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Victoria Lee Van Beusekom

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AN INVESTIGATIVE LOOK AT THE MUSICAL APTITUDE,  
MUSICAL ACHIEVEMENT, AND ACADEMIC ACHIEVEMENT OF THE  
EIGHTH GRADE INSTRUMENTAL MUSIC STUDENTS AT  
BRYAN MIDDLE SCHOOL

A Thesis

Presented to the

Department of Teacher Education

and the

Faculty of the Graduate College

University of Nebraska

In Partial Fulfillment

of the Requirements for the Degree

Master of Arts

University of Nebraska at Omaha

By

Victoria Van Beusekom

August 1999

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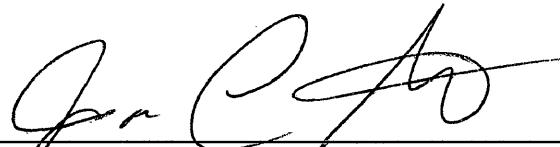
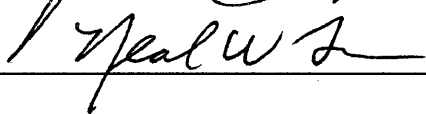


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## Thesis Acceptance

Acceptance for the faculty of the Graduate College,  
University of Nebraska, in partial fulfillment of the  
Requirements for the degree Master of Arts in Education,  
University of Nebraska at Omaha.

### Committee

  
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## ABSTRACT

### AN INVESTIGATIVE LOOK AT THE MUSICAL APTITUDE, MUSICAL ACHIEVEMENT, AND ACADEMIC ACHIEVEMENT OF THE EIGHTH GRADE INSTRUMENTAL MUSIC STUDENTS AT BRYAN MIDDLE SCHOOL

The purpose of this study was to determine if relationships exist between the musical achievement, musical aptitude, and academic achievement of the eighth grade instrumental music students at Bryan Middle School of the Omaha Public School District in Omaha, Nebraska. Students' musical achievement was tested with Richard Colwell's Music Achievement Test, test 1. Students' musical aptitude was tested with Edwin Gordon's Advanced Measures of Music Audiation and academic achievement was assessed using the subjects' grade point average. Three hypotheses and three research questions investigated if relationships existed and if so, to what degree. Using t-tests and Spearman's Rank Order Correlation Coefficient, the researcher found the results of hypotheses and research questions. The three hypotheses are as follows: 1) Students will demonstrate scores unequal in the area of music achievement and music aptitude, 2) Students will demonstrate higher scores in the area of academic achievement than in the area of achievement, 3) Students will demonstrate parallel scores in the areas of musical aptitude and academic achievement. The three research questions are as follows: 1) Does a relationship exist between the scores of musical achievement and musical aptitude? 2) Does a relationship exist between the scores of musical achievement and academic achievement outside of music? 3) Does a relationship exist between the scores of musical aptitude and academic achievement outside of music? The eighth grade instrumental

music students found of Bryan Middle School demonstrated equal abilities in the areas of musical achievement and musical aptitude. Despite literature findings of a strong correlation between academic achievement and musical achievement, the subjects' scored highest in the area of academic achievement. Results of the study encourages further research into factors which may contribute to the discrepancies seen in the Bryan Middle School Instrumental Music Students. With the aid of the standardized music tests, further research could examine if specific instrumental groups are more or less likely to be deficient in certain areas; such as pitch reading, rhythm reading, and pitch/interval discrimination. The researcher believes that with additional educational resources, the instrumental music students of Bryan Middle School could raise their performance abilities, musical achievement, musical aptitude, and academic achievement.

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## CHAPTER I

### Introduction

Education is under enormous scrutiny to prove its worth as a valid profession. Data concerning the quality of education is being compared across state, nation and country boundaries. Empirical evidence of student's learning is perceived as less valid in determining if quality education is being taught. To validate instruction received by students, educators and administrators are turning to standardized tests to assess the quality of education and describe it in quantitative terms. National and state standards are also used to assess the quality education is being taught. Contributing to the use of standardized tests, are the educational groups that create national and state standards for specific fields. Standards for music have been created by the national, state and music educator organizations such as Music Educators National Conference. These standards and the researcher's involvement with the Bryan Middle School, led to the creation of this study. The purpose of this study is to find possible reasons that discrepancies exist in the demonstrated performing abilities of the instrumental students at Bryan Middle School of the Omaha Public School District in Omaha, Nebraska. Though this study did not test the performance abilities of the Bryan Middle School students, it was their performance skills that alerted the researcher to this area of study. This study does not imply that ineffective teaching is occurring at Bryan Middle School. The goal of this study was to determine if the instrumental students of Bryan Middle School were learning and performing to their potential.

## Background of the Study

Achievement and aptitude tests developed during this century have added to the efficiency of today's classroom by allowing educators to determine deficiencies and proficiencies and teach specifically to the needs of individual students.

Tests specific to music education began with Dr. Carl E. Seashore Seashore Measures of Musical Talent in 1919, which addressed musical aptitude. The Seashore Measures of Musical Talent uses five tests to measure sense of pitch, intensity discrimination (dynamics), sense of time, sense of consonance, tonal memory. Six years later, a rhythm test was added. Though the Seashore test is fairly accurate, it led to the development of other tests such as the Kwalwasser-Dykema Music Tests (K-D) first published in 1930. Some may argue that the K-D Tests are more valid than the Seashore because it measures ten areas: tonal memory, quality discrimination, intensity discrimination, tonal movement, time discrimination, rhythm discrimination, pitch discrimination, melodic taste, pitch imagery, and rhythm imagery with less time required. Though as testing in music education became more prevalent more tests have been added over the course of time which may be more valid than the K-D tests and the Seashore test.

Programs were and are being developed to address differences in a student's ability. Title I, an Elementary and Secondary School Act, established in 1965, was created to explore the possibility of raising the musical aptitude of disadvantaged youth. Edwin E. Gordon (1975) began a study of this program to assess whether culturally

disadvantaged youths that were given instruments and group lessons could develop their musical aptitude. After the first year of the study, differences of achievement were lower, but by the second year, the disadvantaged youth had almost equaled the non-disadvantaged youth in musical achievement. Musical achievement was measured by scores on the *Iowa Tests of Musical Literacy* (Gordon, 1971) and through the performance and rating of an instrumental etude. Gordon in his conclusion states, "Culturally-disadvantaged youth who possess below average musical aptitude can ultimately achieve standards in musical achievement similar to those demonstrated by culturally-heterogeneous students who possess above average musical aptitude." (Gordon, 1975, p.41)

A resurgence of these studies and tests related to musical achievement and aptitude were developed in the late 1960s and early 1970s led by Edwin E. Gordon at the University of Iowa (Rothe, 1995). Gordon developed standardized tests to measure the aptitude and achievement of students from the elementary level to the college level. Richard Colwell, another music researcher, addressed musical achievement and the evaluative process as a means of meeting course objectives. Both researchers have written literature based upon their completed studies concerning musical aptitude and achievement. Because of the tests and related literature of Gordon and Colwell, their perseverance in the field of research concerned with music education have helped music educators become more efficient in meeting their course objectives.

Numerous studies have been completed regarding student's musical aptitude, musical achievement, and academic intelligence. Steven Hedden (1982) completed a

study, which predicted a student's success in elementary general music. Hedden investigated variables such as attitude toward music, self-concept in music, music background, academic achievement and gender. Hedden found that the greatest indicator of a student's success in musical achievement was academic achievement within the classroom. A similar study by Ronald Hufstader (1974) tried to predict a student's success rate in beginning instrumental music. Hufstader's variables of the study, which he believed, predicted the student's success rate included musical aptitude, musical ability, academic achievement, intelligence, and reaction times of students and psychomotor skills. Richard Klinedinst (1991) completed a study researching variables, which predict performance achievement and retention of fifth grade instrumental students. Variables Klinedinst addressed include musical aptitude, scholastic ability, math achievement, reading achievement, general music teacher rating, attitude toward music, self-concept in music, music background, motivation to achieve in music, socioeconomic status, and instrument adaptation assessment. Both Hufstader and Klinedinst found academic achievement as the strongest predictor of a student's success.

### Statement of Problem

What relationships exist between musical achievement, musical aptitude, and academic achievement outside of music in the eighth grade instrumental students at Bryan Middle School in the Omaha Public School District of Omaha, Nebraska?

### Operational Definitions of Terms

Academic Achievement: the student's overall grade point average (GPA) used as the measure of the student's academic achievement.

Musical Achievement: the student's musical knowledge and proficiency developed through instruction, practice, and aptitude. This was measured through testing the students' ability to assess intervals between two pitches, interval recognition of three successive pitches, and to discriminate between duple and triple meter. For the purpose of this study, this definition was derived from the Music Achievement Test, Test 1 of Richard Colwell. (MAT) The MAT score was how the students' musical achievement was defined.

Musical Aptitude: the student's natural ability to hear and comprehend tonal and rhythmic musical patterns as measured by Gordon's definition of audiation. Audiation is the cognitive process by which the brain gives meaning to musical sound. (Gordon, 1988) The student's audiation skills were tested to determine the student's aptitude. Gordon believes a rise in musical achievement will raise one's musical aptitude. This definition of musical aptitude was taken from the test that will measure the subject group, the Advanced Measures of Music Audiation (AMMA) by Edwin E. Gordon. The AMMA score was how the students' musical aptitude was defined.

### Hypotheses and Research Questions

The questions this study addressed are outlined in the following hypotheses and research questions:

Hypotheses 1: Students will demonstrate scores unequal in the area of music achievement and music aptitude. The students will score higher in the area of music aptitude.

Hypotheses 2: Students will demonstrate higher scores in the area of academic achievement than in the area of musical achievement.

Hypotheses 3: Students will demonstrate parallel scores in the areas of musical aptitude and academic achievement.

Research Question 1: Does a relationship exist between the scores of musical achievement and musical aptitude?

Research Question 2: Does a relationship exist between the scores of musical achievement and academic achievement outside music?

Research Question 3: Does a relationship exist between the scores of musical aptitude and the academic achievement outside of music?

### Significance of the Problem

Through the comparison of musical aptitude, musical achievement, and academic



achievement of instrumental students of the Bryan Middle School, Omaha, Nebraska, this study investigated the level of musical achievement of the instrumental students at the middle school level. The subjects studied were eighth grade instrumental music students in an age range of 12 to 14 years of age who participated in orchestra and band at Bryan Middle School. Bryan Middle School curriculum required that each middle school student participate in music; courses which met this curriculum standard included orchestra, band, chorus and general music. Most students, who chose to participate in the middle school band or orchestra, began their instrumental music studies in the elementary instrumental music program while others elected to participate for the first time at the middle school. Because of economic reasons, the majority of students who began instrumental music instruction at the middle school level use school owned instruments. The instruments available to middle school beginners were those which were normally not student owned or leased because of their expense and were often those needed for balance in the Bryan Middle School and Bryan High School such as trombones, baritones, tubas, etc.

It may have been possible that the students in the Bryan Middle School Instrumental Program were demonstrating performance skills, which were unequal to their abilities. At Bryan Middle School, discrepancies existed in the area of performance abilities between the students who started in elementary school and those who began in the seventh grade. These discrepancies of musical ability varied with each individual student. The discrepancies of some students at Bryan Middle School Instrumental Music Program existed in areas such as rhythm reading, note reading, and fluency in the

recognition of correct fingerings. The beginning instrumental program in the middle school was designed so that middle school beginning students would be at the same level as the advanced students by the end of the second year eighth grade).

At the time of the study, and unlike many of the other middle schools in Omaha Public Schools, Bryan Middle School did not offer many advanced placement classes. By offering only a few advanced placement courses, high achieving students living within the Bryan Middle School area, may have been drawn to magnet schools with more advanced courses. Students with greater academic achievement may have been drawn away from Bryan Middle School to other schools with advanced placement classes. A study conducted by Richard E. Klinedinst found musical aptitude, intelligence, and academic achievement scores were valid predictors of retention and performance achievement in beginning instrumental music. (Klinedinst, 1991)

Another factor that may have attributed to the quality of students was the flux of instrumental music teachers within the South Omaha elementary schools. Within the last six years, three different band teachers have taught at the schools, which feed into Bryan Middle School. Students who have played in the previous year are lost within the school. The band program is completely rebuilt every two years. Without the continuity of one single band teacher, students may lose interest in instrumental music.

Proximity of the middle school could have also be a factor in the retention of students from the elementary school to the middle school. B. J. Solly (1986) researched the retention of students when changing grade levels and buildings; i.e. from the elementary to the middle school. Solly found that the drop out rate was greater when

students changed buildings than changing grade levels. Since the band program was continually being redeveloped each year, many six-grade students began band for the first time. The following year, these students move to the middle school where the high attribution rate was seen.

### Tests

The Music Achievement Test (MAT, 1969) developed by Richard Colwell comprises of four separate tests (Test 1, Test 2, etc.) which was designed to assess four different levels of ability. Test 1 of MAT was used in this study to assess the Bryan Middle School Instrumental students' musical achievement. MAT, test 1, measures pitch discrimination, interval discrimination, meter discrimination, and a fourth category measuring the compilation of these three. (Colwell, 1970) Each component of the MAT is an 18-minute test.

The Advanced Measures of Music Audiation (AMMA, 1989) developed by Edwin E. Gordon, measures the student's ability to hear and comprehend musical patterns defined by Gordon as audiation. Gordon believes this ability to hear and comprehend musical patterns acts as a measure of the student's musical aptitude. The 20-minute test measures the three areas of audiation, tonal, rhythm, and recall of previously played melodic passages.

## Summary

Chapter 1 described the background of the study, the statement of the problem, operational definitions of terms, hypotheses, significance of the problem, and tests, which were used in the study.

Dr. Carl Seashore created the first standardized test in music education, though others have been developed which have been tested to be more valid. Standardized tests in music education have been and are being used to detect and fix areas in which a student may be deficient. Music education programs have been created to ameliorate discrepancies, which occurred in disadvantaged youth. Some music educators are using standardized tests as a means of predicting a student's success. Other music educators have developed other methods of predetermining a student's success. Ronald Hufstader (1974) found a correlation between the academic achievement and musical achievement and musical aptitude predicting a student's success rate. Richard Klinedinst (1991) completed a similar study that found academic achievement as the strongest measure predicting a student's success. However, Edwin Gordon (1975) found that the musical achievement in disadvantaged youth could be changed.

Edwin Gordon's, Ronald Hufstader's, Richard Klinedist's (1991) music education studies led to the researcher's development of the problem statement which inquires if relationships exist between the musical achievement, musical aptitude, and the academic achievement outside of music in the instrumental music students of Bryan Middle School in Omaha, Nebraska.

To facilitate the validity of this study measuring the specific areas of musical achievement and musical aptitude, Richard Colwell, the developer of the Musical Achievement Tests (MAT, 1969), and Edwin E. Gordon, the developer of the Advanced Measures of Music Audiation (AMMA, 1986) defined within their research the definitions of musical achievement and musical aptitude, respectively, which are used in this study. Music achievement was defined as the student's musical knowledge and proficiency developed through instruction, practice, and aptitude. Musical achievement was assessed using the MAT of Richard Colwell. Musical aptitude was measured as the student's natural ability to hear and comprehend tonal and rhythmic passages. Musical aptitude was assessed through the use of Edwin Gordon's AMMA. The academic achievement was measured through the student's overall grade point average (GPA).

The researcher states in the three hypotheses and seven research questions that students are demonstrating performance skills unrelated to their musical achievement, musical aptitude, and academic achievement outside of music in the instrumental music students of Bryan Middle School. The hypotheses and research questions suggested that relationships existed between musical achievement and musical aptitude, musical achievement and academic achievement, musical aptitude and academic achievement. Though the performance skills of the Bryan Middle School students attracted the interest of the researcher, this study examined if the students possessed parallel skills in the areas of musical achievement, musical aptitude, and academic achievement.

The next chapter discusses literature related to musical achievement, musical aptitude, academic achievement, and the relevance of music education with the school

curriculum. Musical achievement, musical aptitude and academic achievement outside of music are explained in greater detail.

## CHAPTER II Literature Review

### Introduction

This chapter discusses briefly the purpose of music education and literature which relates to the topics of music achievement, music aptitude, and academic achievement as related to the Bryan Middle School Instrumental Music Program in the Omaha Public School District in Omaha, Nebraska. The terms, musical achievement and musical aptitude, are clearly defined according to the definitions of Richard Colwell and Edwin Gordon. The theories and research of Richard Colwell and Edwin Gordon, creators of the Music Achievement Test (MAT, 1969) and Advanced Measures of Music Audiation (AMMA, 1989) respectively, are discussed as they pertain to musical achievement and musical aptitude.

### The Purpose of Music Education

The purpose of music education is explored through two venues; the aesthetic reasons behind the inclusion of music education within the school curriculum and the non-musical benefits provided by music education.

An essential part of the curriculum, music education enables students to develop aesthetic experiences, which enhances the student's everyday life. The aesthetic element of music encourages the student's creative process challenging him/her to stretch his/her imagination. Kinesthetically, students develop psychomotor skills of hand-eye coordination, finger coordination, and in order to play musical instruments. Students refine their listening skills to discriminate between pitch differences, timbre differences, and dynamic differences.

Other benefits of music education are non-aesthetic. Most notably studies have been conducted which demonstrate the benefits of music education for students, which transfers into other areas of their lives. Through music education instruction, students develop concrete thinking skills. It enhances their reading ability through the instruction and use of reading skills specific to notation used in music. Students who participate in music normally perform better on standardized tests such as the SAT, especially in the areas of verbal and quantitative measures (MENC, 1990). In studies, completed by Frances Rauscher and Gordon Shaw, spatial reasoning skills were enhanced through keyboard training (1997). Enhancing spatial reasoning skills are important because spatial reasoning skills are required for higher levels of cognition. Shaw and Rauscher contend that the music training increase the firing of neurons, and the creation of new neural connections. Retention of students at risk of dropping out of school is higher if they participate in music.

### Literature Review

The topics of musical achievement and musical aptitude are areas that have been studied by many music educators (Harrison, Asmus, Serpe, 1994); (Hedden, 1982); (Klinedinst, 1991); (Zdzinski, 1987). Research that focuses on the factors contributing to the musical success or failure of students has been and continues to be of great interest to those involved in music education (Klinedinst, 1991). Differences in music achievement among members of a given classroom apparently are attributable to factors other than teaching strategies or materials (Hedden, 1982). Others studied musical aptitude and achievement, academic achievement and psychomotor skills (Hufstader, 1974). Topics relating to parental involvement (Zdzinski, 1987), the student's socioeconomic level, and



rural versus urban school settings (McCarthy, 1979) help to create a gamut of information available to music educators. Most music educators realize the importance of quality education despite the constraints, which may predetermine a student's success in music. Discussed in this section will be: why standardized tests are relevant for the music classroom, differences between aptitude and achievement, musical achievement and musical aptitude as defined by Richard Colwell and Edwin Gordon, and studies concerning academic achievement outside of the music classroom and its relationship to musical achievement.

For the public school instrumental music program, standardized tests give greater insight for all students without sacrificing time. Many public school music programs are designed to teach to whole groups, not individual learners. Often the educator is unable to organize classes by ability or like instrument because of the constraints of the schedule. Unlike private instruction where the instructor has the opportunity to assess and evaluate each student individually, group instruction requires educators to be efficient in evaluating students with the teaching time allotted. For example in Omaha Public School District, the Bryan Middle School operates on an alternating day schedule Day 1 and Day 2. Students receive instrumental music for one period of 45 minutes, two or three days a week depending on the cycle.

Standardized tests can also be misused within the music classroom. Gordon suggests that the tests be not to be used to deny a student with low musical aptitude scores the opportunity to participate in music. Likewise, students with high musical aptitude scores should not be denied to participate in classroom instruction because s/he has the musical ability to be self-instructed. Also standardized tests are designed to aid the student's learning process not find fault the educator. Often in music, music educators are judged by the quality of their musical performance. The school band and orchestra are

often asked to play for pep rallies, musicals, and all-school assemblies. Administrators through the success or failure of one or two performances often assess the quality of the instrumental music program.

Another issue, which needs to be addressed, is the relationship between the terms, achievement and aptitude. According to the Encyclopedia of Psychology, “academic achievement tests are designed to measure specific effects of a program of study” (Corsini, 1994, p.3). Aptitude tests it claims “are designed to measure what the students have learned across a cumulative area, so that predictions concerning their future performance can be made”(Corsini, 1994, p.4). Survey of Social Sciences describes ability test as “a test which measures demonstrable knowledge or skills” and an achievement test as “a test which measure the extent to which an individual has acquired certain information or mastered certain skills as a function of specific instruction; measures acquired knowledge” (Magill, 1993, p.14).

Richard Colwell has discussed evaluation, tests, and measurement as tools used for improving the efficiency of the learning process. “Evaluation as a process is not synonymous with measurement”(Colwell, 1970, p.4). Tests play a valuable part by providing greater insight into student’s abilities within whole group teaching environment. Measurement, he believes, is only one part of the evaluation process. Evaluation without measurement is not as valid. Evaluation through measurement is a means of ensuring that the educator and student are meeting the objectives. In order for this to occur the student must be made aware of the course objectives.

A criterion exists to help create attainable objectives stating the minimum requirements for the course and presented as clearly defined objectives presented in behavioral terms. The objective should be defined as a musical achievement, be attainable, and be identifiable. A variety of types of objectives should also be used in

outlining the course requirements. Colwell, in his test manual for tests 1 and 2 of the MAT, states some purposes of the test are “to provide a teaching device, to help people see clearly some of the objectives of the music program and the nature of his own progress with respect to them” (MAT, 1969, p.7). Course goals, Colwell believes should be broken down into daily weekly, and long term goals, thereby allowing students to have accountability for their success. In accordance with his belief of evaluation being more than just a standardized test, Colwell advocates that the instructors assess the student’s ability within the classroom. Edwin E. Gordon describes a purpose of standardized test “to efficiently and diagnostically adapt the music teaching within a classroom or an ensemble” (AMMA, 1986, p.6).

Some researchers in the field of music education believe that the two terms, musical achievement and musical aptitude are too closely related to be identified as separate factors in a person’s development. Edwin E. Gordon describes music aptitude as “an inner possibility, a measure of what a student’s potential to achieve in music. Music achievement, outer reality, is a measure of what a student has learned” (AMMA, 1986, p.18). Colwell believes that musical achievement “are accomplishments as a result of experiences within music” (Colwell, 1970, p.11). These experiences can be informal or formal, specific or general in nature. Gordon suggests that a correlation exists between high achievement and high aptitude but it does not necessarily exist between low achievement and aptitude. A student, who demonstrates low achievement within a subject area, may or may not have low aptitude. “Many students with exceptionally high music aptitude, have not achieved in music because they have not had appropriate music instruction and thus have not been motivated to learn music” (Gordon, 1988, p.2).

Gordon developed the term audiation to define the inner hearing process used by a person to understand and comprehend musical patterns. The process of audiation occurs

without silent singing, or humming. Musical aptitude, Gordon believes, is measurable through a subject's audiation skills.

Music aptitude is determined by the extent to which one can audiate sound in music and whether the sound is audiated with music syntax. It is not necessary for one to conform to any objective music syntax (culturally accepted standards of, for example, pitch, rhythm, and timbre) in order to demonstrate his level of music aptitude. He may audiate with subjective music syntax... The extent to which one has the potential to audiate sound in music is a determining factor in how well s/he will achieve in music (Gordon, 1988, p.7).

Musical aptitude as defined by Gordon is both innate and influenced by environmental factors. In a study conducted by Gordon, he found that 68% of all subjects demonstrated average music aptitude, 14% were below average, 2% had high music aptitude, and 2% had low music aptitude (Gordon, 1998). "The level of music aptitude with which a person is born, however, fluctuates in accordance with his informal and formal music experience... Regardless of the quality of a person's music environment after age nine, that environment will no longer influence his level of music aptitude" (Gordon, 1988, p. 2).

Gordon has defined six hierarchical and cumulative stages of audiation. The first stage is a person's ability to mentally retain a short series of pitches. The second concerns a person's ability to silently imitate the pitches. The third stage is audiation through the recognition of rhythm and tonal patterns as well as meter. The fourth stage involves the person's ability to retain the pitches in tonal and rhythm patterns. The fifth stage is one's ability to audiate and recognize tonal and rhythmic patterns from music heard long ago. And the final sixth stage is a person's ability to predict the tonal and rhythmic patterns from a music piece heard long ago.

An early predecessor to studies relating to academic achievement and music

achievement is a study conducted by Harry A. King in 1954. In his study, King researched and found a high correlation between students' music reading abilities and intelligence. King accredited the differences of students to factors such as attitude towards music, motivation in music, interest in music and musical talent.

Steven K. Hedden researched predictors of success in elementary instrumental students. These predictors include attitude toward music, self-concept in music, music background, and gender. Included, as one of the variables was the academic achievement as measured by the California Achievement Test or by the Iowa Tests of Basic Skills. "Multiple regression analysis revealed that the best single predictor of music achievement was the academic achievement test... The remaining variables were not effective predictors" (Hedden, 1982, p.61). The second highest factor predicting music achievement was the music attitude or self-concept a student had during music class.

Richard Klinedinst measured beginning elementary students for 32 weeks to predict the student's success in instrumental music. This study was conducted to examine eleven different variables, musical aptitude, scholastic ability, math achievement, reading achievement, general music teacher rating, attitude toward music, self-concept in music, music background, motivation to achieve in music, socioeconomic status, and instrument adaptation assessment. "Reading achievement, math achievement, and scholastic ability had the strongest relationship to performance achievement" (Klinedinst, 1991, p.231).

### Summary of Literature Review

In summation, this chapter addressed literature related to the topics of the purpose of music education. Definitions of musical achievement, and musical aptitude were defined using definitions found in the test manuals of Richard Colwell's and Edwin

Gordon's tests, Musical Achievement Test (MAT, 1969), and Advanced Measures of Music Audiation (AMMA, 1989). The literature review found studies that explored relationships existing between musical achievement, musical aptitude and academic achievement.

The purpose of music education was explored through two venues; the aesthetic reasons behind the inclusion of music education within the school curriculum and the non-musical benefits provided by music education. The aesthetic element of music encourages the student's creative process challenging him/her to stretch his/her imagination. Through music education instruction, students develop concrete thinking skills. Students who participate in music normally perform better on standardized tests such as the SAT, especially in the areas of verbal and quantitative measures (MENC, 1990).

Studies in music education have researched the elements, which may create success or failure in instrumental music students. Musical aptitude, musical achievement, academic achievement, socioeconomic and parental support are a few of the topics addressed. Most of the literature points to academic achievement outside of music, not musical aptitude or musical achievement, as the strongest indicator of success in instrumental music (Harrison, Asmus, Serpe, 1994); (Hedden, 1982); (Hufstader, 1974); (Klinedinst, 1991); (Zdzinski, 1987).

Standardized tests if used as a part of the assessment process can aid both educator and student by providing greater insight into deficient areas of the student. Both Richard Cowell and Edwin Gordon believe standardized tests should be part of the evaluation process. Both also agree that standardized tests should be used in conjunction with other evaluation tools. Colwell advocates that the instructor assesses the student's ability within the classroom.

Musical achievement as defined by Richard Colwell “are accomplishments as a result of experiences within music” (1970) in a formal/informal, general/specific in nature. The student’s musical achievement may or may not reflect the student’s musical aptitude. The student may be a low achiever or may not have had formal musical instruction to reach the student’s musical achievement through his/her musical aptitude.

Edwin Gordon explains the six stages of audiation. Audiation, Gordon believes, is the listening and comprehension skills used when processing musical passages; the level at which one audiates musical passages indicates the person’s musical aptitude. It is the mental processing of remembering music without humming, playing or singing a melody.

Using the tests of Richard Colwell (MAT) and Edwin Gordon (AMMA), the researcher tested subjects in the areas of musical achievement, musical aptitude, and academic achievement outside of music.

## CHAPTER III

### Methodology

#### Introduction

In order to determine if relationships and correlations exist between musical achievement, musical aptitude and academic achievement of the instrumental music students of Bryan Middle School, Omaha Public School District, Omaha, Nebraska, the researcher developed three scores from the Music Achievement Test, Test 1, of Richard Colwell (MAT, 1969), the Advanced Measures of Music Audiation by Edwin Gordon (AMMA, 1986), and academic achievement (GPA) as defined as the student's grade point average. The scores developed from the MAT, AMMA and the student's GPA were analyzed to determine if correlations and relationships exist between music achievement and academic achievement, music aptitude and academic achievement, and music achievement and music aptitude. Discussed in this section are the subjects, instrumentation, procedures, data collection and data analysis for this study.

#### Subjects

The sample of subjects chosen for this study were the eighth grade instrumental music students at Bryan Middle School whom have participated in instrumental music for two or more years. The sample consisted of approximately 60 subjects, some of who started their instrumental music training in the Omaha Public Schools elementary instrumental school program. Others began their instrumental music studies at Bryan Middle School. The majority of those who began at the middle school level had the highest incidence of school owned instruments. Most of those who began in the



elementary school rent or own their instruments. Students who own or rent their instruments may have had greater parental support than subjects who used school-owned instruments may.

Subjects ranged from 12 to 14 years of age and were of mixed gender. The socioeconomic background of the subjects in this study ranged from low to middle class.

Other outside music factors existed which may have influenced the formal or informal learning of each student. Musical training in the form of private lessons, outside of public school instrumental program varied from student to student. A small number of students participated in outside classical music groups such as Omaha Area Youth Orchestras (OAYO) while others may have participated in folk music groups such as Las Estraitas de Omaha, a mariachi group. Rehearsal techniques of those two groups varied. Students who participated with Las Estraitas de Omaha were more likely to learn music by ear and rote teaching while the OAYO participants were more likely to learn music by reading.

### Instrumentation

Scores were developed from MAT, AMMA, and from each student's grade point average. The Music Achievement Test (MAT) developed by Richard Colwell contains four separate tests. Test 1 of MAT was used to assess the Bryan Middle School instrumental students' musical achievement. This test measures pitch discrimination, interval discrimination, meter discrimination, and a fourth category measuring the compilation of these three. (Colwell, 1970) Each component of the MAT is an 18-minute test.

The Advanced Measures of Music Audiation (AMMA) developed by Edwin E.

Gordon, measures the student's ability to hear and comprehend musical patterns defined by Gordon as audiation. Gordon believes this ability to hear and comprehend musical patterns acts as a measure of the student's musical aptitude. The 20-minute test measures the three areas of audiation, tonal, rhythm, and recall of previously played melodic passages.

### Procedures

#### Administration of Tests

The administration of the tests took place on May 20, 1999 after the Bryan Middle School Instrumental Music Spring Program and the Omaha Public Schools Adjudications. The MAT was given first, in order to avoid adversely affecting the scores of the AMMA. Both the MAT and the AMMA were administered on the same day to provide the least interference with classroom instruction. The AMMA was administered after the MAT. The researcher had scheduled to administer the tests in the instrumental music room at Bryan Middle School during normal instrumental rehearsal time but due to an unforeseen circumstance the orchestra students were tested in the Bryan middle School cafeteria. The primary researcher was the proctor for both tests. The Bryan Middle School instrumental students were provided with #2 lead pencils for the MAT and the AMMA.

#### Tests

Reliability and content validity of the MAT and AMMA are two areas that need to be addressed in order for this study to be valid. Discussed first is the reliability and content validity of the MAT followed by the reliability and content validity of the AMMA. Both the MAT and the AMMA used normed representative samples of students

from various geographic regions and sizes of cities to develop their reliability scores.

### MAT

Using the Kuder-Richardson Formula 21, Test 1 of the MAT was found to have reliability coefficients ranging from .84 to .92. (Boyle) Rudolf E. Radocy, professor of music education at the University of Kansas-Lawrence found similar reliability scores. Using two methods, the reliability coefficient ranges from .88 total test score by the KR21 and .94 by the split-halves method. The sub-tests ranges are lower than the overall coefficients.

Content validity of the MAT is based on the instructional objectives of elementary basal music series of the 1960's. These instructional objectives are common to nine basal music series and one MENC (Music Educators National Conference) curriculum guide that were published during the 1960's (Boyle). Some researchers may dispute whether this test developed with instructional objectives from the 1960's is still valid. In a review by David Boyle, Professor and Chairman of the Department of Music Education at the University of Miami, Florida, Boyle found that the instructional objectives used in the MAT's development are still relevant to the instructional objectives of basal music series in the late 1980's. Boyle believes that the MAT measures aural recognition, aural discrimination, and aural-visual discrimination.

### AMMA

Though this test may be administered to middle school students, validity and reliability for this test has not yet been determined for middle school students. Listed in the test manual are split-halve reliability for high school students, undergraduate and graduate music students, and undergraduate and graduate non-music students. The

split-halves reliability was estimated by the Spearman-Brown Prophecy Formula. The variance of these scores will appear in a range form from the lowest to the highest score, .81 total score for non- music majors, .84 for high school students and .88 for music majors. The standard error of difference for the non-music majors is the highest at 2.0, high school students having a standard error of difference of 1.9 and the music majors having the lowest standard error of difference of 1.7 .

Construct and content validity are based upon the researcher's belief that this test validly measures musical aptitude. If audiation is accepted as a means of assessing musical aptitude, then the AMMA tests is a valid indicator of musical aptitude.

### Permission

Permission for this study was granted from Bryan Middle School's principal, Mr. Ramsey, Omaha Public Schools Director of Research, Dr. Peter Smith, and a parental/guardian release form for each student. Permission was obtained from the Institutional Review Board of the University of Nebraska Medical Center and this study was deemed exempt being it is in agreement of the exempt category #2 of the Institutional Review Board.

Selection of subjects was selected on the basis of participation in the Bryan Eighth Grade Instrumental Music Program. Subjects chosen had at least 1-½ years of formal music education in order to be considered for this study, formal music education being defined as group or individual lessons on his/her instrument.

### Data Collection

The MAT and the AMMA was hand scored by the primary researcher.

Since Bryan Middle School does not have a grade point average system, a member of the office staff at Bryan Middle School generated each instrumental music student's GPA from the current number system of 1=A, 1.5=A-, 2=B, 3=C, etc. The scores were used as a measure of the academic achievement of each student.

### Data Analysis

The scores developed from the MAT, AMMA and the student's GPA were analyzed to determine if relationships and correlations exist between the following pairs of data; music achievement and music aptitude, music achievement and academic achievement, music aptitude and academic achievement.

All students were assigned a specific subject number to provide confidentiality.

Because raw data from each instrument gave scores on a non-standard scale, all scores were converted to percentages. Spearman's Correlation formula was used to study the strength of the relationship, while the t- test determined the difference of means between the two groups. Scores were ranked from low to high in each of the three sets and compared using a Spearman Rank Order Correlation Coefficient to establish the strength of the relationships between each of the following pairs: MAT/AMMA, MAT/GPA, and AMMA/GPA. It was possible for students to have an academic achievement score higher than 1.0 because of the weight of honors courses at Bryan Middle School.

### Summary

This chapter describes how the subjects were chosen, the tests (MAT and

AMMA), how permission was obtained for this study, how the data was collected, and how the data was analyzed.

Subjects from the Bryan Middle School were chosen upon a criteria of having formally studied instrumental music for 1-1/2 years and were participants in the Bryan Middle School Instrumental Music Program. Subjects ranged in age from 12 to 14 years of age and were of mixed gender. Some students rented or owned their instruments while others played a school instrument. Most students did not study privately.

The Musical Achievement Test (MAT) of Richard Colwell, 1969, was the assessment tool for measuring the subjects' musical achievement. Edwin Gordon's, *Advanced Measures of Music Audiation (AMMA)*, 1986, measured the subjects' musical aptitude while the academic achievement was measured as the subjects' overall grade point average (GPA). Both the MAT and AMMA were administered during the same period to provide the least interference. Tests were administered on May 20, 1999 after the Bryan Middle School's Spring Music Program and after the Omaha Public Schools' Instrumental Music Adjudications, coincidentally the last two weeks of the school year.

Permission for this study was granted by Bryan Middle School's principal, Mr. Ramsey, Omaha Public Schools Director of Research, Dr. Peter Smith, the Institutional Review Board of the University of Nebraska Medical Center, and parental/guardian release form for each student.

The MAT and AMMA were proctored and hand scored by the primary researcher. Since Bryan Middle School does not have a grade point average system, a member of the office staff at Bryan Middle School generated each instrumental music student's GPA from the current number system of 1=A, 1.5=A-, 2=B, 3=C, etc. The scores were used as a measure of the academic achievement of each student. The academic achievement scores were generated from the students' grade point average.

Raw data was converted to percentages to ensure that data can be compared on an equal scale. A t-test and Spearman's Rank Order Correlation Coefficient were used to determine if relationships and correlations exist between the following pairs of data, MAT/AMMA, MAT/GPA, and AMMA/GPA and if so to what extent.

In the following chapter, the pairs of data, MAT/AMMA, MAT/GPA, and AMMA/GPA, obtained from the t-tests and Spearman's Rank Order Correlation Coefficient are analyzed and discussed in greater detail. The hypotheses and research questions are discussed as well as the data found from these tests. Tables in the following chapter include raw data and converted data in tabular format.

## CHAPTER IV

### Data Analysis

#### Introduction

The purpose of this investigation was to examine the relationships between the musical achievement, musical aptitude, and academic achievement outside of music of the Omaha Public Schools' Bryan Middle School Instrumental music students in Omaha, Nebraska. The hypotheses suggested that the students would score high in the area of musical aptitude, low in the area of musical achievement and high in the area of academic achievement outside of music.

All students were assigned a specific subject number to provide confidentiality. Because raw data from each instrument gave scores on a non-standard scale, all scores were converted to percentages. Spearman's Rank Order Correlation Coefficient formula was used to study the strength of the relationship, while the t- test determined the difference of means between the two groups. Scores were ranked from low to high in each of the three sets and compared using a Spearman's Rank Order Correlation Coefficient to establish the strength of the relationships between each of the following pairs: MAT/AMMA, MAT/GPA, and AMMA/GPA. It was possible for students to have an academic achievement score higher than 1.0 because of the weight of honors courses at Bryan Middle School.

#### Hypotheses and Research Questions

##### Hypothesis 1 Analysis:

In assessing the students through small group instruction, the researcher believed that the students were not demonstrating performance skills, which were equal to their



musical aptitude. The t-test was used to measure the difference of means of the MAT and the AMMA.

$H_a$ : MAT  $\neq$  AMMA

$H_o$ : MAT = AMMA

$H_a$ : Students will demonstrate scores unequal in the area of music achievement and music aptitude. The students will score higher in the area of music aptitude.

The null form of hypothesis 1 is as follows.

$H_o$ : There will be no difference in the student scores in the areas of music achievement and musical aptitude.

A t-test was used to determine the relationship between the musical achievement and musical aptitude. A t-value of .12 was found which represents a small difference between the students' musical achievement and musical aptitude.

Table I illustrates the results of a t-test to determine the differences of means of the MAT And AMMA.

#### TABLE I

##### Results of T-test scores

T-test of MAT and AMMA = .12

T-test of MAT and GPA = -.32

T-test of AMMA and GPA = -.4

Hypothesis 2 Analysis:

Past research indicates that the low musical achievement would correspond to the subjects' academic achievement as well. A t-test was used to measure MAT and GPA.

$$H_A: X_{MAT} < X_{GPA}$$

$$H_O: X_{MAT} = X_{GPA}$$

$H_A$ : Students will demonstrate higher scores in the area of academic achievement than musical achievement.

$H_O$ : Students will demonstrate equal scores in the areas of musical achievement and academic achievement.

A t-test determined the difference between the musical achievement and academic achievement. A t-value of -.32 was found which shows students have higher scores in the area of academic achievement outside of music.

Table I illustrates the results of a t-test to determine the differences of means of the MAT and AMMA.

TABLE I

Results of T-test scores

T-test of MAT and AMMA = .12

T-test of MAT and GPA = -.32

T-test of AMMA and GPA = -.45

### Hypothesis 3 Analysis:

Despite subjects demonstrating low musical achievement skills, the researcher believed that the subjects possessed comparable skills in the areas of musical aptitude and academic achievement. A t-test was used to measure if a difference existed between the means of the AMMA and the GPA.

$$H_A: X_{AMMA} = X_{GPA}$$

$$H_O: X_{AMMA} \neq X_{GPA}$$

$H_A$ : Students will demonstrate parallel scores in the areas of musical aptitude and academic achievement.

$H_O$ : Students will demonstrate unequal scores in the areas of musical aptitude and academic achievement.

A t-test determined a negative correlation between the scores of musical aptitude and academic achievement. The t-value of -.45 was found. The subjects demonstrated higher scores in the area of academic achievement than musical aptitude.

Table I shows the academic achievement scores as being higher than the musical aptitude.

### TABLE I

#### Results of T-test scores

T-test of MAT and AMMA = .12

T-test of MAT and GPA = -.32

T-test of AMMA and GPA = -.45

### Research Question 1 Analysis:

The magnitude of relationship between the musical achievement and musical aptitude was determined through the use of Spearman's Rank Order Correlation Coefficient. This question examines if a relationship existed between the MAT and the AMMA and if so to what degree.

A Spearman's rank order correlation was used to determine the magnitude of the correlation between the musical achievement and musical aptitude. The Spearman's' rank order coefficient found, was .335. This number indicates a notable relationship between the students' musical achievement and musical aptitude.

Table II shows the strength of the relationship of between musical achievement and musical aptitude.

### Table II

#### Results of the Spearman's Rank Order Correlation Coefficient

$$P_{\text{MAT/AMMA}} = .335$$

$$P_{\text{MAT/GPA}} = .00416$$

$$P_{\text{AMMA/GPA}} = .0882$$

### Research Question 2 Analysis:

The researcher believed that because of the subjects' low displayed performance skills, their low musical achievement would correspond to the subjects' academic achievement as well. This question examines if a relationship existed between the MAT and GPA and if so to what degree. The Spearman's Rank Order Correlation Coefficient was used to test the strength of this relationship.

The Spearman's rank order coefficient was found to be .00416. This number

shows almost no relationship between music achievement and academic achievement. Subjects scored higher in the area of GPA than in the area of MAT.

Table II shows the weak relationship between MAT and GPA. Academic achievement scores are higher.

TABLE II

Results of the Spearman's Rank Order Correlation Coefficient

$$P_{\text{MAT/AMMA}} = .335$$

$$P_{\text{MAT/GPA}} = .00416$$

$$P_{\text{AMMA/GPA}} = .0882$$

Research Question 3 Analysis:

The Spearman's Rank Order Correlation Coefficient was used to test the strength of this relationship between the musical aptitude (AMMA) and the academic achievement outside of music (GPA). This question examines if a relationship existed between the AMMA and GPA and if so, to what degree.

The Spearman's rank order coefficient was found to be .0882. This indicates that very weak relationship existed in the areas of musical aptitude and academic achievement outside of music. Students displayed scores higher in the area of academic achievement.

Table II shows the strength of the relationship between the low scores of musical aptitude and the high scores of academic achievement.

TABLE II

Results of the Spearman's Rank Order Correlation Coefficient

$$P_{\text{MAT/AMMA}} = .335$$

$$P_{\text{MAT/GPA}} = .00416$$

$$P_{\text{AMMA/GPA}} = .0882$$

Table III shows the summary of individual test scores and ranks for each test.

TABLE III

Results of Individual Test Scores and Rank

Student No.	MAT	R <sub>MAT</sub>	AMMA	R <sub>AMMA</sub>	GPA	R <sub>GPA</sub>
BMS 1-0	.53	46.5	.43	58.5	1.0	7.5
BMS 2-B	.49	52.5	.52	42.5	.85	27
BMS 3-O	.76	8.5	.59	26	.73	43
BMS 4-O	.73	12.5	.54	37	.48	57
BMS 5-B	.41	57.5	.48	52	.93	21
BMS 6-B	.67	24	.43	58.5	.9	24
BMS 7-B	.75	10.5	.46	55	.95	15.5
BMS 8-O	.69	21.5	.64	13	.83	29
BMS 9-B	.61	36.5	.59	26	.58	50
BMS 10-B	.47	54	.51	42.5	1.1	3
BMS11-B	.76	8.5	.48	52	.8	32
BMS 12-B	.49	52.5	.61	21.5	.5	55.5
BMS 13-B	.54	44	.48	52	.83	29
BMS 14-B	.67	24	.53	39.5	.78	35
BMS 15-B	.6	39.5	.43	58.5	.78	35
BMS 16-B	.63	33.5	.63	17	.68	46.5
BMS 17-B	.34	60.5	.5	46.5	.93	21
BMS 18-B	.71	17.5	.55	34	.63	48.5
BMS 19-B	.77	7	.65	10	.75	39

TABLE IV (Continued)

Table IV shows the summary of individual test scores and ranks for each test.

Student No.	MAT	R <sub>MAT</sub>	AMMA	R <sub>AMMA</sub>	GPA	R <sub>GPA</sub>
BMS 20-B	.73	12.5	.49	49	.88	25.5
BMS 21-O	.8	5.5	.59	26	.8	32
BMS 22-B	.51	50	.52	42.5	.78	35
BMS 23-B	.65	30	.55	34	.75	39
BMS 24-B	.61	36.5	.41	61	.55	52
BMS 25-B	.71	17.5	.65	10	.5	55.5
BMS 26-B	.41	57.5	.44	56	.48	57
BMS 27-B	.82	4	.71	6	1.0	7.5
BMS 28-B	.69	21.5	.5	46.5	.95	15.5
BMS 29-B	.34	60.5	.75	3.5	.95	15.5
BMS 30-B	.67	24	.56	31	1.1	3
BMS 31-B	.83	3	.75	3.5	.75	39
BMS 32-B	.71	17.5	.55	34	1.1	3
BMS 33-O	.86	1	.58	29.5	.93	21
BMS 34-B	.53	46.5	.43	58.5	1.0	7.5
BMS 35-B	.7	20	.79	1	1.1	3
BMS 36-B	.4	59	.55	34	.68	46.5
BMS 37-B	.54	51	.65	10	.63	48.5
BMS 38-B	.83	2	.64	13	1.1	3
BMS 39-B	.53	46.5	.51	42.5	.93	21
BMS 40-B	.71	17.5	.7	7	.95	15.5
BMS 41-O	.51	50	.61	21.5	.75	39
BMS 42-B	.61	36.5	.59	26	.93	21
BMS 43-O	.61	36.5	.73	5	.8	32
BMS 44-B	.64	32	.61	21.5	.98	11
BMS 45-O	.58	42	.54	38	.83	29
BMS 46-B	.53	46.5	.69	8	.75	39
BMS 47-B	.72	14.5	.76	2	.45	59
BMS 48-B	.65	30	.64	13	.73	43
BMS 49-O	.65	30	.55	34	.53	54
BMS 50-B	.57	43	.5	46.5	.43	61
BMS 51-B	.66	27	.5	46.5	.98	11
BMS 52-B	.59	41	.61	21.5	.95	15.5
BMS 53-B	.66	27	.59	26	.98	11
BMS 54-B	.43	55	.53	39.5	.7	45
BMS 55-B	.8	5.5	.63	17	.73	43
BMS 56-B	.6	39.5	.5	46.5	.45	59
BMS 57-B	.72	14.5	.63	17	1.0	7.5
BMS 58-O	.66	27	.48	52	.55	52
BMS 59-B	.75	10.5	.58	55	.88	25.5
BMS 60-B	.42	56	.48	52	.98	15.5
BMS 61-B	.63	33.5	.55	47	.55	52

### Summary

This chapter explored in greater detail the hypotheses and research questions

addressed in this study concerning the musical achievement, musical aptitude, and academic achievement of the eighth grade Bryan Middle School Instrumental music students of the Omaha Public School District, Omaha, Nebraska.

The results of the three hypotheses were determined using a t- test. The result of the first hypothesis reveals that the subjects' displayed negligible differences of scores in the areas of musical achievement and musical aptitude, with the musical achievement appearing slightly higher. The second hypothesis tested if a relationship existed between the subjects' musical achievement and academic achievement. Despite this past research indicating a strong correlation between academic achievement and musical achievement, these subjects displayed scores higher in the area of academic achievement. The third hypothesis investigated if the musical aptitude scores of the subjects will be higher than the academic achievement. Subjects scored higher in the area of academic achievement.

Three research questions were addressed in this study. All were constructed using the Spearman's Rank Order Correlation Coefficient. The first research question studied if a relationship exists between the musical achievement and musical aptitude, and if so to what degree. A strong relationship was found between the subjects' musical achievement and musical aptitude. The strength of the relationship between the musical achievement and academic achievement was tested. A negligible difference was found between the musical achievement and academic achievement. The third research question examined studied if a relationship exists between the musical aptitude and academic achievement, and if so to what degree. Subjects scored higher in the area of academic achievement.

The hypotheses and research questions are discussed more in depth in the following chapter. Also discussed in the following chapter is the review of the study, the results of the study, a discussion of results, the researcher's observations, and recommendations for further study.



## CHAPTER V

### Discussion, Conclusions, and Recommendations

#### Introduction

This chapter reviews the hypothesis predicting if relationships and correlations existed between musical achievement, musical aptitude, and academic achievement of the instrumental music students at Bryan Middle School, Omaha Public Schools, Omaha, Nebraska. Specific attention is paid to the review of the study methodology, the results of the study, discussion of the results and the researcher's observations. Recommendations for the Bryan Middle School Instrumental Music Program and recommendations for further study are included in this section as well.

#### Review of study methodology

This study investigated the relationship of musical achievement, musical aptitude, and academic achievement of the Bryan Middle School Instrumental Music students. The researcher believed that instrumental music students' of Bryan Middle School are not achieving their potential in instrumental music. Correlations have been made in previously stated studies about success in musical achievement, musical aptitude and academic achievement. Academic achievement was found by several researchers to be a valid predictor of a student's success in instrumental music. Subjects tested met the qualifications of having formally studied an instrument for two or more years, and participated in the BMS Instrumental Music Program. The MAT, Test 1, (Musical Achievement Test, Richard Colwell, 1969) was administered to measure the students' musical achievement, the AMMA (Advanced Measures of Music Audiation, Edwin Gordon, 1986) was administered to measure the students' musical aptitude, and the

students' grade point average (GPA) was used as a measure of the students' academic achievement. The MAT was administered first to avoid the influence of inflating the musical achievement scores through the AMMA. Both tests were administered on the same day to provide the least interference with the classroom instruction. Both groups were to be tested in the instrumental music room. An unforeseen circumstance required the orchestra students to be tested in the cafeteria while the band students were tested in the instrumental music room.

### Results

- 1) Students demonstrated equal abilities in the area of musical achievement and musical aptitude.
- 2) Students' scores demonstrated a negative relationship between musical achievement and academic achievement outside of music. Students scored higher in the area of academic achievement.
- 3) Students' scores also demonstrated a negative relationship between musical aptitude and academic achievement outside of music. Subjects scored higher in academic achievement.
- 4) A strong relationship was found in the areas of musical achievement and musical aptitude. This indicates that the students may be demonstrating performance skills equal to their ability.
- 5) A negative correlation was found between the subjects' musical achievement and academic achievement.
- 6) Despite the change in classroom environment, orchestra students scored similarly in the areas of musical achievement and musical aptitude.

### Discussion of Results

In comparing the MAT and AMMA scores of the Bryan Middle School Instrumental Music students, little difference was found between the students' musical achievement and musical aptitude, suggesting that the students are demonstrating performance skills equal to their ability. The MAT and AMMA t-test result of .12 supported this conclusion. Further small group instruction for the Bryan Middle School Instrumental students in the areas of pitch, interval, and meter discrimination, could raise the subjects' level of performance and musical comprehension.

The data collected from the correlation of the musical achievement and the academic achievement shows a negative correlation between the two. The MAT and GPA t-test score was -.32 while the Spearman's Correlation was .00416. Despite the participation of many seemingly bright students in the instrumental music program, their success in academics outside of music did not relate to their success in the instrumental music program. Perhaps, students may have devoted more time and energy to core classes that are considered more important in the education system; i.e. English, Algebra, etc. The majority of the students only received instruction within the classroom setting; few students at the Bryan Middle School took private lessons outside of school. Group instruction seemed to address the needs of the lowest and did not challenge the abilities of the highest.

The relationship, which exists between the musical aptitude and academic achievement in the Bryan Middle School Instrumental Music students, was inconsistent with studies based on the success in the music aptitude and academic achievement. Both musical aptitude and academic achievement require sequential thinking skills for success. The AMMA and GPA t-test score for this group was -.32 while the Spearman's correlation was .0882. Though the scores confirm this negative correlation, one might

have suspected if the grade inflation was to blame for inadequacies of this correlation and the previous.

### Limitations of the study

- 1) The band had the largest number of subjects, 49. The orchestra had 12 subjects.
- 2) The Omaha Public Schools Benchmark Tests for music were not as intensive as the MAT or AMMA. The MAT tests subjects' listening skills, which require that the subjects demonstrate skills of discrimination of pitch, interval and meter. In addition to stressing pitch and interval discrimination, the AMMA assesses its subjects on discrimination of melodic and rhythmic differences.
- 3) The length and difficulty of the tests given in one class period may have overwhelmed the students. The length of the MAT is 26 minutes while the AMMA test is 20 minutes.
- 4) Additional grade point average weight is given to students who participate in honors course. This may have caused an inflation of the academic achievement scores because these students have the potential to have a grade point average of more than 4.0 on a 4.0 point scale. In this study, five students had a grade point average of 4.4.
- 5) The validity of certain subjects' tests may have been questionable because of the high incidence of cheating.

### Researcher's observations

Discussed in this section are four factors, which the researcher believes may explain the results of low musical achievement, low musical aptitude, and high academic achievement. The researcher believes that discipline problems such as cheating and

talking during instruction, scheduling the test so close to the end of the school year, the length and difficulty of the test and grade inflation at Bryan Middle School are the strongest factors affecting the test results.

As the students participated in this study, the researcher noticed a high incidence of cheating. Factors and descriptions of the incidents of cheating which may have influenced their behavior will be discussed. Students were unreceptive to listening to instructions and talked throughout the test. Students seemed unfamiliar with musical terms such as pitch, and meter. Directions had to be repeated and musical terms had to be explained in terms that could be understood by the students. The highest incidence of cheating occurred in the lowest achieving groups. Students tried to group together to compare answers during the test despite being separated by the researcher or the classroom teacher.

The discipline problems addressed earlier were/are of a concern to the orchestra director. Ms. Kathy Dickersbach recently replaced the former orchestra director during the school year. Dickersbach expressed the opinion that the orchestra demonstrated a low level of maturity in the classroom. When comparing the mean scores of the orchestral students to the band students, the orchestral students scored significantly lower in the area of academic achievement. Dickersbach suggested that the maturity of the orchestra students might explain the discipline problems and the lower achievement in the area of academics outside of music.

Had the test been administered earlier in the school year, the subjects may have scored higher in the areas of musical achievement and musical aptitude. The students may have displayed fewer discipline problems and been more attentive during the MAT and AMMA. In order to avoid conflict with rehearsal time before the Omaha Public Schools Middle School Instrumental Adjudications and Bryan Middle School's final

concert, the test was given May 20, 1999, one week after the Bryan Middle School Music Concert. This was also the last two weeks of the school year. The band classes which are held first and second periods of the morning seemed to have less discipline problems while the orchestra class held at the last period of the day seemed to have the most.

Another factor which may explain the low musical aptitude test scores was the length of the tests. The MAT, a 26-minute test, was administered first to avoid being influenced by the AMMA. The AMMA requires sequential listening to repeated 8 measures phrases while the MAT's test questions were limited to two or three pitches or listening to eight measure sequences of familiar songs for meter discrimination. The examples used by AMMA were less recognizable and longer in length. After having been tested for twenty-six minutes, the level of difficulty may have discouraged the students. Students also seemed unable to concentrate for the entire length of the class period. A better option would have been to test on two separate occasions.

The negative correlation between the subjects' musical achievement and academic achievement outside of music could be the product of grade inflation at Bryan Middle School. Another factor that affected this negative correlation was the prevalence of grade point averages above 4.0 on a scale of 0.0 to 4.0. Students are given extra points towards their grade point average for successful participation in honors courses. Five subjects had a grade point average of 4.4. A better assessment tool for measuring the subjects' academic achievement would have given the academic achievement more validity. The grade point average may not have been the best indicator of the students' academic achievement.

### Recommendations for further study

Further studies in the areas of musical achievement and musical aptitude in the Bryan Middle School Instrumental Music program could examine specific elements that may provide better insight into why deficiencies exist in the instrumental music program.

Research into the existence of differences of musical achievement and musical aptitude in specific instrumental groupings; i.e. winds, brass, percussion, and strings. Through the subdivision of the MAT and AMMA, specific deficiencies can be found. One particular instrumental group could be found deficient in rhythmic, note reading, skills; additional instruction could address these deficiencies.

An investigation using a pre and posttest scores in the areas of musical achievement and musical aptitude may show improvement in the students' performances on the standardized music tests. The current OPS curriculum and benchmarks tests did not stress pitch, interval and meter discrimination. If students were given instruction specific to listening skills in these areas throughout the school year, pre and post test scores at the beginning of the school term and the end of the school term, might show marked improvement in the areas of musical achievement and aptitude.

Small group instruction on a regular basis may raise the students' musical achievement if the students recognize the importance of this instruction. With a predetermined schedule, students would know when the woodwind specialist or brass specialist would be working with them. These specialists could assign material (scales and etudes) specific to the instrument and assess the students' progress. The small group instruction given by the specialists would have to carry weight in assessing the students' grade.

### Summary of Study

In this study concerning the music achievement, musical aptitude, and academic achievement of the Bryan Middle School Instrumental Music students in Omaha, Nebraska, it was found despite the related literature findings of a high correlation between success in music and success in academics outside of music, the students of Bryan Middle School displayed musical achievement unequal to their academic achievement. To measure the students' musical achievement, Richard Colwell's Musical Achievement Test 1 (MAT, 1969) was used. The Advanced Measures of Music Audiation (AMMA) measured the students' musical aptitude while the students academic achievement was assessed through the students' grade point average (GPA). A correlation was found between their musical achievement and musical aptitude. A Spearman's Rank Order Coefficient was used to determine the magnitude of these relationships of these pairs of data MAT/AMMA, MAT/GPA, and AMMA/GPA while a t-test was used to measure the difference of means of these pairs. Despite the results, the researcher believes that the students of Bryan Middle School are capable of demonstrating better performance skills.



## References

- Colwell, R. (Ed.). (1970). Handbook of Research on Music Teaching and Learning. New Jersey: Prentice Hall.
- Colwell, R. (1969). Musical Achievement Test.
- Corsini, R. (Ed.). (1994). Encyclopedia of Psychology (2<sup>nd</sup> ed.). New York: John-Wiley.
- Gordon, E. E. (1986). Advanced Measures of Music Audiation. Chicago: G.I.A.
- Gordon, E. E. (1971). The Psychology of Music Teaching. New Jersey: Prentice Hall.
- Gordon, E. E. (1975). Fourth year and fifth year final results of a longitudinal study of the musical achievement of culturally disadvantaged students. Experimental Research in the Psychology of Music, 10, 24-42.
- Gordon, E. E. (1988). Learning sequences in music: skill, content, and patterns. Chicago: G.I.A.
- Hartley, L. (1991). A comparison of music performance ratings between eighth grade instrumental music students who began in fifth grade and those who began in sixth grade, Journal of Band Research, 26, (2), 66-71.
- Hartley, L. (1996). Influence of starting grade and school organization on enrollment and retention in beginning instrumental music, Journal of Research in Music Education, 44, (4), 304-318.

Hedden, S. K. (1982). Prediction of music achievement in the elementary school, Journal of Research in Music Education, 30, (1), 61-68.

Hufstader, R. A. (1974). Predicting success in beginning instrumental music through the use of selected tests, Journal of Research in Music Education, 22, 52-57.

King, H. A. (1954). A study of the relationship of music reading and I.Q. scores, Journal of Research in Music Education, 2, (1), 35-37.

Klinedinst, R. E. (1991). Predicting performance achievement and retention of fifth grade instrumental students, Journal of Research in Music Education, 39, (3), 225-238.

Magill, F. N. (1993). Survey of Social Sciences Psychology Series. Pasadena: Salem Press.

McCarthy, J. F. (1980). Individualized instruction, student achievement, and dropout in an urban elementary instrumental music program, Journal of Research in Music Education, 28, 59-69.

MENC. (1990). Data in music education. Music Educator's National Conference.

Raushcer, F. H. (1997). Music training causes long-term enhancement of preschool children's spatial-temporal reasoning, Neurological Research, 19, 28-34.

Rothe, P. N. (1995). A survey of some theories that have developed in the field of music aptitude testing and research since 1940, abstract, Bulletin for the Council for Research in Music Education, 124.

Solly, B.J. (1986). A study of attrition from the instrumental music program in moving between grade levels in Cherry Hill, New Jersey (Doctoral Dissertation, Temple University, Philadelphia). *Dissertations Abstracts International*, 37/08, 2877A.

Weinhart, A. (1968). Achievement in music fundamentals to involvement in musical activity in grades 5 through 12, (published doctoral dissertation), Iowa City: University of Iowa Press.

Zdzinski, S. F. (1992). Relationships among parental involvement, music aptitude, and musical achievement of instrumental music students, Journal of Research in Music Education, 40, (2), 114-125.

**APPENDIX A**  
**IRB Approval Form**



University of Nebraska Medical Center
Espley Science Hall 3018
600 South 42nd Street
Omaha, NE 68198-5810
(402) 553-5463
Fax (402) 553-7845

EXEMPTION FORM

SECTION 1: APPLICATION DATA

TITLE OF RESEARCH PROPOSAL: An Investigative Look at the Musical Aptitude, Musical Achievement and Academic Achievement of the Eighth Grade Instrumental Music Students at Bryan Middle School.
STARTING DATE: Mar 17, 1999
PRINCIPAL INVESTIGATOR: Victoria Van Beusekom
SECONDARY INVESTIGATOR(S): Dr. Elliot Ostler, Dr. Neal Topp
DEPARTMENT/COLLEGE: Teacher Education/College of Education
ADDRESS: 6029 Manderson Omaha NE ZIP CODE: 68104
TELEPHONE: Home 453-9659 Work 554-6590

SECTION 2: CERTIFICATION

CERTIFICATION OF PRINCIPAL INVESTIGATOR: Signature certifies that the research project as described will be conducted in full compliance with University of Nebraska Regulations governing human subject research as stated in the IRB Guidelines for the Protection of Human Subjects. It is understood that the IRB will be notified of any proposed changes which may affect the exempt status of the research.

Victoria Van Beusekom
Signature of Principal Investigator
4/2/99
Date
Travel Instrumental Music Teacher - Omaha Public Schools
Position

ADVISOR APPROVAL: Student investigators are required to obtain approval from their advisor. Signature of approval certifies the research proposal has been approved and recommended for submission to the IRB.

Elliot Ostler
Signature of Advisor
4-2-99
Date
ELLIOTT OSTLER
Printed Name of Advisor

The IRB requires submission of an original and one (1) copy of the Exemption Form.

### SECTION 3: REVIEW INFORMATION

In order to determine whether your proposal qualifies for exempt status under 45 CFR 46:101(b), the IRB requests submission of the following information. Each subpart must be titled as described below and addressed in the listed sequence.

- I. **PURPOSE OF THE STUDY.** State concisely and realistically what the research in this proposal is intended to accomplish.
- II. **CHARACTERISTICS OF THE SUBJECT POPULATION.** Address the following questions in sequence using the listed subheadings.
  - a. **AGE RANGE.** What is the age range of the subjects?
  - b. **SEX.** What is the sex of the subjects?
  - c. **NUMBER.** What is the anticipated number of subjects?
  - d. **SELECTION CRITERIA.** What are the subject selection criteria?
- III. **METHOD OF SUBJECT SELECTION.** Describe the method(s) to be employed in the identification/recruitment of prospective subjects.
- IV. **STUDY SITE.** State the location(s) where the study will be conducted. Attach letters of approval from any non-University of Nebraska study site.
- V. **DESCRIPTION OF PROCEDURES.** Describe all procedures to be applied to subjects. Attach one copy of all surveys, questionnaires, and educational tests.
- VI. **CONFIDENTIALITY.** Describe how and the extent to which confidentiality of data will be maintained.
- VII. **INFORMED CONSENT.** Some technically exempt research projects ethically require informed consent (written or oral). If, in the investigator's opinion, the study requires informed consent, the method used to obtain informed consent should be described and any written consent forms submitted. If the study does not require consent, it should be so stated and justified.
- VIII. **JUSTIFICATION OF EXEMPTION.** The exempt category (1-6) under which the proposal is submitted should be stated and justified.

### SECTION 4: CATEGORIES OF RESEARCH THAT QUALIFY FOR EXEMPT STATUS

Research activities in which the only involvement of human subjects will be in one or more of the categories specified by Federal Regulations 45 CFR 46:101(b) are exempt from the requirements of 45 CFR 46. Only an Exemption Form must be submitted and approved by the IRB. The exempt categories do not, however, apply to research involving deception of subjects (the researcher deceives the subject with regard to the purpose of the research and/or the results of the subject's actions in the study), sensitive behavioral research, or to research involving pregnant women, prisoners, mentally incompetent people and other subject populations determined to be vulnerable.

#### Exempt Categories:

1. Research conducted in established or commonly accepted educational settings, involving normal educational practices, such as: (i) research on regular or special education instructional strategies, or (ii) research on the effectiveness of or the comparison among instructional techniques, curricula, or classroom management methods.  
Educational research protocols are exempt providing all of the following conditions are met:
  - a. All of the research is conducted in a commonly accepted educational setting (e.g., public school).
  - b. The research involves normal educational practices (e.g., comparison of instructional techniques).
  - c. The study procedures do not represent a significant deviation in time or effort requirements from those educational practices already existent at the study site.
  - d. The study procedures involve no increase in the level of risk or discomfort attendant normal, routine educational practices.
  - e. The study procedures do not involve sensitive subjects (e.g., sex education).
  - f. Provisions are made to ensure the existence of a non-coercive environment for those students who choose not to participate.
  - g. The school or other institution grants written approval for the research to be conducted.

**NOTE:** When an educational research project meets all of the above-listed conditions the IRB does not require parental consent. The investigator and/or the school system may, however, decide that parental consent should be obtained. Verbal child assent should be obtained. Educational projects that do not meet the above-listed conditions are not exempt and must be reviewed by either the expedited or full Board method.
2. Research involving the use of educational tests (cognitive, diagnostic, aptitude, achievement), survey procedures, interview procedures or observation of public behavior, unless: (i) information obtained is recorded in such a manner that human subjects can be identified, directly or through identifiers linked to the subjects; and (ii) any disclosure of the human subjects' responses outside the research could reasonably place the subjects at risk of criminal or civil liability or be damaging to the subjects' financial standing, employability, or reputation.

**NOTE:** Sensitive survey research is not exempt. A sensitive survey is one that deals with sensitive or highly personal aspects of the subject's behavior, life experiences or attitudes. Examples include chemical substance abuse, sexual activity or attitudes, sexual abuse, criminal behavior, sensitive demographic data, detailed health history, etc. The principal determination of sensitivity is whether or not the survey research presents a potential risk to the subject in terms of possible precipitation of a negative emotional reaction. An additional risk consideration is, of course, whether or not there is risk associated with a breach of confidentiality should one occur. With respect to potential psychological risk associated with a survey, the presence or absence of subject identifiers is not necessarily a consideration since the risk may be primarily associated with the sensitive nature of the survey as opposed to being dependent upon confidentiality. Subject identifiers do, however, become a factor when confidentiality is an issue.

**NOTE:** When children are involved as subjects in research using survey or interview procedures, the research is not exempt.

**NOTE:** When children are involved as subjects in research using observation techniques, the research is not exempt if the investigator participates in the activities being observed.

**NOTE:** Observation research involving sensitive aspects of a subject's behavior is not exempt.

3. Research involving the use of educational tests (cognitive, diagnostic, aptitude, achievement), survey procedures, interview procedures, or observation of public behavior that is not exempt under paragraph 2 of this section, if: (i) the human subjects are elected or appointed public officials or candidates for public office; or (ii) federal statute(s) require(s) without exception that the confidentiality of the personally identifiable information will be maintained throughout the research and thereafter.
4. Research involving the collection or study of existing data, documents, records, pathological specimens, or diagnostic specimens, if these sources are publicly available or if the information is recorded by the investigator in such a manner that subjects cannot be identified, directly or through identifiers linked to the subjects.
5. Research and demonstration projects which are conducted by or subject to the approval of department or agency heads, and which are designed to study, evaluate, or otherwise examine: (i) public benefit or service programs; (ii) procedures for obtaining benefits or services under those programs; (iii) possible changes in or alternatives to those programs or procedures; or (iv) possible changes in methods or levels of payment for benefits or services under those programs.

Taste and food quality evaluation and consumer acceptance studies: (i) if wholesome foods without additives are consumed or (ii) if a food is consumed that contains a food ingredient at or below the level and for a use found to be safe, or agricultural chemical or environmental contaminant at or below the level found to be safe, by the Food and Drug Administration or approved by the Environmental Protection Agency or the Food Safety and Inspection Service of the U.S. Department of Agriculture.



Institutional Review Board (IRB)  
Office of Regulatory Affairs (ORA)  
University of Nebraska Medical Center  
Eppley Science Hall 3018  
986810 Nebraska Medical Center  
Omaha, NE 68198-6810  
(402) 559-6463  
Fax (402) 559-7845  
E- mail: [irbora@unmc.edu](mailto:irbora@unmc.edu)  
<http://info.unmc.edu/irb/irbhome.htm>

April 28, 1999

Victoria Van Beusekom  
6029 Manderson  
Omaha, NE 68104

IRB#: 166-99-EX

**TITLE OF PROTOCOL:** An Investigative Look at the Musical Aptitude, Musical Achievement, and the Academic Achievement of the Eighth Grade Instrumental Music Students at Bryan Middle School

The IRB has reviewed your Exemption Form for the above-titled research project. According to the information provided, this project is exempt under 45 CFR 46:101b, category 1. You are therefore authorized to begin the research.

It is understood this project will be conducted in full accordance with all applicable sections of the IRB Guidelines. It is also understood that the IRB will be immediately notified of any proposed changes that may affect the exempt status of your research project.

Please be advised that the IRB has a maximum protocol approval period of five years from the original date of approval and release. If this study continues beyond the five year approval period, the project must be resubmitted in order to maintain an active approval status.

Sincerely,

A handwritten signature in black ink that reads 'E. Prentice/jlg'.

Ernest D. Prentice, PhD  
Vice Chair, IRB

EDP;jlg



**APPENDIX B**

**Building Principal and District Approval Letters**



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**BRYAN MIDDLE SCHOOL**  
8210 SOUTH 42 STREET OMAHA, NEBRASKA 68147-1705

*Raymond Ramsey, Principal*

April 2, 1999

Subject: Ms. Van Beusekom's Music Achievement, Musical Aptitude and Academic Achievement Research Proposal

Dear Committee Members,

Ms. Van Beusekom has shared with me her proposed research concerning the musical achievement, musical aptitude, and academic achievement of the eighth grade students involved with the Bryan Middle School Instrumental Music program. I fully support her research and methodology.

Sincerely,

A handwritten signature in black ink, appearing to read "R. Ramsey", written over a horizontal line.

Mr. Ramsey

Principal



**DIVISION OF RESEARCH**

3215 CUMING STREET OMAHA, NE 68131-2024 (402) 557-2080 FAX: (402) 557-2049

March 19, 1999

Victoria Van Beusekom  
6029 Manderson  
Omaha NE 68104

Dear Ms Van Beusekom:

We have received your letter requesting permission to conduct research in the Omaha Public Schools. As a member of the CADRE program, this project is required for your masters thesis in education at UNO.

You indicate your method of data collection will include the administration of the MAT (Music Achievement Test) and AMMA (Advance Measures of Music Audiation) to determine if a relationship exists between music achievement, musical aptitude, and academic achievement.

We believe your study has merit and permission is granted for you to proceed under the following conditions:

- The principal of Bryan Middle School agrees to your study.
- You, the researcher, will be responsible for distributing and collecting parent consent forms. This will not be the responsibility of the schools.
- In the reporting of the results of your study, students will not be personally identifiable.
- You will be willing to share results of your study with OPS.

Best wishes.

Sincerely,

A handwritten signature in black ink, appearing to read "Peter Smith", written over a horizontal line.

Peter Smith  
Coordinator of Research

PS/jb

**APPENDIX C**

**Parental Consent Letter**



University of  
Nebraska at  
Omaha

Teacher Education Department  
Omaha, Nebraska 68182-0163  
(402) 554-3666

May 14, 1999

IRB #166-99-EX

Dear Parent or Guardian,

I am a traveling elementary instrumental music teacher employed by the Omaha Public Schools and also assist Ms. Joan Lovgren with the Bryan Middle School Instrumental Music Program. I am also a member of the CADRE program at the University of Nebraska at Omaha, and am currently studying to obtain a Masters Degree in Secondary Education. As part of the exit requirements for the program, I will conduct a research study concerning the musical aptitude, musical achievement, and academic achievement of the eighth grade instrumental music students at Bryan Middle School. This study will be the basis for my thesis project.

This study is designed to investigate if relationships exist between the Bryan Middle School Instrumental Music students' musical achievement, musical aptitude, and academic achievement. Data for academic achievement will be collected from the students' grade point average. Two standardized tests will be used to assess the students' musical achievement and musical aptitude.

All test scores and data collected in conjunction with this study will be anonymous and confidential. An analysis of the data will be available upon the completion of the research.

If you have any questions or if you object to your student's data being used in the study, please contact me at [vvanbeus@s-cwjs.unomaha.edu](mailto:vvanbeus@s-cwjs.unomaha.edu) or at Jefferson Elementary School at 554-6590.

Sincerely,

A handwritten signature in black ink, appearing to read 'Victoria Van Beusekom'.

Victoria Van Beusekom