	1.666	1.285
15.	2	1.83	1.375
16.	2.166	1.833	1.5
17.	2.166	1.833	1.5
18.	2.166	1.833	1.5
19.	2.166	2	1.57
20.	2.33	2	1.6
21.	2.33	2	1.6
22.	2.333	2	1.6
23.	2.5	2	1.625
24.	2.5	2	1.66
25.	2.5	2.166	1.66
26.	2.5	2.166	1.8
27.	2.5	2.166	1.857
28.	2.5	2.33	1.857
29.	2.6	2.333	1.857
30.	2.66	2.333	2
31.	2.66	2.333	2
32.	2.66	2.5	2.125
33.	2.66	2.5	2.14
34.	2.66	2.5	2.14
35.	2.666	2.5	2.16
36.	2.666	2.5	2.16
37.	2.75	2.5	2.166
38.	2.8	2.5	2.166
39.	2.833	2.6	2.2
40.	2.833	2.66	2.25
41.	2.833	2.666	2.25
42.	2.833	2.666	2.25
43.	2.833	2.666	2.25
44.	2.833	2.666	2.285

45.	3	2.8	2.285
46.	3	2.83	2.33
47.	3	2.833	2.333
48.	3	2.833	2.333
49.	3	2.833	2.4
50.	3	2.833	2.4
51.	3	2.833	2.4
52.	3	2.833	2.4
53.	3	2.833	2.458
54.	3	2.833	2.5
55.	3	2.8333	2.5
56.	3	3	2.5
57.	3	3	2.5
58.	3	3	2.6
59.	3.16	3	2.6
60.	3.166	3	2.625
61.	3.166	3	2.625
62.	3.166	3.166	2.66
63.	3.166	3.166	2.666
64.	3.33	3.166	2.75
65.	3.333	3.166	2.75
66.	3.333	3.166	2.8
67.	3.333	3.166	2.8
68.	3.333	3.166	2.8
69.	3.333	3.3	2.8
70.	3.333	3.33	2.83
71.	3.333	3.33	2.833
72.	3.5	3.33	3
73.	3.5	3.333	3
74.	3.5	3.333	3
75.	3.5	3.333	3
76.	3.5	3.333	3
77.	3.5	3.333	3
78.	3.5	3.5	3
79.	3.5	3.5	3
80.	3.5	3.5	3.2
81.	3.5	3.5	3.2
82.	3.5	3.5	3.25
83.	3.5	3.5	3.25
84.	3.5	3.5	3.25
85.	3.5	3.5	3.25
86.	3.5	3.5	3.25
87.	3.5	3.5	3.5
88.	3.5	3.5	3.5
89.	3.5	3.5	3.5
90.	3.5	3.5	3.5
91.	3.5	3.6	3.5
92.	3.5	3.6	3.5
93.	3.5	3.6	3.5
94.	3.5	3.6	3.6
95.	3.66	3.666	3.6
96.	3.666	3.666	3.6

97.	3.666	3.666	3.6
98.	3.666	3.666	3.75
99.	3.8	3.666	3.75
100.	3.8	3.666	3.75
101.	3.8	3.666	3.75
102.	3.83	3.83	3.75
103.	3.83	3.83	3.75
104.	3.83	3.83	4
105.	3.83	3.83	4
106.	3.83	3.83	4
107.	3.83	3.83	4
108.	3.83	3.83	4
109.	3.83	3.83	4
110.	3.83	3.83	4
111.	3.83	3.83	4
112.	3.83	3.833	4
113.	3.833	4	4
114.	3.833	4	4
115.	3.833	4	4
116.	3.833	4	4
117.	4	4	4
118.	4	4	4
119.	4	4	4
120.	4	4	4
121.	4	4	4
122.	4	4	4
123.	4	4	4
124.	4	4	4
125.	4	4	4
126.	4	4	4
127.	4	4	4
128.	4	4	4
129.	4	4	4
130.	4	4	4
131.	4	4	4
132.	4	4	4
133.	4	4	4
134.	4	4	4
135.	4	4	4
136.	4	4	4
137.	4	4	4
138.	4	4	4
139.	4	4	4
140.	4	4	4
141.	4	4	4
142.	4	4	4
143.	4	4	4
144.	4	4	4
145.	4	4	4

<b>TOTAL</b>	<b>464.35</b>	<b>443.11</b>	<b>412.06</b>
<b>MEAN</b>	<b>3.20</b>	<b>3.05</b>	<b>2.84</b>
<b>MEDIAN</b>	<b>3.5</b>	<b>3.33</b>	<b>3</b>

Comparison of the data in Tables 1 and 2 clearly does not support the hypothesis that work in the fine arts strengthens other analytical capabilities. First, and this was not anticipated, grade averages were lower in the eighth grade than in the sixth grade for those electing fine arts courses. Further, the percentages of students achieving high grade point averages (3.5 and above) declined, from 3.20 to 3.05 and the decline was almost identical for students electing, and those not electing, courses in the fine arts.

**TABLE 2**

**COMPARES SIXTH GRADE AND EIGHT GRADE AVERAGES OF STUDENTS WHO DID NOT TAKE FINE ARTS COURSES**

<u>STUDENT</u>	<u>6th GRADE</u>	<u>8TH GRADE WITH NO FINE ARTS</u>
1.	0	2.333
2.	1	2.5
3.	2.333	2.5
4.	2.333	2.5
5.	2.5	2.666
6.	2.5	2.833
7.	2.5	2.833
8.	2.5	3
9.	2.833	3
10.	2.833	3
11.	3	3.166
12.	3.166	3.333
13.	3.166	3.333
14.	3.166	3.5
15.	3.333	3.5
16.	3.333	3.5
17.	3.333	3.5
18.	3.5	3.5
19.	3.666	3.5
20.	3.666	3.666
21.	3.666	3.833

22.	3.833	4
23.	4	4
24.	4	4
25.	4	4
26.	4	4
27.	4	4
<b>TOTAL</b>	<b>82.16</b>	<b>92.66</b>
<b>MEAN</b>	<b>2.93</b>	<b>3.43</b>
<b>MEDIAN</b>	<b>3.16</b>	<b>3.33</b>

Contrary to expectations, the strongest indication of positive change from the sixth to the eighth grade was registered among the students not electing courses in the fine arts. Among those students, the mean grade average rose from 2.70 to 3.02, and the median from 2.83 to 3.00 (Table 3 and 4).

What the preceding tables demonstrate is that, by this test at least, a comparison of the sixth- and eighth-grade grade point averages of students electing, and not electing, course in the fine arts does not support this study's hypothesis. Not only do those electing fine arts courses fail to increase the gap between them and other students demonstrated in the sixth grade, but in fact, their grade averages drop over the three-year period, while the averages of other students increase .

Contrary to expectations, the fine arts electives mean and median scores dropped substantially. And, contrary to assumptions underlying the hypothesis, when grades in fine arts courses were excluded in computing the eight-grade grade point averages, the drop in grade average was magnified. The mean grade point average fell from 3.20 (sixth grade to 3.05 including fine arts courses, and 2.84 excluding fine arts courses eighth grade).

By contrast, for those students not electing fine art courses, the sixth-grade mean average of 2.93 rose to 3.43 in the eighth grade, and the median rose to 3.33 from 3.16.

Tables 3 and 4 parallel Tables 1 and 2, eliminating those who registered 4.0

averages in the sixth grade. The original purpose of these computations was to eliminate a potential bias in testing the hypothesis. An underlying assumption was that students who elected fine arts courses tended to be stronger academically than other students. Since approximately one-fourth of the fine arts elective students had 4.0 averages in the sixth grade, and therefore could not show improvement as registered by a higher average in the eighth grade, the concern was that enhanced performance of other fine arts electives would be masked by distorted mean and median averages. What Table 3 and 4 illustrate, however, is that the pattern based on inclusion of all students is repeated. While the median did not change, the mean average for fine arts electives fell from 2.97 to 2.79. For the other students, the mean (2.70 to 3.02) and median (2.83 to 3.00) both rose.

**TABLE 3**

**COMPARES SIXTH GRADE AND EIGHTH GRADE AVERAGES  
OF THOSE WHO ELECTED FINE ARTS,  
INCLUDING AND EXCLUDING FINE ARTS GRADES,  
BUT EXCLUDING THOSE WITH 4.0 AVERAGES  
IN THE SIXTH AND EIGHTH GRADE.**

<u>STUDENT</u>	<u>6th GRADE</u>	<u>8TH GRADE WITH FINE ARTS</u>	<u>8TH GRADE WITHOUT FINE ARTS</u>
1.	1	0	0
2.	1	0	0
3.	1.5	0.166	0
4.	1.5	0.5	0.428
5.	1.6	1	0.5
6.	1.66	1.166	0.571
7.	1.66	1.166	0.66
8.	1.83	1.166	0.83
9.	1.833	1.166	0.875
10.	1.833	1.33	0.875
11.	2	1.333	1
12.	2	1.333	1.16
13.	2	1.6	1.25
14.	2	1.666	1.285
15.	2	1.83	1.375
16.	2.166	1.833	1.5

17.	2.166	1.833	1.5
18.	2.166	1.833	1.5
19.	2.166	2	1.57
20.	2.33	2	1.6
21.	2.33	2	1.6
22.	2.333	2	1.6
23.	2.5	2	1.625
24.	2.5	2	1.66
25.	2.5	2.166	1.66
26.	2.5	2.166	1.8
27.	2.5	2.166	1.857
28.	2.5	2.33	1.857
29.	2.6	2.333	1.857
30.	2.66	2.333	2
31.	2.66	2.333	2
32.	2.66	2.5	2.125
33.	2.66	2.5	2.14
34.	2.66	2.5	2.14
35.	2.666	2.5	2.16
36.	2.666	2.5	2.16
37.	2.75	2.5	2.166
38.	2.8	2.5	2.166
39.	2.833	2.6	2.2
40.	2.833	2.66	2.25
41.	2.833	2.666	2.25
42.	2.833	2.666	2.25
43.	2.833	2.666	2.25
44.	2.833	2.666	2.285
45.	3	2.8	2.285
46.	3	2.83	2.33
47.	3	2.833	2.333
48.	3	2.833	2.333
49.	3	2.833	2.4
50.	3	2.833	2.4
51.	3	2.833	2.4
52.	3	2.833	2.4
53.	3	2.833	2.458
54.	3	2.833	2.5
55.	3	2.8333	2.5
56.	3	3	2.5
57.	3	3	2.5
58.	3	3	2.6
59.	3.16	3	2.6
60.	3.166	3	2.625
61.	3.166	3	2.625
62.	3.166	3.166	2.66
63.	3.166	3.166	2.666
64.	3.33	3.166	2.75
65.	3.333	3.166	2.75
66.	3.333	3.166	2.8
67.	3.333	3.166	2.8
68.	3.333	3.166	2.8

69.	3.333	3.3	2.8
70.	3.333	3.33	2.83
71.	3.333	3.33	2.833
72.	3.5	3.33	3
73.	3.5	3.333	3
74.	3.5	3.333	3
75.	3.5	3.333	3
76.	3.5	3.333	3
77.	3.5	3.333	3
78.	3.5	3.5	3
79.	3.5	3.5	3
80.	3.5	3.5	3.2
81.	3.5	3.5	3.2
82.	3.5	3.5	3.25
83.	3.5	3.5	3.25
84.	3.5	3.5	3.25
85.	3.5	3.5	3.25
86.	3.5	3.5	3.25
87.	3.5	3.5	3.5
88.	3.5	3.5	3.5
89.	3.5	3.5	3.5
90.	3.5	3.5	3.5
91.	3.5	3.6	3.5
92.	3.5	3.6	3.5
93.	3.5	3.6	3.5
94.	3.5	3.6	3.6
95.	3.66	3.666	3.6
96.	3.666	3.666	3.6
97.	3.666	3.666	3.6
98.	3.666	3.666	3.75
99.	3.8	3.666	3.75
100.	3.8	3.666	3.75
101.	3.8	3.666	3.75
102.	3.83	3.83	3.75
103.	3.83	3.83	3.75
104.	3.83	3.83	4
105.	3.83	3.83	4
106.	3.83	3.83	4
107.	3.83	3.83	4
108.	3.83	3.83	4
109.	3.83	3.83	4
110.	3.83	3.83	4
111.	3.83	3.83	4
112.	3.83	3.833	4
113.	3.833	4	4
114.	3.833	4	4
115.	3.833	4	4
116.	3.833	4	4

<b>TOTAL</b>	<b>348.358</b>	<b>327.1113</b>	<b>296.065</b>
<b>MEAN</b>	<b>2.97</b>	<b>2.79</b>	<b>2.53</b>
<b>MEDIAN</b>	<b>3</b>	<b>3</b>	<b>2.6</b>

**TABLE 4**

**COMPARES SIXTH GRADE AND EIGHTH GRADE AVERAGES OF STUDENTS THAT ELECTED TO NOT TAKE FINE ARTS COURSES**

<u>STUDENT</u>	<u>6th GRADE WITH NO FINE ARTS</u>	<u>8TH GRADE WITH NO FINE ARTS</u>
1.	0	2.333
2.	1	2.5
3.	2.333	2.5
4.	2.333	2.5
5.	2.5	2.666
6.	2.5	2.833
7.	2.5	2.833
8.	2.5	3
9.	2.833	3
10.	2.833	3
11.	3	3.166
12.	3.166	3.333
13.	3.166	3.333
14.	3.166	3.5
15.	3.333	3.5
16.	3.333	3.5
17.	3.333	3.5
18.	3.5	3.5
19.	3.666	3.5
20.	3.666	3.666
21.	3.666	3.833
22.	3.833	4
<b>TOTAL</b>	<b>62.16</b>	<b>69.49</b>
<b>MEAN</b>	<b>2.70</b>	<b>3.02</b>
<b>MEDIAN</b>	<b>2.83</b>	<b>3</b>

Among students electing fine arts, the mean average dropped from 2.98 to 2.80 with fine arts grades included, and to 2.53 with fine arts grades excluded. However, the mean average increased from 2.70 to 3.02 for those not electing fine arts. Moreover, the median average increased from 2.53 to 3.00 for those not electing fine

art, but fell from 3.00 to 2.60 (with fine arts grades excluded) among students who elected fine arts courses.

## Conclusion

Arts Education seems to be making a difference in achievement levels of students. By looking at different intelligences, learning styles, and brain side activities we can better understand why this type of research is needed in the schools.

The null hypothesis for this research was that sixth, seventh, and eighth grades involved in fine arts programs would not show higher student achievement than those students not involved in fine arts at the middle school level. The results of this study supported the null hypothesis with the correlation showing negative significance. Significance does not refer to the importance, but rather to probability, odds, or happening chance. Even though the study was not statistically significant, this study does suggest several implications for learning.

A review of previous research found a common element reappearing: students had a preferred learning style. However, researchers did not find evidence that students stopped learning when information was not presented in their preferred learning style. For example, if a student is a visual learner and has teachers that teach to an auditory learning style the research shows these students don't stop learning, but might not retain as much information if they had material presented in their preferred learning style.

The assumed premise for the rejection of the null hypothesis was that exposure to the fine arts increased academic learning by providing or strengthening alternative ways of processing information, either through right brain development or various learning styles. However, the results of this study did not support this premise.

Carl Jung believed that intelligence was unchangeable, but that the way a student processed information varied. Perhaps intelligent students processed information for cognition in various learning styles, but the amount of information

processed remained consistent.

Bloom supported the ideas that students could have a combination of several learning styles. Bloom believed in the inter-dependency of the cognitive and affective levels and suggested that students operated using both sets of behaviors.

The work of Jung and Bloom would support the acceptance of the null hypothesis: Students continuously operate at different levels of cognition and although the possibility exists for the development of various learning styles through fine arts, it is not a necessity for student achievement if intelligence is predetermined.

In support of the null hypothesis, one possibility as to why exposure to fine arts did not influence student achievement was that the intelligent child would be able to transfer information taught in one style into another preferred style for greater understanding with or without fine arts.

Right brain theorists suggest that students needed to be presented information that was meaningful to this dominant side of the brain, yet agreed to the theory that although one side of the brain was dominant, both hemispheres did work together to process information. Fine arts might have been used to encourage right brain development, but was not necessary to guarantee academic success.

From the number of honors students that elected fine arts at the middle school, this trend might suggest that there was a cause-effect relationship between fine arts and academic achievement.

## **Summary**

This study was created to determine if there was a relationship between participation in the fine arts and academic achievement levels in middle school students. That's not to say that given other circumstances differences will occur.

Students from a middle school from 1995-96 to 1997-98 school years were selected for this study. One possibility for increased achievement was that the arts developed various learning styles or hemispheres of the brain which in turn increased learning.

However the results of this study supported the null hypothesis: sixth, and eighth grades involved in fine arts programs did not show higher student achievement than those students not involved in fine arts at the middle school level. There was no significant difference between student grade point average from sixth grade to eighth grade.

### **Recommendations**

More needs to be done in the area of fine arts and academic achievement. Additional research should include a larger pool of students. One approach to this would be to study groups of students from other school districts. With the development of charter schools, the possibility exists for finding a school that integrates fine arts into the entire curriculum and then investigate student achievement.

This study accepted the null hypothesis and showed no significance in the correlation between fine arts and academic achievement. This sample of middle school students did not demonstrate any improvement in academic achievement related to participation in the fine arts. Could further research be done over different grade levels or with the same students over more grade levels (years)? Maybe fine arts benefits students more in the younger years because of development of memory, fine motor skills, and self esteem? A study could be developed that linked this with academic achievement. On the other hand, maybe too much emphasis is put on achievement levels and more should be put on the importance of the arts and development. Here again, is another line of research that could be explored. Finally,

maybe teachers, researchers, and parents are approaching the situation from the wrong angle. This researcher does encourage additional exploration in this area by expanding the study as recommended: 1) refer to comparing students academic performance based on having studied or not studied one of the fine arts via, for example. several years of piano lesson and 2) compare distinguished between work in a) music and b) visual arts.

## WORKS CITED

- Armstrong, Linda. The Relationship Between Fine Arts and Academic Achievement Involving Students in the Seventh and Eighth Grade. Michigan: Ypsilanti, 1993.
- Barrett, Susan. It's All In Your Head. Minnesota: Free Spirit Publishing, 1992.
- Boyer, Ernest. High School: A Report on Secondary Education in America. New York: Harper and Row. Center for Education Statistics.
- Cardona, Ana Luisa. Curriculum Development Program. Michigan Department of Education. MI: Lansing. October 29, 1998
- ...Public School District Policies and Practices in Selected Aspects of Arts and Humanities Instruction. Washington D.C.: Center for Education Statistics. Center for Education Statistics Bulletin.
- Davidson, Jennifer. Occasional Papers: Current Trends and Critical Issues in Arts Education: Curriculum Implications. Michigan: Waterford.
- Dunn, R. "Teaching Students Through Their Individual Learning Styles: A Research Report. Learning Styles Network Education, Students Learning Styles and brain Behavior. National Association of Secondary Principals. VA: Reston, 142-151.
- Ellis, Arthur. "Approval of the Model Content Standards for Curriculum and Receive the Report in the Benchmarks for the Areas of Arts Education and World Languages," State of Michigan Department of Education. 1998.
- Eisner, Elliot. Cognition and Curriculum: A Basis for Deciding What to Teach. New York: Longman.
- Forseth, S. "Art Activities, Attitudes and Achievement in Elementary Mathematics". Studies in Art Education, 1980. 21, 2, 22-27.
- Gardner, H. Frames of Mind: The Theory of Multiple Intelligences. New York: Basic Books, Inc.

- ... “Artistic Intelligences: Implications for Education”, In Learning Styles: Putting Research and Common Sense into Practice. Virginia: American Association of School Administrators, 1991; 16-20.
- Kaplan, Max. The Arts: A Social Perspective. Rutherford: Associated University Presses;1990, 19-25.
- Kvet, Edward. Excusing Elementary School Students From Regular Classroom Activities for the Study of Instructional Music: The Effect on Sixth-Grade Reading, Language, and Mathematics Achievement. Journal of Research in Music Education. Vol 33; 44-54.
- Lutz, J. The Potential for Improving Science Education Through Trans-disciplinary Integration with Arts Education. National Association for Research in Science Teaching. CA: San Francisco, 127-139.
- Madeja, Stanley S. The Arts, Cognition, and Basic Skills. Missouri: Cemrel, Inc.;1978.
- McCarthy, P. and Schmeck, R. “Student’s Self-Concepts And The Quality Of Learning In Public Schools And Universities” Learning Strategies and Learning Styles. New York: Plenum Press 1988, 131-153.
- Moody, W. Artistic Intelligences: Implications for Education. New York: Teachers Collage Press, 170-183.
- Oddleifson, E. Music Education As A Gateway To Improved Academic Performance In Reading, Math, and Science. MA: Hingham, 1989.
- Phi Delta Kappa. “Education in the Arts Is An Education For Life”, February 1994 452-453.
- ... “The Misunderstood Role of the Arts in Human Development”. Phi Delta Kappa. April, 1992; 591-595.
- Pitman, W. “Learning and the Arts.” School Guidance Worker. Vol. 40 13-17,1985.
- Schmeck, Ronald R. Learning Strategies and Learning Styles.New York: Plenum;1988.
- Schuler, S. “Music, At-Risk Students, and the Missing Piece”, Music Educator’s Journal. Vol. 78 (3), 21-29.

- Semonick, Marilyn. Fallfest: The Arts and Thinking Skills. Spectrum Communications, 1996.
- Sternberg, R.J., Presseisen, B., Fischer, K., Knight, C., and Feuerstein, R. Learning and Thinking Styles: Classroom Interaction. Washington: National Education Association, 1990.
- Sukraw-Ebert, Judith M. "Arts Not Apart, But A Part", Special Report: Arts in Education. January 1998; 11-14.
- The National Assessment Governing Board. Arts Education Assessment And Exercise Specifications. Prepublication Edition, June 1994.
- Walker, Sharon. Title I Children's Program: Learning to Read Through The Arts. New York: Office Of Educational Evaluation, 1982.