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Knowledge and Practices of Faculty at NASM Accredited Institutions in the Southeast Region Regarding Standards-Based Instruction

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` KNOWLEDGE AND PRACTICES OF FACULTY AT NASM ACCREDITED INSTITUTIONS IN THE SOUTHEAST REGION REGARDING STANDARDS-BASED INSTRUCTION

by

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ABSTRACT

KNOWLEDGE AND PRACTICES OF FACULTY AT NASM ACCREDITED INSTITUTIONS IN THE SOUTHEAST REGION REGARDING STANDARDS-BASED INSTRUCTION

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In 1993, Congress passed the mandate *Goals 2000: Educate America Act,* which established standards for K-12 education that outlined the core benchmarks of student achievement for individuals who have mastered the core curricula required to earn a high school diploma (Mark, 1995). Unfortunately, these curricular requirements did not include any criteria for music education, nor did they consider the curricular implications for higher education in providing NSME Standards-based training for music educators.

The aim of this study was to determine if and to what extent music education faculty engage in NSME Standards-based instruction within the higher education classroom. Questionnaires were emailed to music faculty at 25 randomly sampled higher education institutions in the Southeast region of the United States. A total of 343 respondents completed the web-based survey. Data analysis revealed two clear conclusions. First, the data presented in the current study shows that choral music faculty and instrumental music faculty are not placing the same emphasis on effectively teaching all nine of the NSME Content Standards. Second, the results of this study showed that choral and instrumental music faculty differ in how they rated the quality of instruction that their institution was providing their music majors.

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DEDICATION

To God be the glory for giving me the strength to complete this journey. The author would like to thank Bessie Nelson, Willie Alice Evans, Alice Brown, and Barbara Nelson for their enduring love and support. The author would also would like to thank Samuel Griffin and Bryan Jefferson for their encouragement and support that made it possible to maintain full-time employment while completing this journey.

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LIST OF ABBREVIATIONS

DoI	Diffusion of Innovation Theory
ERA	Education Reform Act of 1988
IPSB	Indiana Professional Standards Board
IRB	Institutional Review Board
MENC	Music Education National Conference
NASM	National Association of Schools of Music
NCATE	National Council for Accreditation of Teacher Education
NSME	National Standards of Music Education
SPSS	Statistical Package for the Social Sciences

CHAPTER I - INTRODUCTION

Background

The mounting concerns whenever there is an economic downturn often results in many Americans demanding accountability of taxpayer-funded entities (Abrahams, 2000; Mark, 1995; Parker, 1993) including public institutions of education. In fact, the sense of urgency in educational reformation and accountability was first brought to the forefront with the publication of *A Nation at Risk: The Imperative for Educational Reform* in 1983. Prior to its publication, there were mounting apprehensions from the populace regarding the quality of the American education system, and the ability of American children to be competitive in a technologically-driven society which spurred renewed interest in substantial advances in mathematics and science. As a result, *A Nation at Risk* became the benchmark for a plethora of new proposals designed to transform America's education systems, with promises from the federal government that these educational changes would result in American children becoming the frontrunners in the sphere of technological advances (Mark, 1995).

There have also been similar demands for modifications in higher education. Focusing on institutional innovation in higher education, Domina and Ruzek (2012) favored government and institutional initiatives to reform secondary and post-secondary education via the inception of the K-16 curricular model. The K-16 reform model establishes common curricula amid government-controlled partnerships between public schools and college and universities, resulting in comprehensive curricula that are more aligned in structure and assessment criteria (Domina & Ruzek, 2012). Literature also suggested that reform in higher education may be more politically driven, thereby

creating a discrepancy between what the public views as enhancements in academic performance and the autonomy and control of curricular change within the institution (Enders, Boer, & Weyer, 2013). While the concept of institutional independence was challenged by political leaders who sought to align the regulation of higher education institutions with executive objectives, Ender, Baer, and Weyer (2013) concluded there is an absence of evidence in the literature to support a relationship between institutional autonomy and quality of academic performance.

In 1993, Congress passed into law *Goals 2000: Educate America Act*, which established new standards for K-12 education that outlined the core benchmarks of student achievement for individuals who have mastered the core curricula required to earn a high school diploma (Mark, 1995). Unfortunately, these curricular requirements did not include any criteria for music education, nor did they consider the curricular implications of higher educations in providing a standards-based training for music educators. Unhappy with the absence of the educational standards related to the arts in the original *Goals 2000 mandate*, music education theorists and leaders under the guidance of the Music Education National Conference (MENC) developed voluntary guidelines denoting arts-based achievement and performance standards for students in grades K-12 (Abrahams, 2000). The National Arts Education Association developed the following set of competencies to function as the National Standards of Music Education (content standards):

1. Singing alone and with others, a varied repertoire of music
2. Performing on instruments, alone and with others, a varied repertoire of music
3. Improvising melodies, variations, and accompaniments

4. Composing and arranging music within specified guidelines
5. Reading and notating music
6. Listening to, describing, and analyzing music
7. Evaluating music and music performance
8. Understanding relationships between music, the other arts, and disciplines outside of the arts
9. Understanding music in relation to history and culture (Consortium of National Arts Education Association, 1994, pp. 26-29).

Additionally, each content standard has several achievement standards that are used to label the degree of mastery for each individual content standard (Consortium of National Arts Education Association, 1994). Achievement standards are identified as either proficient and advanced, with proficient representing the level that all students should acquire, and advanced being earmarked for those who have studied privately and/or have taken specialized courses in music (Consortium of National Arts Education Association, 1994). For this study, the achievement standards were not made available in a list form. Rather, they were identified in the questionnaire and made available in an appendix.

While not included in the original *Goals 2000: Educate America Act*, the NSME Standards were later added because of research, development, and lobbying of Congress by several music education advocates (Mark, 1995). Through the efforts of these advocates, for the first time, music education became an essential part of the core curriculum aimed at high school students in America. The new law required students to acquire basic proficiency in an arts-based course as a requirement for graduation

(Abrahams, 2000; Mark, 1995). The NSME Standards did not provide suggested methods of teaching with recommendations for inclusion within the academic curricula; rather, they offered a comprehensive narrative of arts-based performance and cognitive outcomes. While the development and implementation of the NSME Standards were significant in aiding music education in attaining curricular relevance at the same degree as mathematics, science, and the language arts, music education advocates began to experience many of the same challenges when implementing the NSME Standards as were identified after executing the various core curriculum standards, with the primary challenges being consistency in implementation among districts, steered professional development, and effective assessment of the NSME Standards (Mark, 1995).

Statement of the Problem

To remain pertinent, the field of music education is constantly evolving its expectations, while meeting the curricular needs of K-12 music educators. One such reform effort in music education involved the adoption of the National Standards of Music Education (NSME standards) in 1994. The NSME Standards were generated with the intention of providing music educators a template for developing a common music education curriculum (Abrahams, 2000; Fonder & Enkrich, 1999; Mark, 1995). With continued improvements in the quality of instruction in secondary education, state departments of education began to shift the accountability upon higher education institutions, demanding that undergraduate music curriculua and instruction be more aligned with the assessment models being employed in secondary education (Abrahams, 2000).

Although the professoriate has indicated that students in music teacher education programs are being adequately trained toward NSME standards-based instruction, there appears to be a deficit in research focusing on faculty attitudes regarding the implementation of the NSME Standards within the higher education curriculum (Adderley, 2000; McCaskill, 1998; Parker, 1993; Sprugeon, 2004). Spurgeon (2004) argued that universities are failing to provide novice music educators with the comprehensive skills and competencies required in today's K-12 music classrooms. While there are only a few empirical studies concerning the knowledge, attitude and methodologies of higher education faculty regarding NSME standards have been conducted, Mark (2002) and Abrahams (2000) both concur that a comprehensive NSME standards-based teacher education program is critical to the advancement of secondary music education.

Akin to secondary education, higher education has not been immune from the criticisms of those demanding reform and greater accountability from American colleges and universities. After the passage and implementation of *Goals 2000: The Educate America Act*, advocates for educational change began to support the K-16 imitative, an educational model that proposed to integrate secondary and postsecondary curricula in a single comprehensive curriculum (Domina & Ruzek, 2012). As a result, some departments of music began incorporating NSME standards-based instruction into their teacher education programs (Mark, 1995). However, the implementation of NSME standards soon revealed some of the inherent challenges that could negatively influence achievement. Specifically, a discrepancy emerged between NSME standards-based assessment instruments employed in K-12 music teacher evaluations and teacher

education programs that voluntarily adopted NSME standards-based methodologies (Abrahams, 2000; Mark, 1995; Parker, 1993; Spurgeon, 2004). It became apparent that the future success of the NSME Standards movement was contingent upon the willingness of higher education institutions to adjust their curricula for preparing teachers to accommodate K-12 music educational needs (Abrahams, 2000; Parker, 2003).

According to Parker (1993), restructuring of teacher education programs is the critical component in assisting the nations' public schools with the adoption and implementation of national standards, curriculum reform, and comprehensive testing. Abrahams (2000) concurred, stating that departments of music should consider the precepts of the NSME Standards when adjusting their music education curricula. NSME Standards may serve as a foundational resource upon which college and university departments of music may develop and execute a more comprehensive standards-based curriculum (Abrahams, 2000; Mark, 1995; Parker, 1993). Similar initiatives were occurring within other academic disciplines between secondary and postsecondary institutions. For example, Reid and Feldhaus (2007) illustrated how schools of engineering collaborated with high schools in developing new science education curricula that incorporate engineering competencies with current secondary science education standards.

The discrepancies may be the result of a perceived threat to music faculty's academic freedom, particularly when changes are being made to the traditional curriculum (Enders, Boer, & Weyer, 2013). In a study of an Australian university implementing a large-scale curriculum management tool, it was noted that issues regarding the impact of academic freedom were the primary concerns of faculty (Lai,

Wood, & Marrone, 2012). In another example at Duquesne University, administrators, who aimed to restructure their music education curriculums, were successful in minimizing opposition by soliciting the assistance of faculty in developing strategies toward change (Abrahams, 2000).

During times of inordinate demand on educational responsibility and accountability, quantifiable reform in music education at the K-12 level may necessitate a major shift in teacher preparation at the post-secondary level (Abrahams, 2000; Hope, 1995; Mark, 1995). The adage that educators teach the way they were taught suggests that the undergraduate curriculum may have a significant influence on teacher pedagogy (Hope, 1995). However, since educational trends seem to be moving toward curriculum regulation and accountability in higher education, Hope (1995) affirmed that it has become imperative that administrators and faculty be proactive in the innovation of NSME Standards-based curriculums. In circumstances where an innovation requires a drastic modification of the current curriculum, faculty acceptance was critical. Fonder and Eckrich (1995) surveyed institutions aiming to assess how NSME standards have influenced music teacher education curricula, and found a relationship between the rate of adoption of the NSME standards and the size of the music department. According to their findings, music departments with larger student enrollments tended to be more likely to adopt NSME standards-based curricular changes (Fonder & Enkrich, 1999). Pinor (1999) asserted that the inclusion of instructors in the innovation of a curriculum may be the primary challenge in determining its' success. To implement curricular enhancement, university faculty may need to redress any self-deficiencies in knowledge regarding the comprehension and operational implementation within the NSME

Standards (Hope, 1995). Hope (1995) concurred that teacher education programs may need to consider abandoning the traditional music education curriculum in favor of a structure that places more emphasis on competence, stating the position that it is imperative that music education faculty take a more proactive role in the preparation of future music teachers.

In an investigation exploring the role of higher education in the development of national academic standards, McKenna (1994) noted that the professoriate has been inactive regarding educational reform and the development of standards and assessment instruments. Esther Rodriquez, spokeswoman for the State Higher Education Executive Officers, explained that the passive method of instruction that many undergraduates are receiving is not training them for student-centered learning as required by many state departments of education (McKenna, 1994). Shuler (1995) acknowledged that addressing several obstacles including bridging the gap between philosophy and practice, delivering comprehensive training in multiple facets of music education, and proactively abandoning traditional practices in support of more theoretically guided standards-based instruction may be critical in advancing teacher education programs. Since the adoption of NSME Standards in 1994, many undergraduate music programs have made extensive changes in their curriculum to embrace NSME Standards-based learning, while others have been less proactive in embracing curricular change (McKenna, 1994; Shuler, 1995). Meanwhile, national accreditation associations such as The National Association of Schools of Music (NASM) have been preemptive in the reform movement through the establishment of accreditation requirements that are aligned with NSME Standards (Shuler, 1995).

This study was intended to probe the knowledge and professional practices of music education faculty at higher education institutions. A preponderance of NSME Standards-based research was executed during the period immediately following the passage of *Goals 2000: Educate America Act of 1994* (Abrahams, 2000; Fonder & Enkrich, 1999; Hope, 1995; Mahlmann, 1994; Mark, 1995; McKenna, 1994; Shuler, 1995).examination of literature revealed that perhaps due to changes in the interest of music education research, empirical research on the subject has been limited (Abrahams, 2000; Hope, 1995; Mark, 1995). Hence, this inquiry may contribute to the literature relative to the implications of NSME Standards from the perspective of higher education.

Theoretical Basis

The field of education, not unlike other fields of study, embraces many psychological and sociological theories as the framework as its fundamental philosophy. With the aim of this investigation centered on curricular change, the diffusion of innovations theory served as the theoretical platform for investigating NSME standards-based teacher education programs at institutions of higher learning. The diffusion of innovation (DoI) theory is identified as a different idea or procedure that is implemented within social interaction (Rogers, 1983). The field of education, not unlike other fields of study, embraces many psychological and sociological theories as the framework as its fundamental philosophy. With the aim of this investigation centered on curricular change, the diffusion of innovations theory served as the theoretical platform for investigating NSME standards-based teacher education programs at institutions of higher learning. The primary aim of DoI was to demonstrate how new ideas, objects, or actions are presented to a community (Rogers, 2003).

Based on the narratives of numerous investigations that has employed DoI theory as its theoretical basis, Rogers assert that DoI aids in the comprehension of the true nature of social change in the following ways: first, it helps identify the factors that aid in the successful diffusion of a new idea; next, it emphasizes the importance of communication among all innovators and early adopters; and finally, it support change agents in properly identifying the specific needs of the intended population (Rogers, 2003).

According to several diffusion researchers, relative advantage, compatibility, simplicity, trialability, and observability are the factors that can positively influence the successful adoption of an innovation. Relative advantage refers to comparing the public's perception of the new idea with that which was currently in place. Compatibility refers to the extent to which the innovation was regarded as compatible with the values and needs of the intended population. Simplicity refers to the perceived level of difficulty required to fully comprehend and employ the innovation. Trialability specifies how well the innovation lends itself to being adaptable. Observability speaks to the need for innovators to aggressively present the benefits and early successes of the innovation to potential adaptors (Cohen-Vogel & Ingle, 2007; Rogers, 2003; Sahin & Thompson, 2006; Smith, 2012; Szabo & Sobon, 2003).

The diffusion investigators cited previously also concur that potential adopters can be appropriately placed in one of five sub-groups: innovators, early adopters, early majorities, late majorities, and laggards. Innovators are the people responsible for creating and developing the new idea. The early adopters were best described as those who invest in the adoption process once the initial benefits of the innovation become visible. Members of this group are important in that they often provide meaningful

feedback while offering strong support of the new idea to other potential adopters. The early majority describe those who would support an innovation only after substantial evidence of it being advantageous is publicly acknowledged. The late majority are those who are only interested in the social benefits of being associated with the new idea, often influenced only by the endorsement of mainstream adopters and innovators. Finally, laggards describe those who would have the most negative opinions toward the innovation and were often the least receptive to change (Cohen-Vogel & Ingle, 2007; Rogers, 2003; Sahin & Thompson, 2006; Smith, 2012; Szabo & Sobon, 2003).

The DoI theory rests on the premise that change most effectively occurs through the acceptance and application via subject-specific communities that were based on the concepts of innovation, communication channel, and the social system (Rogers, 1983). According to Rogers (1983), innovation is a different idea or practice that is to be changed, communication channels identifies the ways in which the new concept is transferred, and the social system consists of the individuals, groups, and organizations that work toward acceptance of change.

Research Questions

Based on the above-mentioned clarification of the NSME Standards, coupled with the theoretical guidance of Diffusion of Innovation (DoI) within curriculum assessment and development in higher education, there is a probable relationship between the formal music education curriculum and the explicit teaching practices of music teacher educators. For the purposes of this study, the researcher's aim was to satisfy the following questions:

1. Do faculty rating of effectiveness of NSME Standards-based instruction differ between choral and instrumental areas of music education concentration?
2. Which achievement standard(s) within each content standard received the greatest instructional emphasis when choral and instrumental areas of concentration are compared?
3. Do faculty rating of the strengths of instructional programs to prepare graduates to teach the five competencies that should be mastered by all K-12 students differ by area of concentration?

Definitions of Terms

A Nation at Risk: The Imperative for Educational Reform: A report that was investigated and offered by President Ronald Reagan's National Commission on Excellence in Education. The contents of this report concluded that schools in the United States were failing, and served as the stimulus for numerous education reform initiatives (National Commission on Excellence in Education, 1983).

Achievement standards: A term to describe the benchmarks used to identify the level of mastery of specific standards (Consortium of National Arts Education Association, 1994).

Content standard: A term to describe what music students show know and should be able to do upon graduation from high school (Consortium of National Arts Education Association, 1994).

Diffusion of Innovation: A theory that focuses on using social networking to describe, educate and disperse the adoption of new ideas and concepts. This theory has been employed in numerous medical, agricultural, and educational fields (Rogers, 1983).

Goals 2000: Educate America Act: An education reform act signed into law in 1994, which emphasized the philosophy that America students would be more competitive academically if they were held to a higher level of accountability. As a result, federal law established the foundation of national academic standards, which mandated compliance of school districts as a prerequisite in receiving federal funds (H.R. 1804 GOALS 2000: EDUCATE AMERICA ACT, 1994).

K-16 Model: An education reform model that aligns the assessment methods and graduation requirements of secondary institutions with the curriculum and admission polices of higher education institutions (Domina & Ruzek, 2012).

Music Education National Conference: A national professional organization and advocate that focuses on all areas of concentration within music education. This organization was noted for providing teachers and parents with resources, as well as offering relevant professional development opportunities to teachers and music workshops to students. In September of 2011, MENC officially changed its name to the National Association for Music Education (NAfME) (National Association for Music Education, 2014).

National Association of Schools of Music: A national organization charged with accrediting higher education departments of music based on specified educational benchmarks and curricular criteria (Adderley, 1996; National Association of Schools of Music, 2015).

National Standards of Music Education (NSME Standards): A set of nine voluntary national standards aimed at providing the curricular framework for what music students should be able to do upon high school graduation (Abrahams, 2000; Bell, 2003).

Novice Teacher: Employee of a secondary or postsecondary educational institution that is within the first three years of service; also includes pre-service teachers, who are students enrolled in upper-level education methods and practice teaching courses (Everhart, Everhart, McHugh, Newman, Hersey, & Lorenzi, 2013; Jones, Youngs, & Frank, 2013; Pogodzinski 2014).

Limitations

Engagement in this study presented three primary limitations. First, the researcher used random sampling in selecting the institutions within the Southeast region of the United States. Thus, the findings of this study do not characterize the overall populace of music faculty. Second, the majority of the participants in this study indicated that they 13 or more years of experience as a faculty member within the perspective music department. The findings would have provided a more varied perspective regarding the classroom practices with the inclusion of more less experienced faculty. The third limitation was that the researcher was not able to include the responses of all 389 participants who accepted the invitation to participate in the study. In order to have the most accurate data analysis, 39 of the participants were deleted because of incomplete questionnaire. Thus, the data analysis was conducted with responses from 343 completed surveys.

Delimitations

The population of this study was delimited to music education faculty at higher education institutions within the Southeast Region in the United States, who are accredited by the National Association of Schools of Music (NASM) at institutions located in the Southeast region of the United States. Additionally, this study was delimited with the use of self-reported responses of the contributors, and may not characterize the actual knowledge, attitudes, and practices of the participants.

Assumptions

In conducting this study, the researcher assumed that the participants, music education faculty, provided questionnaire responses that are truthful, straightforward, and pertinent. The researcher assumed that the participants have at least one year as a music education faculty member, teach at least one music education course per term, and possess at least a functional understanding of the National Standards of Music Education. Furthermore, it is assumed that the participants are contributing upon their own accord, and every effort was made by the researcher to assure complete anonymity.

Justification

The justification for exploring knowledge, attitudes, and professional practices of music faculty as they relate to the National Standards of Music Education was three-fold. First, university administrators may benefit from the reported attitudes and professional practices of K-12 music educators, gaining valuable insight from those held accountable for implementing NSME standards-based learning. Additionally, the findings from this study could assist undergraduate faculty in assessing the quality of their teacher education curricula in being aligned with the NSME standards. Second, current and future students

in music teacher education programs may benefit from the findings of this study through the enhanced instruction of methods courses that could yield exceptional comprehension of the practices and implementation of standards-based learning. Third, this study may contribute current information to a relatively aging body of NSME Standards-based research. Hence, this inquiry may contribute to the literature relative to the implications of NSME Standards from the perspective of higher education.

Summary

The principal contribution of this study to the field of higher music education was the addition of current information to a relatively aging body of NSME standards-based research. Though numerous studies were conducted immediately following the inception the NSME standards, research on the topic has been relatively absent in the past decade. Austin (1998) conducted an extensive review of NSME standards-based studies and found that investigations in this area focused on teacher education, secondary music education, and evaluation and support. Scholars such as Abrahams (2000), Adderley (1996), Mark (1995), and McCaskill (1998) have suggested the need for more empirical research regarding the role and influence of NSME standards on higher education. Hence, this inquiry may contribute to the literature relative to the implications of the NSME standards employing DoI in the context of higher music education. The sample for this study was both part-time and full-time music education faculty and music instructors from nationally accredited colleges and universities in the United States.

CHAPTER II – REVIEW OF RELATED LITERATURE

Introduction

While a significant body of literature on the topic of standards and education reform exists, limited research has been given to the Standards of Music Education, especially from the context of higher education. This review of related literature presented an introduction to the Diffusion of Innovation theory and examine sources targeted at teacher and music teacher education programs, as well as the role that national higher education accreditation organizations may play in the training of music educators. The aim of this review of literature is to provide evidence to support the need for further research on the influence of NSME Standards within music teacher education curricula.

Theoretical Framework

Rogers' (2003) Diffusion of Innovations theory, defined as a course of action aimed at implementing a new idea using various social entities over a period, provides the theoretical framework for the proposed study. Although Rogers classified education as one of the traditional focal points in diffusion research, investigations in diffusion of innovation in higher education have been scarce. According to Rogers, the 1943 hybrid seed corn study conducted by Ryan and Gross was essential in establishing the framework that would influence future diffusion studies. In the years immediately following the hybrid corn study, diffusion-based studies began to appear in several research fields including sociology, public health, anthropology, marketing, and education (Rogers, 2003). Additionally, Rogers describes a 1966 medical study by Coleman, Katz, and Menzel (1966) on the introduction of Tetracycline, an antibiotic developed by Pfizer, as influential in the acceptance and practice of the diffusion

procedure. Coleman, Katz, and Menzel examined physician and pharmacy records to obtain more accurate data regarding the time of innovation adaption (Rogers, 2003). The findings of the Tetracycline study suggested that the level of social interaction of the medical doctor may influence the rate of the innovation (Rogers, 2003).

Although Rogers (2003) identified education as one of the primary areas of diffusion-based fields of study, educational diffusion research publications were meager as late as the mid-1990s in comparison with the other fields of diffusion publications. Some of the early education innovations included adaption of kindergartens, teacher education, and computer technology in American educational systems (Rogers, 2003). For example, it was Mort (1953) at Columbia University's Teachers College that oversaw several diffusion studies that found a relationship between innovativeness and the extent of local influence that school system board members had within the community. Wollons (2000) was instrumental in illustrating how the diffusion of the German kindergartens of the 1850s had successfully become commonplace in the United States by the end of the first World War. More recently, Toledos' (2005) study higher education students, faculty, and administrators that resulted in a five-step model determined to be effective in successfully diffusing computer technology into the teacher education curricula. Similar results were found in a study aimed at identifying factors that may enable or impede the diffusion of a distance learning program within an Australian university (Samarawickrema & Stacey, 2007).

While the number of education-based diffusion studies reached its pinnacle during the decade of the 1980s, Rogers (2003) acknowledged that the percentage of educational diffusion publications had diminished significantly by 2000 when compared to the total

number of diffusion studies. It is from the aforementioned examples of educational diffusion research that information applicable to this study, particularly in higher music education with regards to the National Standards for Music Education (NSME), may be applicable. The proposed investigation will consider the diffusion of innovation theory as it relates to potentially employing a common music education curriculum in schools of music.

Diffusion scholars have devoted a myriad of resources to distinguish specific procedures that can be replicated to produce success in innovations in various fields of study. Rogers (2003) identified five steps necessary for acceptance of an innovation: knowledge, persuasion, decision, implementation, and confirmation. Knowledge describes the information gathered by the change agents that present the fundamental tenets of the new idea. The second stage, persuasion, is the phase in which an individual or group member uses the knowledge gained to develop a favorable or unfavorable position regarding the innovation. The decision phase occurs when the individual or targeted group acts to either move forward with the new idea, reject it, or re-introduce a modification of the original innovation. The implementation phase occurs when the new idea is employed, while the confirmation phase promotes innovators to investigate to acquire information to substantiate the innovation that is currently being used (Rogers, 2003).

Following implementation, the next stage of the innovation is to spread its success to others outside of the initial target group, but who may benefit from the new idea. Rogers (1983) identified relative advantage, compatibility, complexity, trialability, and observability as factors that aid in the successful dissemination of an innovation.

Relative advantage refers to the perceived successfulness of the innovation when compared to the practice in place prior to the innovation. Compatibility refers to the alignment of the innovation with the existing goals and philosophy of the prospective adopters. Complexity refers to the level of difficulty that would be required to implement the innovation; trialability refers to how well the innovation lends itself to testing on a short-term basis, and observability explores the visibility of the innovation's results. Thus, diffusion researchers have suggested that the likelihood of an innovation's adoption increases if it is perceived as better than current practices, is compatible with the current values and philosophy; is simple to understand and use, can be tested, and produces outcomes that are easily observed (Rogers, 2003).

Rogers (2003) denotes that the four primary components that must be present in diffusion is innovation, communication, time, and social system. According to Rogers (2003), an innovation is a concept or practice that some social entity views as being new. He further explains that newness is a term based on perception, rather than fitting within a time frame. There are two assumptions that should not be made regarding innovations; first, it should not be assumed that all innovations are advantages; and second, successful adoption of the same innovation cannot be guaranteed with multiple individuals, groups of people, or organizations (Rogers, 2003). In fact, Tarde (1969) speculated that nine out of ten new innovations that are introduced never progress past the conception stage.

In the second component, communication, those individuals vested in the innovation to convey information to the target population as to the advantages of adoption (Rogers, 2003). Because diffusion-based literature suggest that the significance of an innovation is rarely evaluated by the public using scientific methods, interpersonal

relationships and lines of communication between innovators and potential adopter becomes a critical factor in the dissemination of the lessons learnt from previous experiences with a particular innovation (Coleman, Katz, & Menzel, 1966; Robinson, 2009; Rogers, 2003).

Time, the third element in the innovation process, is the variable that separates diffusion from other theories (Rogers, 2003). According to Rogers (2003), the time element within the diffusion process is used to gauge the amount of time from inception of the innovation until it is accepted or denied, the dates that various individuals or organizations accepted the innovation and the rate of adoption within a specific period. The final component, the social system are a group of individuals or associations working together to achieve a common goal. It is the effectiveness of which information is disseminated within this social system that either aid or disrupts the acceptance of the new idea within the social system (Rogers, 2003).

Expanding on the principals detailed in education-based studies utilizing Rogers' diffusion of innovation, Smith (2012) analyzed peer-reviewed literature relevant to diffusing new teaching practices in higher education and synthesized the various findings into six approaches that should be considered when attempting to implement learning and teaching innovation plans within the post-secondary institution. Smith (2012) first suggestion for change agents is to acquire influential advocates for the new idea. University administrators should construct a strategic plan expressing both short-term and long-term expectations regarding the innovation (Smith, 2012). For example, in a study that evaluated the effectiveness of implementing a managed learning system at an institution of higher learning, Bell and Bell (2005) concluded that plans of

implementation should include a detailed procedure to provide relevant support to faculty throughout the entire diffusion process. Further, the literature suggests that faculty tend to be more committed and work more diligently toward employing favorable innovations when they perceive administrators as being supportive (Bell & Bell, 2005). Smith (2012) and Pundak and Rozner (2008) both concluded that to address the primary challenge to the diffusion of teaching practices, sufficient time should be granted to account for examination and adjustments to the new teaching structure.

Adequate training of those charged with carrying out the new idea is influential to its success (Smith, 2012). Brzycki and Dudt (2005) conveyed that conveyed workers who received operative training were better prepared to employ a new idea due to advanced knowledge and skills and that a satisfactory training atmosphere provided faculty with methods to incorporate the innovation into their current courses. Furthermore, Brzycki and Dudt suggested that there may be degrees of pre-existing knowledge of the innovation, years of work experience, and the likelihood of being receptive to adjustments in methodology. The next approach implies that innovations that are most relevant in enhancing the current practices, as well as adequately addressing the immediate curricular needs of the faculty (Martin & Treves, 2007; Smith, 2012). The next approach focusses on the development of support teams, emphasizing the importance of utilizing mentoring programs within the innovation process (Smith, 2012). In a study assessing the effectiveness of support networks in higher education innovations, the team support consisting of instructors, technology specialists, and students appeared to be the most successful approach in the diffusion of a new e-learning innovations (Uys, 2007).

The final approach focuses on assisting in supporting the new idea being implemented (Smith, 2012). Existence of an infrastructure system that is not conducive to the successful development, testing, and implementation of the innovation may lead to failure of adopting the new idea, even when the other responses within the process have been positive (Smith, 2012). For example, Adam (2003) to illustrated how limitations within the internet infrastructure in various regions of Africa has negatively impacted technological innovation in African universities. Even with the substantial advances made with Internet network systems in the United States, there are often concerns regarding infrastructure that affect the transformative potential of technology-based innovations (Adams, 2003; Seels, Campbell, & Talsma, 2006).

While the proposals compiled by all of the researchers mentioned thus far represented a wide range of issues that must be considered, they do, however, provide a strategic plan outlined for curricular innovation in post-secondary education. Such strategic plans are described by administrative support for the innovation, coupled with faculty who first, see a need for change, and second, are motivated to generate and implement the innovation (Smith, 2012). Smith (2012) also emphasized the importance of faculty and students being trained to effectively carry out the innovation, as well as the importance of allowing sufficient time for developing and diffusing the innovation into practice. Finally, successful adoption of the innovation may be contingent upon the introduction of new ideas that are perceived as relevant and needed the establishment of group and individual support teams, and a thorough assessment of the infrastructure needed to facilitate the innovation.

Although Diffusion of Innovation is a theory that has been widely accepted as a model for exploring human behavior, several criticisms have emerged that should be taken into account to ensure enhanced development in this theory (Rogers, 2003). Rogers (2003) acknowledged that the greatest limitation to diffusion research was its lack of empirical criticism prior to 1970. However, in 1971, Rogers and Shoemaker (1971) identified four critical issues (Rogers, 2003) that plague diffusion research:

1. The Pro-Innovation Bias
2. The Individual-Blame Bias
3. The Recall Problem
4. The Issue of Equality in the diffusion of innovations

The pro-innovation bias as the assumption often made during diffusion investigations that the innovation should be diffused without making modifications or seeking information that may lead to its rejection (Rogers, 2003). In diffusion research, this bias often results from innovators having an ulterior motive (usually financial) to ensure that the innovation is adopted. Additionally, innovations that have been adopted are peer-reviewed more often than those that are rejected. Issues arise when outside researchers are unable to reproduce the findings using unbiased diffusion-based principals (Rogers, 2003). To illustrate the concept of pro-innovation bias, Rogers explains a study by Belasco (1989) in which the bias that was introduced in an innovation to diffuse a government funded water purification system was not effective irrespective of political support to adapt. According to Belasco (1989), the aim of this investigation was to determine why people in the Egyptian delta elected to drink contaminated water from the Nile Canal rather than the new chlorinated drinking water provided by the

Egyptian government. After examining interview and observation data, Belasco (1989) concluded that there were several reasons for the actions of the respondents, including mistrust of government intent, dislike of taste of purified water, social connotations, and religious beliefs. While this innovation was supported, adopted, and implemented by the Egyptian government for the good of the people in the Nile Canal the diffusion of the water purification system was rejected by the intended beneficiaries because the Egyptian government officials failed to consider the needs and perceptions of the people it was aiming to help (Belasco, 1989).

Rogers (2003) offered several techniques to assist in correcting pro-innovation bias in diffusion research. First, diffusion researchers should consider employing alternative diffusion research procedures, such as investigating the effectiveness of the innovation during the diffusion process instead of after the study. This stage in the process not only allows diffusion researchers to compare data from multiple periods in time but also provides the opportunity to explore and compare the findings from both successful and rejected innovations. Second, diffusion researchers should be more balanced in the selection of successful and unsuccessful innovations when conducting assessments of effectiveness. Third, in choosing to investigate innovations that have previously been rejected, diffusion researchers should consider the perceptions and needs of the individuals who could have benefited from the innovation being adopted. Fourth, diffusion researchers should extend the focus of their investigations to include issues such as how the decision to adopt was made and any relationship between the innovation and the practices that the new idea is intended to replace. Finally, diffusion researchers should aim to discover some of the factors that motivate leaders to adopt an innovation

(Rogers, 2003). While this construct may be difficult to measure, Rogers (2003) suggested that the knowledge gained from such information could be significant in helping us understand more seemingly irrational rejection of innovations, such as that of the people of the Nile Canal study in Egypt.

The second criticism of diffusion research as identified by Rogers (2003) focused on the individual blame bias, is the mindset of holding the individual liable for their own efforts instead of imposing negative actions or beliefs of the individual to the social system with whom they are associated. However, a thorough understanding of the individual blame bias requires clarification of two additional terms, source bias and system blame, and the relationship between the two. According to Rogers, source bias occurs in diffusion research when investigators place greater consideration on the interests of the change agents than the targeted beneficiaries. In contrast, system-blame occurs when the failures of individuals within a system are blamed on the system itself. Thus, individual-blame bias is introduced when the innovators assume and conduct their research from the perspective of individuals within the system being at fault. Rogers illustrated this point, noting previous social concerns regarding issues with highway safety in the United States. Initial research findings suggested that problems with highway safety resulted from the poor judgment and driving habits of individuals. It was only after Walker (1976) considered poorly designed vehicles and highway systems as a potential contributing factor that innovative automobile highway designs resulted in lower occurrences of highway fatalities.

While individual-blame bias may not completely invalidate diffusion-based research findings, it may negatively influence the diffusion process (Rogers, 1983). In a

study probing the attitudes of citizens in Edmonton & Calgary, Canada regarding recycling, initial findings were very active in recycling campaigns (Rogers, 1983). It was only after addressing individual-blame biases that Derkson and Gartell (1993) concluded that pro-recycling attitudes were highest in communities with curbside recycling programs. Thus, initial diffusion research should be focused on a more system-blame approach, investigating the various recycling programs within these regions rather than measuring the recycling behaviors of the citizens (Rogers, 1983).

Rogers (2003) identified several reasons that may explain how individual-blame thinking is introduced into diffusion research: diffusion researchers err in accurately identifying the problem of the study; change agents may be of the opinion that initiating change in individuals may be easier than re-defining the system; and diffusion researchers tend to focus on individuals due to ease of accessibility (Rogers, 1983). Thus, Rogers (1983, 2003) suggests that diffusion researchers develop models that employ a combination of both approaches, be mindful of defining social problems in research based solely on the opinion of innovators, and use diffusion models that utilize various ways that information can be transmitted within a social setting.

The third criticism of diffusion research identified by Rogers (2003) is the recall problem, which is described in terms of the accuracy of data that is obtained for analysis. In fact, time is the primary construct that makes diffusion research divergent of other social science-based studies because time is accounted for in diffusion studies (Rogers, 2003). In clarifying the concept of time in diffusion studies, Rogers (2003) acknowledged that the embodiment of time within diffusion studies offers both advantages and disadvantages. One of the disadvantages Rogers (2003) referenced is the

reliance on human memory of respondents regarding the exact date of innovation adoption. While researchers Mayer, Gudykunst, and Perrill, (1990) suggested that human memory is reliable for weeks following an event, Rogers (2003) disputed these findings, offering that the degree of accuracy in human recall is contingent upon the perceived importance of the innovation to the person, amount of time that has elapsed since the requested event and other demographic information.

Based on the various facets associated with the recall problem, one could conclude that accuracy in reporting time may be a major inherent flaw in diffusion research models (Rogers, 2003). To account for this flaw, diffusion scholars should consider research models that employ field studies and practicums, analysis of historical artifacts, evaluates data from multiple participants, or that observe the same participants over a period time (Rogers, 2003). Rogers (2003) suggested that such research designs may lend themselves to be more favorable in addressing time components required in diffusion studies. In addition to employing alternative research designs, selecting current innovations that meet the needs of the adopters, collecting recall data from respondents at several intervals throughout the diffusion process, developing efficient and relevant survey and/or interview items, and using technology to assist in obtaining time-sensitive data are effective methods in minimizing the recall problem in diffusion research (Rogers, 2003).

Rogers' (2003) fourth criticism of diffusion research, the issue of equality, was observed and identified in diffusion studies due to the lack of studies exploring how innovations benefitted all members of the social system. However, Rogers (2003) stated that studies on equality in diffusion research often results in varying opinions among

group members along the lines of socioeconomics. This inequality is especially observed in diffusion studies based in developing regions of the world (Rogers, 2003).

According to Rogers (1983, 2003), diffusion research initiated in the United States, and then migrated during the 1960s to Latin American, African, and Asian countries. Conducted by American scholars (Rogers, 2003), many of the early diffusion studies modeled American diffusion studies (Rogers & Shoemaker, 1971). However, it was not until the next decade that critics began to question the validity of studies conducted with similar structure and similar social status (Rogers, 2003). It was these social contradictions that Rogers (1976) believed led to the addition of economic growth, technology, centralized planning, and causes of underdevelopment into the structure of diffusion studies conducted in developing countries (Rogers, 1976). These elements were developed to correct inequalities in benefits of diffusion studies to the citizens in socio-economically depressed countries (Rogers, 1976).

Diffusion of Innovation is regularly employed in a myriad field of study. Literature has suggested that diffusion principles assisted music education innovators in diffusing music instruction into the public school system, serving as the precursor for today's significant presence of music in public schools. While the use of Diffusion of Innovation is not commonplace in higher music education, the use of this theory in the proposed study may facilitate a better understanding of the attitudes of music department faculty regarding the acceptability and feasibility of the National Standards of Music Education.

Diffusion of Innovation in Music Education

Researchers specializing in the history of music education have acknowledged that the procedures employed by Lowell Mason during the 1837-38 school year were the inception of music classes in public schools in America (Birge, 1928; Keene, 1982; Pemberton, 1986; Pemberton, 1988; Wilson, 1973). According to Birge (1928), Keene (1982), and Pemberton (1986), Mason taught the first music vocal class at Hawes Grammar School in the Boston Public School system in 1838. Over the following two decades, Mason's music class and curriculum served as the prototype for music classes in schools throughout the mid-west and New England states (Birge, 1928). Analysis of the findings presented by music researchers has led to the perception that Mason employed many of the methods outlined in Rogers' (1983) Diffusion of Innovation. Rogers identified knowledge, persuasion, decision, implementation, and confirmation as the fundamental elements essential to the diffusion operation. Additionally, Rogers classified relative advantage, compatibility, complexity, trialability, and observability as required components required for successful acceptance and implementation of any new idea.

According to Rogers (1983), the first step in diffusing a new idea is knowledge-educating and influencing the perceptions of advocates and agents who can assist in bringing about change. Lowell Mason targeted local religious leaders to advance his agenda of including music classes in public schools by demonstrating how these classes would benefit church choirs (Birge, 1928; Keene, 1982; Pemberton, 1986; Pemberton, 1988; Wilson, 1973). In fact, Mason's appeal and justification were viewed as credible mainly due to his prominence within the Boston community as a church musician and

choral director (Birge, 1928; Keene, 1982; Pemberton, 1986; Pemberton, 1988; Wilson, 1973).

In the second step of diffusion, innovators must work to assist the public to form a position toward the innovation (Rogers, 1983; Tichenor, Donohue, & Olien, 1970). By conducting music classes and workshops aimed at perfecting the recital skills of his students, and then premiering these children in public performances, Mason helped the public form a positive stance regarding music classes in schools (Birge, 1928; Keene, 1982; Pemberton, 1986; Pemberton, 1988; Wilson, 1973). Not only did these performances help solidify Mason as a competent teacher, they also aided in strengthening the argument that teaching music to children in schools would ultimately enhance the local church choirs (Pemberton, 1986; Pemberton, 1988; Wilson, 1973).

During the decision stage of diffusion, those with authority must act on adopting or rejecting the innovation in full, or some modification of the original innovation (Rogers, 1983; Tichenor, Donohue, and Olien, 1970). In the case of music education, Boston political and school district leaders elected to introduce music classes for one school year at Hawes Grammar School to be instructed and administered by Mason (Birge, 1928; Keene, 1982; Pemberton, 1986; Pemberton, 1988; Wilson). Additionally, the teaching of music classes at Hawes School marked the period when the music innovation moved from a hypothetical concept to an implemented innovation (Birge, 1928; Keene, 1982; Pemberton, 1986; Pemberton, 1988; Wilson, 1973).

In the final stage, confirmation, of the diffusion process, decision-makers evaluate the effectiveness of the innovation that has already be implemented. During this first year of music within the Boston School, Mason offered for the child performers to serve

as ambassadors for the Boston School System (Birge, 1928; Keene, 1982; Pemberton, 1986; Pemberton, 1988; Wilson,1973). According to Birge (1928), Keene (1982), and Wilson (1973), written artifacts from fellow church musicians suggested that both the religious and church musician communities provided favorable support for the innovation, resulting in full inclusion of music in all of Boston's grammar schools the following school year.

The Lowell Mason music innovation also satisfied the following five elements essential in gaining acceptance of an innovations 1) relative advantage, 2) compatibility, 3) complexity, 4) trialability, and 5) observability (Rogers, 1983). Relative advantage is employed to determine if and how the innovation is an improvement from what is currently being used (Rogers, 1983). Mason was successful in demonstrating that music being taught in public schools developed discipline in students and that it enhanced the quality of musicianship for church choir performers (Pemberton, 1985; Pemberton, 1986).

Compatibility ensures that a new idea is aligned with the overall mission and purpose of the group or organization in which it is being implemented (Rogers, 1983). The music innovation was aligned with the goals of all stakeholders involved through its cultivation of exemplary morality, its reinforcement of self-discipline, its fostering of national pride and loyalty, and its influence in religious faithfulness and reverence (Pemberton, 1985; Pemberton, 1986).

Complexity is concerned with change agents addressing anticipated obstacles in implementing the innovation (Rogers, 1983). In the music innovation, Mason was able to demonstrate accessible implementation through minimal disruption to the established

school schedule, and minimal financial investment from the Boston School District (Pemberton, 1986; Wilson, 1973). Further, according to Pemberton (1986), Mason agreed to work the first year without a salary and provided the textbooks and other materials utilized in the vocal music classes.

In assessing the trialability and observability factors for adoption, the first successful year of music in the Boston Schools demonstrated that the music innovation could be duplicated with successful observability via public performances displaying superior pedagogy and musical proficiency (Pemberton, 1986; Wilson, 1973). As a result, the Boston Music Innovation served as a template for diffusing music education into the curricula of schools throughout the United States (Birge, 1928; Keene, 1982; Pemberton, 1986; Pemberton, 1988; Wilson1973). While the aforementioned music education researchers interest focused on the history of music in schools from the perspective of Lowell Masons' contribution, the literature suggest that music education research went through several transitions after the successes of the Boston singing schools; specifically, the inclusion of band in the school curriculum, effective music teacher training, the four methods or elementary music education (Dalcroze, Kodaly, Orff, Suzuki), and the National Standards of Music Education (Conway, 2001; Keene, 1982; Mark, 1995; Pemberton, 1988).

Prior Research on the Standards of Music Education

Subsequent to the creation and adoption of the National Standards for Music Education (NSME) in 1994, a sizeable amount of the Standards-based literature was theoretical in nature, often presenting the opinions of specialist. Although these perspectives were held in high esteem, they were, in many instances, unsubstantiated.

Adderley (1996), in a study promoted by the Music Education National Conference (MENC), investigated the degree of adaption and implementation of the NSME Standards in music teacher education programs within the state of South Carolina. A questionnaire was sent to elementary and secondary music educators requesting responses regarding their perceived college preparation in Standards-based teaching. A similar questionnaire was sent to music education faculty asking them to rate the quality of NSME Standards-based instruction provided to music education students. After evaluating the data, Adderley found statistically significant differences between the two groups and suggested extensive modifications were needed in music teacher education curricula. Adderley also concluded that there were several Content Standards that reportedly received less instructional time in teacher training programs (Content Standard 3, 8, and 9, respectively). Others who shared this viewpoint, including Burton (2001), Conway (2008), Frederickson (2010), Lehman (2008), and Reimer (2004) lobbied for changes in higher education curricula to place most Standards-based instruction into applied music and methods courses instead of the various performance ensembles.

Austin, Montgomery, McCaskill, and Hanley (1996) investigated elementary and secondary music education teachers in Colorado regarding their knowledge and attitude of the music education Standards. Data analysis revealed that though the music teachers' self-reported being very knowledgeable of the Standards, there were various levels of adoption and implementation within Colorado school districts (Austin, et al., 1996). The findings also suggested that Colorado music teachers believed that support in the form of Standards-based professional development may result in more unified state-wide implementation (Austin, et al., 1996). Similar findings were obtained by Byo (1997),

when she surveyed over 200 music teachers in a comparison of effective Standards-based instruction in Florida. Specifically, the researcher asked participants to rate their districts' training and resources for effective Standards-based instruction (Byo,1997). Byo concluded that differences existed between elementary and secondary music teachers with regards to Standards implementation, resources, and training. Teachers in both Standards-based studies indicated a need for increased professional development (Austin, et al.,1996; Byo, 1997). Additionally, teachers indicated a need for increased time with students in the classroom, and an increase in classroom materials to aid in more effective Standards-based instruction (Byo, 1997). Shere (1996) also agreed that an increase in financial resources was needed to foster adequate application of a NSME Standards-based curriculum. In a study to evaluate the impact of Standards on two inner-city public schools, Shere concluded that discrepancies existed between adopted policies (e.g., Standards) and the day-to-day instruction in the actual classrooms.

Froseth (1996) conducted a two-fold investigation at the University of Michigan that was designed to assess music teacher education students' opinions regarding the applicability of NSME Standards-based instruction embodied within the music education curriculum. Froseth's study also aimed to evaluate the students' point of view subsequent to completing courses directed toward teaching effective and implementation of Standards. While there was no significant amount of data to substantiate a position relevant to appropriateness, Froseth (1996) asserted that NSME Standards-based instruction may positively influence music students' assessment of the Standards. Several other researchers' findings supported those of Froseth, suggesting that attitude and proficiency in course material are the leading predictors in learner comprehension,

and thus should be the primary focal point of any music teacher education program (Burton, 2001; Cassidy, 1989; Conway, 2008; Frederickson, 2010; Lehman, 2008; Mullins, 1993; Reimer, 1993; Reimer, 2004).

In several studies, including those discussed earlier, the quality of undergraduate preparation was identified as an important factor in the implementation of a new teaching paradigm. Coupled with the concentrated demands toward accountability in high education, music education researchers began to turn their attention toward evaluating the effectiveness of music teacher education programs on a broader spectrum rather than within specific states or institutions (Ballantyne & Parker, 2004; Brophy, 2002; Conway, 2001). Still, other researchers directed their focus toward specific courses within the music education curriculum that may better serve the diffusion of Standards-based curricula. According to Mishra, Day, Littles, and Vandewalker (2011), music education methods and elementary music courses gathered the greatest number of investigations. For example, in a study of the content of various music education methods courses, Schmidt (1989) found that the majority of programs emphasized classroom management techniques, music theory, student teaching strategies, and various instrumental courses (e.g., choral, strings, brass, woodwind, percussion). However, just a decade later, the emphasis of most music education methods courses had shifted to the comprehension of the various teaching concepts Orff, Suziki, and Kodaly, and the inclusion of the voluntary music standards (Frego & Abril, 2003; Gauthier & McCrary, 1999).

More recent investigations have centered on the role that introductory music courses (i.e., freshmen music education classes) could play in assisting departments of music in incorporating the various program and accreditation requirements (Heuser,

2008; Thompson, 2007). While the promotion of introductory music education courses to inaugurate pre-service teachers with the historical, theoretical, and professional perspective of music teacher education is not a new concept (Leonhard, 1985), it was Mishra, Day, Littles, and Vandewalker (2011) that investigated the current content of introductory music education classes. The findings of the study indicated that while the introductory music classes do address content related to curriculum and instruction, there appeared to be no comprehensive and consistent criterion devoted to familiarizing music students with Standards-based instruction, requirements executed by the National Association of Schools of Music (NASM), or standards set forth by other accreditation agencies (Mishra, Day, Littles, & Vandewalker, 2011).

Teacher Education and Education Reform

Discussions in education over the past several decades have given rise to the notion of education reform, with a significant number of arguments calling for innovations in teacher education programs (Lawn, 1991; Mac an Ghaill, 1992), as well as the need for restructuring the components of teacher professionalism and accountability (Ozga & Lawn, 1981; Dale, 1989; Lawn, 1991). In a paper exploring the influence of education reform on the relations of teachers within the context of professional practice, Ball (1988) suggested a possible relationship between the growth of capitalist societies and recent calls for education reform. Apple (1987) concurred, arguing that the growing needs of the public and private workforce often influence changes in teacher methodologies. According to Apple, social pressures of the evolving workforce often resulted in teachers abandoning their traditional roles for one that he identified as the

"teacher-technician," a teacher who employs pre-design lesson plans rather than exercising academic freedoms in creating and executing student-specific course content.

Researchers who focus on education reform have described new professional educators that have incorporated various reform initiatives into day to day practice primarily because they view the changes as necessary in addressing known deficiencies (Hargreaves, 1994; Pollard, Broadfoot, Croll, Osborn, & Abbott, 1994; Troman, 1996). Further, Hargreaves (1994) describes this "new professional educator" as being willing to abandon traditional teaching methods primarily due to political, administrative, and accreditation requirements aimed at improving the quality of instruction through competition. In an identical vein, several other researchers have characterized cutting-edge teacher education curricula that has entirely acclimated and acceded with market-driven demands for changes in institutions producing a more collaborative-minded worker (Arnot & Barton, 1992; Broadfoot & Osborn, 1988; Hatcher, 1994; Mac an Ghaill, 1992).

The vast number of education reform initiatives, coupled with their significance regarding curricula enhancement, makes it difficult to determine the significance of any individual measure of change (Wallace, 1990; Ball, 1994), Mac and Ghaill (1992) and Troman (1996) noted that reform efforts, akin to those in other fields, more often meet the least resistance when introduced and managed by a governmental entity. Even though the Education Reform Act of 1988 (ERA) was the first comprehensive legislation to specifically address teachers' practice Troman (1996), Ball (1988) and Hellawell (1990) asserted that several innovative management approaches prior to ERA arose as a result from the contention of lack of creative freedom in the design and presentation of

course material. Ball expressed the opinion that much of the scrutiny of the practice of educators is the result of growing mistrust of the education system, resulting in teacher training programs implementing heavily regulated curricula.

While the effectiveness of these more stringent polices on the day-to-day practice of faculty are unknown (Ball, 1988), the literature suggested that those with self-serving professional benefits are often the most willing to adapt to new management culture (Mac an Ghaill, 1992; Troman, 1996). Troman (1996) compared and contrasted the various approaches of restructuring educational practices, and described what he termed as old professionalism versus new professionalism. According to Troman, old professionalism was associated with educators agreeing to administrative outlooks, administrators acting alone in decisions regarding curriculum and instruction, subject-centered teaching methodologies, working environment that did not foster collaboration, and an environment where administrative and political regulations concerning instruction was perceived as a threat to academic freedom.

Alternatively, the new professional-based approach was centered on developing professional educators that viewed the administrator as a colleague, promoted collaboration among colleagues, fostered active engagement of educators both inside and outside of the classroom, and the acceptance of accountability models that use direct observations and examination of teaching artifacts as evidence that educational standards have been expanded (Brooks, 1995; Troman, 1996). While the concept of the new professionalism hinges on synergy and accountability, Brooks (1995) affirmed that accountability has become an overused expression often utilized to give authority to reform initiatives.

Brooks (1995) argued that accountability, especially in fields such as education, is where reform efforts often fail due to the lack of comprehension of the components therein. Accountability is defined as any instrument aimed at guaranteeing that individuals are held liable for their actions. The essential element contained within Brooks' definition of accountability identified the following terms: mechanism, individuals, and sanctions. Mechanism referred to the procedure and objects that are necessary to make accountability actionable. In order to clarify this point, Brooks illustrated how motor vehicles require gasoline in order to function properly, so does accountability demand a mechanism that is thoroughly devised and properly supported. The term individuals identify those who are being held accountable (e.g. a person, department, institution, etc.). Sanctions indicated the actions that serve as a guarantee that a specified level of performance or behavior will be conserved, and should not be regarded as a punishment for failing to uphold some predetermined level of achievement. Rather, its purpose was to provide clarity of expectations, while insuring forward progression toward said expectations (Brooks, 1995).

To provide a functional definition of accountability, Brooks (1995) identified six components that serve as the required criteria in accountability; 1) who is determining accountability; 2) to whom will accountability be granted; 3) for what actions will accountability be granted; 4) how will accountability be granted; 5) when will accountability be granted; and 6) what are the consequences for failing to realize accountability criteria. It was suggested that each component must be present in order for accountability to exist.

Professional Practice and Responsibility

Before exploring the topics of professions and professionalism, it may be necessary to provide some clarification regarding these broad topics. While no single all-inclusive definition of the term professions (Freidson, 1983; McGuire, 1993; Metzer, 1987) existed, several scholars suggested that an accurate depiction should include any skilled or un-skilled labor in which the worker considers himself to be a professional (McGuire, 1993; Metzer, 1987; Starr, 1982). Other researchers have taken the position that true professionals require formal educational preparation, arguing that professions emphasize prescribed training and may include graduate study, knowledge, and the application of theory (Dinham & Stritter, 1986; Glazer, 1974; Matarazzo, 1977). This philosophy hinged on the principle that education is essential, and suggested a potential relationship between theory and practicum experiences (Dinham & Stritter, 1986; Starr, 1982). Martarazoo (1977) argued that these capacities of "learned professions" employ an organized progression beginning with the entry-level practitioner and ending with field-specific licensure and certification requirements that guide the actions of those engaged with that particular field. Examples of such self-imposed regulations of professional standards can be observed in the fields of law, medicine, engineering, economics, psychology, and education (McGuire, 1993).

While statements by Starr (1982) supports the idea of a professionalism process measured by the various governing entities, it is being also implied that a profession, by definition, must contain a service, rather than a revenue-generating component, the latter being a factor often called into question for many traditional professionals. This growing contention toward the professional domain frequently deemed the self-regulatory

practices of professional associations as self-serving establishments charged with preserving maximum profits, as well as increased status and power for those who have gained membership (Halmos, 1973; Metzger, 1987; McGuire, 1993; Wilensky, 1964;). Critics often cited the profit-structured motives of American business professionals, especially in the mortgage lending, legal, and medical fields, as evidence that financial gain and social influence were the hidden agenda for many members of professional organizations (Chapman, 1987; Halmos, 1973; McGuire, 1993; Metzger, 1987; Wilensky, 1964).

Although positions of anti-professionals may have merit based on the unethical actions of a minority, leaders of various careers have embraced reform in professional and ethical training aimed at generalizations made toward those engaging in professional practice (MacDonald & Ritzer, 1988; McGuire, 1993). Further, McGuire (1993) presumed that these modifications are the effects of fundamental changes, technological advancements, and the socioeconomic standing within individual professions.

According to McGuire (1993), fundamental changes in methodologies and increases in knowledge within various disciplines occurred on an eight-year cycle based on the theoretical framework under which specific professions were situated. Advancements in technology had not only necessitated changes in curricular and licensure requirements, but had significantly influenced the way that professionals work in partnership within similar professions (McGuire, 1993). In other words, McGuire's contention was that advances in computer and satellite technology would remove physical and cultural barriers, transforming the face of traditional professionalism to an approach in which professionals would be expected to produce independently. However,

the most meaningful change may be in the rules that govern professional behavior, as well as training aimed at restoring public trust of the professional (McGuire, 1993).

When considering the trends of change within the components that comprise professional practice, the question of how change is most efficiently employed arose when moving from a more traditional approach. Based on analysis of related literature, change in professional behaviors may have been influenced most through transformations in curricular strategies, educational practices, and relationships between higher education and various professional organizations (Evetts, 2006; Noordegraaf, 2007; Swan & Newell, 1995; Greenwood, Suddaby, & Hinings, 2002; Vermeulen, Buch, & Greenwood, 2007). Although it has been implied that there is lack of empirical evidence to support the position that professionalism is structured by the tenants of professional associations (Burrage & Torstendahl, 1990; Evetts, 2003; Wilensky, 1964; Hall, 1968). Noordegraaf (2007) argued that professional education is one of the three principal means employed by the various associations to enact change. Several other scholars concurred, summarizing that education is the key factor in the development of professional experience and skills, professional practices, and the social and ethical aspects demonstrated by professional performance (Bucher & Strauss, 1961; Faulconbridge & Muzio, 2009; Freidson, 1994; Hafferty & Franks, 1994; Noordegraaf, 2007; Torres & Mitchell, 1998).

There are opposing sentiments stating that these curricula, directed by the guidelines and protocol of professional associations, may have served as the catalyst against organizational innovation (Noordegraaf, 2007; Waring & Currie, 2009), which often produced a non-productive work environment (Noordegraaf, 2007). In a study that

analyzed potential relationships between the professional education processes, Noordegraaf (2007) described two concepts that must be differentiated regarding innovating professional training. First, Noordegraaf (2007) found distinctions in educational procedures between undergraduate and graduate syllabi, with graduate and specialized professions being more practicum and theory oriented. Second, structural and cultural content was often conducted in the hidden curriculum, course content that is not included in the programs' formal curricula (Cribb & Bignold, 1999; Hafferty, 2000; Hafferty & Franks, 1994; Noordegraaf, 2007; Watson, 2002; Waring & Currie, 2009).

Academic Freedom

Akin to the innovation of professional and ethical responsibility in higher education, academic freedom is also an area that is challenging the fundamental principles of traditional professional practice in postsecondary education. In a paper addressing the necessity to reform the current structure of academic freedom within the professorate, Nixon (2001) challenged higher education to consider a modification in the professional uniqueness of academic professionalism to include a moral component in conjunction with traditional components of competence. Nixon summarized academic freedom as a concept not only reserved for those in the practice of higher education, but which serves as the foundation of freedom of society. Menand (1996) defended this sense of academic independency reserved for the professoriate, stating that accreditation standards and intra-instructional incentive models other than social and political criticism are challenging academic autonomy more. While the tenants of traditional academic freedom are still sustained within higher education, the conditions have been transformed

to be aligned with the accountability models employed by specific institutions (Barnett, 1997; Dworkin, 1996; Nixon, 2001; Rorty, 1996).

Another opposing view of traditional academic freedom hinges on the argument that the freedoms afforded to those in academia are akin to those freedoms guaranteed to the citizenry (Dworkin, 1996; Haworth, 1998; Nixon, 2001; Rorty, 1996). While there are scholars on the subject who affirmed that freedom of speech and freedom in academics are ideologically identical (Fish, 1994; Nixon, 2001), there is a counter-position that intercepts the freedoms protected through academic autonomy as a necessary component in the ethical and professional segment within the higher educational structure (Dworkin, 1996; Haworth, 1998). While Dworkin (1996) and Rorty (1996) agree with the position taken by Fish (1994) and Nixon (2001), they did argue that perhaps the concept of academic freedom needs to be adjusted to consider the principals of freedom of speech within society, while providing ethically-based protections to the professorate (Dworkin, 1996; Rorty, 1996).

In other words, as Nixon (2001) explained, a modernization of academic freedom is needed to align the freedoms for all people with those that ensure the professional values and practices engaged by those in higher education. Nixon stated that alignment in defining freedom is imperative due to the current culture becoming increasingly professionalized, which often negatively affects the interests of society and academia alike. This new philosophy of academic professionalism begs the following question: What role will professional practice in higher education play in the establishment of this new ethical-based freedom in academics?

Nixon (2001) offered four suggestions that can be employed in addressing this inquiry of restructuring the approach of academic freedom in higher education. First, Nixon proposed that colleges and universities develop and adopt a new research ideology in which investigators are encouraged to actively engage in original empirical literature contributions and theory development, which includes restructuring the financial structure currently used to fund a significant amount of present research. Second, institutions should consider reorganizing their learning modules to incorporate a research component within the undergraduate curricula. Third, higher education administrators should be committed to providing faculty with additional professional development opportunities that are aimed toward more program-specific content. While many institutions contract the services of for-profit business to develop and disseminate such instruction (Evans & Abbot, 1998), Nixon (2001) suggested that such instruction developed by faculty promotes pride and ownership in the success of student learning. Fourth, institutions should make valid efforts to improve cooperative interactions among faculty and administration.

According to Nixon (2001), the system of hierarchy within most higher education institutions has eroded the spirit of academic collegiality and ethical professionalism. A restructuring of freedom in academics should promote a more collaborative relationship between teaching and research, regardless of specialty and procedural differences. A lack of respect and agreement among disciplines fosters the traditional hierarchical systems among higher educational stakeholders. Nixon's (2001) suggestions did not aim to enrich academic practice; rather, they served to demonstrate a needed shift in paradigm that would simultaneously serve the needs of providing ethical-based academic freedom

that can be politically and socially tolerable while providing superior professionally-based comprehensive instruction for both undergraduate and graduate programs of study.

Music Teacher Education

Numerous researchers have investigated the influence that teacher education programs have on the practices of teachers once they have entered the profession (e.g., Bolhuis, 2003; Brouwer, 1987; Calderhead & Robson, 1991; Cochran-Smith & Fries, 2001; Cole & Knowles, 1993; Feiman-Nemser, 1990; Feiman-Nemser & Buchman, 1989; Wubbels & Korthagen, 1990; Zeichner & Tabachnick, 1981). Although the findings of the clear majority of these investigations suggested that pre-service training has minimal influence on teacher practice, others have found that teachers often identify a gap between what is taught in undergraduate music education courses and what is required and practiced in the field (Barone, Berliner, Blanchard, Casanova, & McGowan, 1996; Brouwer & Korthagen, 2005; Koestier & Wubbles, 1995; Shulman, 1986; Tom, 1997). Further, Cochran-Smith and Fries (2001) and Brouwer & Korthagen (2005) implied that many researchers are restricted due to the lack of financial resources and the allotted time to adequately address teacher education methodologies that positively influence educator practice in P-12 schools.

Others have offered viewpoints regarding teacher education programs and the methods and techniques that influence the routine practices of in-service teachers. For example, Lacey (1977) considered teacher education ineffective because undergraduates often assimilate to the philosophies, customs, and attitudes of their professors without having opportunities for self-development via practicums and other field experiences. Brouwer and Korthagen (2005) stated that many studies may be biased due to many of

the researchers focusing on teacher education are themselves higher education faculty. This viewpoint is echoed by Carlson (1999), who described a pattern in which teacher training is being directed by the self-reported experiences of novice teachers. However, the error in this model occurred when no coordinated exchange between theory and practice existed (Carlson, 1999). Further, many teacher education curricula have been developed without logical sequence of courses, with competencies that tend to convey the isolated prospective of faculty members' expertise, and, in some cases, with faculty who may not be demonstrating effective practice techniques (Barone, Berliner, Blanchard, Casanova, & McGowan,1996; Ben-Peretz, 1995; Brouwer & Korthagen, 2005; Tom, 1997).

Investigating literature focused on music teacher education reveals research interests that parallel those in the other core education subjects. Like current trends, many of the early investigations on the subject focused on assessing the training techniques of future music teachers (Barrett, 1950; Ehlert, 1950; English, 1958, McEachern, 1937; Peterson, 1955). Reviewing the relevant literature has suggested that McEachern (1937) made the first research inquiry to appraise to quality of music teacher education programs. The aim of her study was three-fold; first, to identify the basic components of music teacher education curricula; second, to establish how these basic components were identified; and finally, to determine how relevant these components were to in-service music teachers in the classroom (McEachern, 1937). After surveying 370 in-service music teachers, conducting interviews with 32 higher education music faculty, visiting 20 departments of music, and analyzing the music plans of studies in 150 institution bulletins, McEachern noted a consistency in curricular requirements with

varying degrees of practice by faculty. Her research also revealed that program requirements were often determined by the music department chair, that department chairs valued sight reading, ear training, and music dictation as the most important curricular components, and insufficient attention was given to student teaching and the application of teaching practice techniques. Survey responses from in-service teachers indicated a belief that many of the core classes and music education methodologies were of little value in the classroom (McEachern, 1937).

While McEacherns' (1937) research was widely known in the field, its general influence on music teacher education was inconsiderable (Colwell & Beall, 1985; Strike & Millman, 1983). About two decades after McEacherns' study, Peterson (1955) conducted a study designed to identify the issues pre-service teachers experience upon entrance into the teaching force. After surveying approximately 374 elementary and secondary music teachers, Peterson (1955) concluded the following; 1) there is a significant difference between pre-service teacher training and the circumstances of day-to-day teaching; 2) teachers indicate a lack instruction in administrative-based procedures; 3) music teachers were not prepared to conduct effective formative assessment of students; and 4) music teacher education tended to be deficient in the delivery of aesthetics. While his aim was to assist teacher education preparation for novice music teachers to effectively address problematic issues, Peterson contended that further research is needed regarding effective undergraduate course sequencing and the establishment of uniform standards and raising faculty accountability.

Another study often cited in music teacher education investigations was a mixed-method study involving 327 music teachers, 84 higher education music departments, and

200 public school district-level administrators (Ehlert, 1950). The aim of Ehlert's (1950) dissertation was to identify criteria music departments employed in selecting teacher candidates, favorable characteristics identified by district administrators, and the pre-service needs of novice teachers in the music teaching field. Although his study had minimal influence on the training of music teachers, it was significant in offering a list of desirable skillsets as identified by district hiring agents (Ehlert, 1950). Specifically, district administrators identified musical knowledge, effective classroom discipline procedures, and performance competency as the essential qualities of successful music teachers (Ehlert, 1950).

In a study conducted during the same time as Ehlert (1950), Barrett (1950) surveyed 160 participants consisting of in-service music teachers and higher education registrars. While Barrett (1950) failed to offer ways to improve music teacher curricula, three compelling findings were noted. First, a significant number of the randomly selected teacher education programs offered identical music education courses. Second, there was no consistency for the requirement of classroom observations. Third, responses from in-service teachers suggested a preference for student teaching evaluations being conducted by general education specialists instead of music faculty (Barrett, 1950).

For several decades following the aforementioned studies, the majority of teacher education-based studies followed a similar vein. Relevant research literature suggested that trends in research interest largely remained unchanged until the Department of Education issued A Nation at Risk: The Imperative for Educational Reform Act of 1983, and the implementation of Goals 2000: The Educate America Act in 1994 (Abrahams, 2000; Byo, 1997; Fonder & Eckrich, 1999; Hope, 1995). It was the enactment of Goals

2000 that initiated the development of subject-specific national standards (Abrahams, 2000; Fonder & Eckrich, 1999; Hope, 1995). According to Hope (1995), music education was the first discipline to generate and voluntarily implement a uniformed set of benchmarks for the nations' music students. It wasn't long before researchers realized that successful diffusion of the Standards would hinge on the quality and efficiency of modifications in music teacher education (Abrahams, 2000; Byo, 1997; Fonder & Eckrich, 1999; Froseth, 1996; Hope, 1995; Shuler, 1995). For example, Shuler (1995) stated that post-secondary institutions are the most critical component in the success of K-12 mastery of the NSME Standards through thorough and relevant modifications in the music teacher education curricula.

Adoption and implementation of the NSME Standards saw limitations that were both similar and unique to those of the standards in other core subjects. After enacting national standards in technology, mathematics, and the sciences, significant differences were noted between teacher knowledge and classroom application in these disciplines (Barrona, Kemkera, Harmesa, & Kalaydjiana, 2003; Loucks-Horsley & Matsumoto, 1999). Similar findings were noted in the literature germane to music education (Baraiolo, 1997; Byo, 1997). However, one of the essential dissimilarities of music education to other core subjects is its acquisition of federal funds earmarked to aid in the development and implementation of standards as appropriated by Goals 2000: Educate America Act (Abrahams, 2000; Byo, 1997; Eisner, 1995; Lewis, 1994; Ravitch, 1995). Music Education researchers concurred that higher education has considerable influence on the success of Standards-based instruction in elementary and secondary music classes

(Abrahams, 2000; Byo, 1997; Ester, 2004; Fonder & Eckrich, 1999; Froseth, 1996; Hope, 1995; Shuler, 1995).

Much literature has been devoted to the response within higher educations to reform efforts toward standards-based learning. While the majority often resulted from guidelines prescribed by the various accreditation organizations, Ester (2004) believed higher education, as a whole, has responded optimistically to the standards movement. In his capacity as the music department chair at Ball State University, Ester (2004) supported an institution-wide initiative aimed at aligning its teacher education programs with the policies adopted by The Indiana Professional Standards Board (IPSB). The IPSB, in conjunction with NCATE and NASM, adopted strategies that centered on modifying and developing curricula to include standards-based directives coupled with performance-based formative and summative assessments (Ester, 2004). After several years of research, intensive professional development of faculty, significant curriculum modifications, and the development of authentic assessment approaches, the Ball State University Music Department responded to calls of teacher education reform with a curriculum aimed at creating alignment between the states' standards board, NCATE 2000 prerequisites, and mandates of NASM (Ester, 2004).

Summary

The Standards of Music Education, like the standards established in other academic disciplines, resulted from initiatives aimed at improving the American education system. While music education was the first discipline to voluntarily enact a uniformed set of performance outcomes (Hope, 1995), literature has suggested that complete implementation has been lagging when compared to other disciplines. Several

authors have shared the opinion that lack of federal funding, as allocated to other core subjects by way of Goals 2000: Educate America Act, may be the primary obstacle to Standards' comprehensive success (Abrahams, 2000; Byo, 1997; Eisner, 1995; Lewis, 1994; Ravitch, 1995). Others, such as Shuler (1995), Fonder & Eckrich (1999), and Froseth (1996), suggested that a bulk of the responsibility for effective Standards-based teaching lies with committed cooperation from those in higher education charged with training future music educators. Although existing literature has confirmed higher education's influence on achieving Standards-based teaching, findings have also identified discrepancies between the Standards-based components indicated on music education curricula and what music teachers report when surveyed regarding their undergraduate training. It is the scope of these inconsistencies that will be investigated in the proposed study.

CHAPTER III - METHODOLOGY

Overview

This chapter provides a description of the research method that was employed in the investigation of higher education faculty knowledge and practices regarding Standards-based instruction. Specifically, the purpose, participants, survey instrument, design, procedure, and the course of data analysis was discussed.

The fundamental intent of this research study was to determine if and to what extent music education faculty report engaging in Standards-based instruction. This study employed survey methodology to collect quantitative data for analysis. Data was used to make comparisons between the two primary areas of concentration within the music education curricula; choral music education, and instrument music education. For this study, the researchers' aim was to satisfy the following research questions:

1. Do faculty rating of effectiveness of NSME Standards-based instruction differ between choral and instrumental areas of music education concentration?
2. Which achievement standard(s) within each content standard received the greatest instructional emphasis when choral and instrumental areas of concentration are compared?
3. Do faculty rating of the strengths of instructional programs to prepare graduates to teach the five competencies that should be mastered by all K-12 students differ between choral and instrumental areas of music education concentration?

Participants

The target population for this investigation were higher education institutions accredited by the National Association of Schools of Music located in the Southeast region of the United States. For purposes of this study, the states considered as being in the southeast region includes Alabama, Arkansas, Florida, Georgia, Kentucky, Louisiana, Mississippi, North Carolina, South Carolina, Tennessee, Virginia, and West Virginia. All 229 NASM-Accredited institutions located within these states were entered into an Excel spreadsheet, and the random formula within Excel was used to create a random sample of potential institutions for this investigation. The following institutions were randomly selected as the target sample for this study:

1. The University of Central Arkansas
2. Campbellsville University
3. The University of Louisiana at Monroe
4. Mars Hill University
5. University of New Orleans
6. Harding University
7. Jacksonville State University (AL)
8. University of North Carolina Charlotte
9. Harding University
10. University of Mississippi
11. Florida State University
12. Stetson University
13. University of South Carolina

14. Winthrop University

15. Western Carolina University

16. Murray State University

17. Louisiana College

18. James Madison University

19. The University of Tennessee

20. The University of Memphis

21. University of Arkansas Fort Smith

22. Georgia State University

23. Southern Wesleyan University

24. College of Charleston

25. Auburn University

NASM-accredited institutions were targeted because they are the primary organization responsible for coining and administering the national standards for music teacher education curricula, assessment, and professional practices (Adderley, 1996; Kirkland, 1996). The researcher used the information provided on the National Association of Schools of Music directory to identify and contact members of the target population at institutions throughout the United States. During this study, potential participants were contacted through e-mail. If for any reason any of the above listed institutions elected not to participate in the study, the researcher returned to the random list of institutions to select a replacement.

Survey Instrument

For this study, the researcher used a survey developed by Cecil Adderley (1996). This researcher has received written acknowledgement (Appendix F) to use and make minor modifications to the instruments. In the narrative in the methodology section regarding the original survey instrument, Adderley made no mention of testing for a desirable reliability coefficient Cronbach's alpha of .7 or greater as detailed by Norland-Tilberg (2007). However, Adderley does detail the employment of a pilot test to various music education faculty in South Carolina prior to beginning his study to determine if the survey items were valid, as well as determining the approximate time it would take for participants to complete the questionnaire. According to Adderley (1996), minor wording changes were made to the questionnaire based on the results of the pilot test, and it was determined that completion of the survey would take about 20 minutes.

While the original survey was provided on hard copy and mailed using the United States Postal Service, the current version was employed using Qualtrics (2015) to reproduce the original survey. The current questionnaire consists of 17 items, deleting the questions that Adderley (1996) indicated were added to the original survey at the requests of another researcher. Additionally, four demographic items were added by the researcher because the current investigation not being limited to a single state as was the case in the original study.

Design

For this study, a survey design was used. The survey design affords greater speed and efficiency in monitoring participant responses, while allowing inferences to be made from a comparatively limited number of the total target population (Calder, 1998; Gay,

Mills, & Airasian, 2006; Statistics Canada, 2010). Specifically, of the two categories of sampling, Calder (1998) affirmed that non-probability sampling was the most expeditious and efficient method of subjectively collecting potential participants. Additionally, sample survey design is characterized as generally being less expensive and more convenient for participants when compared to other data collection methods (Calder, 1998). Moreover, according to Statistics Canada (2010), computer-based methods are generally a quick and well-organized way of collecting data. It is for these reasons that the researcher used Qualtrics (2016), an internet-based survey tool to create, distribute, and manage the questionnaire to be employed in this research study.

While survey methodology offers several benefits for research, it would be irresponsible not to acknowledge the noted disadvantages. After reviewing the existing literature, the main disadvantages associated with the survey research method include limited sampling and respondent availability, potential cooperation issues, and the lack of opportunity to further examine respondents regarding their responses (Calder, 1998; Gay, Mills, & Airasian, 2006; Statistics Canada, 2010). While the researcher considered all the associated challenges, it has been determined that the web-based survey method was the most appropriate design to efficiently address the research questions that guide this study.

Procedure

The researcher used Qualtrics Software Package Version 2016 to create and format the web-based questionnaire. The researcher submitted an application requesting permission to conduct the research study from the Institutional Review Board (IRB). Upon receiving IRB approval, the investigation commenced. The researcher emailed an

invitation letter to the music faculty of institutions identified by the National Association of Schools of Music (NASM) as offering degrees in music teacher certification. Using information obtained from the NASM website, the researcher created and maintained a spreadsheet containing the contact information of all the tentative participants. The e-mail invitation included the researcher's background information, statement of the purpose of the study, and request for faculty to consider participating in the study. Should they elect to participate in the study, the invitation letter included a direct link to the questionnaire on Qualtrics (2016). Those who elected to participate in the study found a statement of informed consent and a statement regarding confidentiality and anonymity available on the opening section of the questionnaire. The questionnaire was available for two weeks, with four follow-up e-mails encouraging participation by conveying the importance of contribution to the study. Once the questionnaire period expired, captured data was transferred from Qualtrics (2016) to SPSS to conduct the appropriate data analysis.

Data Analysis

Once the data was transferred to SPSS (2016) and Intellectus Statistics (2017), the researcher examined the data in order to identify any missing or outlying entries, as well as verifying the percentage of completed responses through the execution of a frequency analysis. Upon executing a frequency analysis, the researcher ran a series of Multivariate Analysis of Variances (MANOVAs) for each research question to adequately answer each of the three research questions. In this study, each MANOVA incorporates one factor (area of music education concentration) at two levels, with the number of dependent variables (D.V.s) differing by research question.

CHAPTER IV – RESULTS

The aim of this study was to determine if and to what extent music education faculty engage in NSME Standards-based instruction within the higher education classroom. Specifically, the researcher wanted to know if there was a difference in how choral and instrumental faculty rated the effectiveness of instruction of the nine NSME Content Standards, if there were differences in how choral and instrumental faculty rated the effectiveness of instruction of the 32 NSME Achievement Standards, and if there were any differences in the way choral and instrumental music faculty rated their music departments in preparing pre-service teachers in the NSME Five Competencies of music education.

The purpose of this chapter was to provide the researcher with the opportunity to present the outcomes of the various data analysis used to answer the research questions. A similar NSME Standards-based study was conducted by Adderley (1996). However, there were two essential differences between his study and the current investigation; first, his study was limited to institutions within the state of South Carolina; and second, Adderley (1996) surveyed both college music faculty and K-12 music educators. In the current study, 25 institutions from 11 states were represented: Arkansas, Florida, Georgia, Kentucky, Louisiana, Mississippi, North Carolina, South Carolina, Tennessee, Virginia, and West Virginia.

The researcher used the one-way Multivariate Analysis of Variance (MANOVA) as the statistical procedure to answer the three research questions. The one-way MANOVA was selected because it allows for individual testing when there are one or more independent variables as well as two or more dependent variables (Field, 2009;

Rencher & Christensen, 2012). For this study, area of concentration (choral music and instrumental music) served as the single two-level independent variable for all three research questions. Additionally, the nine Content Standards served as the dependent variable for research question two, and the five NSME Competencies served as the dependent variable for research question three.

The researcher sent invitations to participate in this study via email to 1,719 full-time and part-time music faculty at 25 higher education institutions within the Southeast region of the United States. Email addresses were acquired from the institutions' music department website, and were then accumulated into a contact list within Qualtrics (2016). After receiving a low number of respondents following the initial invitation email mail-out, the researcher scheduled five additional email reminders within Qualtrics (2016) over a three-week period. At the end of the third week of reminders, the number of participants increased from 39 to 389 music faculty consenting to participate in the study. Believing that the invitation to participate campaign had reached its culmination, the researcher stopped data collection, removed incomplete entries, and acknowledged the acquisition of 343 participants and proceeded with the analysis.

For this study, the researcher used a survey developed by Adderley (1996). This survey was emailed to 1,719 music education faculty at 25 NASM-accredited institutions within the Southeastern region of the United States. Participants were asked to indicate which area of concentration that made up most their teaching load. The results revealed that 183 (52.47%) participants identified themselves as instrumental music faculty, and 160 (47.53%) identified themselves as choral music faculty. Participants were asked to indicate their total number of years teaching in higher education. Of the 343 participants,

44 (11.82%) had 0-3 years of experience, 57 (15.76%) had 4-7 years of experience, 50 (14.24%) had 8-12 years of experience, and 192 (58.18%) had 13 or more years of experience. Participants were asked to acknowledge if they had experience teaching music education at the K-12 level. The data affirmed that 199 (58.97%) of the participants indicated that they had K-12 teaching experience, whereas 144 (41.03%) indicated that they had no K-12 teaching experience. Participants were asked to select the statement that best describes the number of undergraduate and graduate music education students currently enrolled at their institution. According to their responses, 16 (4.83%) stated their institution has approximately 0-50 students, 59 (16.31%) stated that their institution has approximately 51-100 students, 98 (28.10% stated that their institution has approximately 101-200 students, and 170 (50.76%) stated their institution has more than 200 music students.

Prior to analyzing the data, all three research questions were tested for the assumptions of multivariate normality, multicollinearity, and homogeneity of covariance matrices. For all three research questions, the assumptions of multivariate normality and multicollinearity were satisfied, whereas the assumption of homogeneity of covariance matrices for all three research questions were not satisfied. The assumption of homogeneity of variance were tested using the Levene's test. The Levene's test for all nine Content Standards for research question one were violated, the Levene's test for research question two revealed that 15 of the 32 Achievement Standards were violated, and the Levene's test for only one of the five Competencies for research question three were violated (See Appendix J for figures and tables for test of assumptions).

Results for Research Question One

Research question one was aimed at determining if faculty rating of the NSME Content Standards differed by area of concentration (e.g., Choral and Instrumental Music). The researcher ran a multivariate analysis of variance (MANOVA) to determine if there were significant relationships between the area of concentration of music faculty and each of the nine NSME Content Standards.

In order to address research question one, a MANOVA revealed that the main effect for the independent variable, area of concentration, was significant at $F(9, 333) = 5.78$, $p < .001$; Partial $\eta^2 = 0.14$. These findings suggest the linear combination each of the Content Standards were significantly different between the two areas of concentration. Additionally, the researcher ran a series of analysis of variance (ANOVA) to measure the effects of area of concentration on each of the Content Standards (Table 2).

Table 1

MANOVA results for NSME Content Standards by Area of concentration

Variable	*Pillai*	*F*	*df*	*Residual df*	*p*	η^2_p
Area of Concentration	0.14	5.78	9	333	< .001	0.14

The means for area of concentration (Choral = 4.30, Instrumental = 4.22) were compared with an ANOVA. The results indicate that the groups were not significant, $F(1, 341) = 1.27$, $p = .261$, which demonstrates variances between Content Standard 1 and both groups within Area of Concentration (Table 2). This revealed that there were no significant differences between Content Standard 1 by the groups within Area of

Concentration (Choral or Instrumental). The descriptive statistics (e.g. mean, standard deviation) are displayed in table 3.

Table 2

Analysis of Variance Table for Content Standard 1 by Area of Concentration

Term	*SS*	*df*	*F*	*p*	η^2_p
Area of Concentration	0.57	1	2.58	.109	0.01
Residuals	74.86	341			

Table 3

Means, Standard Deviations, and Sample Size for CS1 by Area of Concentration

Area of Concentration	*M*	*SD*	*n*
Choral Music	4.30	0.52	160
Instrumental Music	4.22	0.41	183

The means for area of concentration (Choral = 4.12, Instrumental = 4.34) were compared with an ANOVA. The results indicate that the groups were significant, $F(1, 341) = 10.28$, $p = .001$, showing that there were significant differences in Content Standard 2 among the levels of Area of Concentration (Choral or Instrumental) (Table 4). The eta squared was 0.03 which means that Area of Concentration describes approximately 3% of the variance in Content Standard 2. The descriptive statistics (e.g. mean, standard deviation) are displayed in table 5.

Table 4

Analysis of Variance Table for Content Standards 2 by Area of Concentration

Term	*SS*	*df*	*F*	*p*	η^2_p
Area of Concentration	4.34	1	10.28	.001	0.03
Residuals	144.06	341			

Table 5

Means, Standard Deviations, and Sample Size for Content Standard 2 by Area of Concentration

Area of Concentration	*M*	*SD*	*n*
Choral Music	4.12	0.65	160
Instrumental Music	4.34	0.65	183

Further, the researcher ran Tukey pairwise comparisons for all significant effects. For the main effect of Area of Concentration, the mean of Content Standard 2 for choral music faculty (M = 4.12, SD = 0.65) was significantly smaller than for instrumental music faculty (M = 4.34, SD = 0.65).

The means for area of concentration (Choral = 3.83, Instrumental = 3.47) were compared with an ANOVA. The results indicate that the groups were significant, $F(1, 341) = 10.28$, $p = .001$, showing that there were significant differences in Content Standard 3 among the levels of Area of Concentration (Choral or Instrumental) (Table 6). The eta squared was 0.04 which means that Area of Concentration describes

approximately 4% of the variance in Content Standard 3. The descriptive statistics (e.g. mean, standard deviation) are displayed in table 7.

Table 6

Analysis of Variance Table for Content Standard 3 by Area of Concentration

Term	*SS*	*df*	*F*	*p*	η^2_p
Area of Concentration	10.76	1	14.08	< .001	0.04
Residuals	260.68	341			

Table 7

Means, Standard Deviations, and Sample Size for Content Standard 3 by Area of Concentration

Area of Concentration	*M*	*SD*	*n*
Choral Music	3.83	0.77	160
Instrumental Music	3.47	0.95	183

Further, the researcher ran Tukey pairwise comparisons for all significant effects. For the main effect of Area of Concentration, the mean of Content Standard 3 for choral music faculty (M = 3.83, SD = 0.77) was significantly smaller than for instrumental music faculty (M = 3.47, SD = 0.95).

The means for area of concentration (Choral = 3.83, Instrumental = 3.69) were compared with an ANOVA. The results indicate that the groups were not significant, $F(1, 341) = 2.25$, $p = .135$, which demonstrates variances between Content Standard 4 and both groups within Area of Concentration (choral or instrumental) (Table 9). At a

confidence level of 95%, the main effect, Area of Concentration, was not significant, $F(1, 341) = 2.25$, $p = .135$, which reveals that there were no significant differences between Content Standard 4 by the groups within Area of Concentration. The descriptive statistics (e.g. mean, standard deviation) are displayed in table 10. Further, the researcher elected not to run post-hoc comparisons because of non-significance.

Table 8

Analysis of Variance Table for Content Standard 4 by Area of Concentration

Term	*SS*	*df*	*F*	*p*	η^2_p
Area of Concentration	1.74	1	2.25	.135	0.01
Residuals	263.69	341			

Table 9

Means, Standard Deviations, and Sample Size for Content Standard 4 by Area of Concentration

Area of Concentration	*M*	*SD*	*n*
Choral Music	3.83	0.79	160
Instrumental Music	3.69	0.95	183

The means for area of concentration (Choral = 4.28, Instrumental = 4.34) were compared with an ANOVA. The results indicate that the groups were not significant, $F(1, 341) = 0.70$, $p = .403$, which demonstrates variances between Content Standard 5 and both groups within Area of Concentration (choral or instrumental) (Table 11). At a confidence level of 95%, the main effect, Area of Concentration, was not significant at

the 95% confidence level, $F(1, 341) = 0.70$, $p = .403$, which reveals that there were no significant differences between Content Standard 5 by the groups within Area of Concentration. The descriptive statistics (e.g. mean, standard deviation) are displayed in table 12. Further, the researcher elected not to run post-hoc comparisons because of non-significance.

Table 10

Analysis of Variance Table for Content Standards 5 by Area of Concentration

Term	*SS*	*df*	*F*	*p*	η^2_p
Area of Concentration	0.28	1	0.70	.403	0.00
Residuals	137.34	341			

Table 11

Means, Standard Deviations, and Sample Size for Content Standard 5 by Area of Concentration

Area of Concentration	*M*	*SD*	*n*
Choral Music	4.28	0.56	160
Instrumental Music	4.34	0.69	183

The means for area of concentration (Choral = 4.18, Instrumental = 4.10) were compared with an ANOVA. The results indicate that the groups were not significant, $F(1, 341) = 1.27$, $p = .261$, which demonstrates variances between Content Standard 6 and both groups within Area of Concentration (choral or instrumental) (Table 12). At a confidence level of 95%, the main effect, Area of Concentration, was not significant, $F(1,$

341) = 1.27, p = .261, which reveals that there were no significant differences between Content Standard 6 by the groups within Area of Concentration. The descriptive statistics (e.g. mean, standard deviation) are displayed in table 13. Further, the researcher elected not to run post-hoc comparisons because of non-significance.

Table 12

Analysis of Variance Table for Content Standard 6 by Area of Concentration

Term	*SS*	*df*	*F*	*p*	η^2_p
Area of Concentration	0.59	1	1.27	.261	0.00
Residuals	157.97	341			

Table 13

Means, Standard Deviations, and Sample Size for Content Standard 6 by Area of Concentration

Area of Concentration	*M*	*SD*	*n*
Choral Music	4.18	0.61	160
Instrumental Music	4.10	0.73	183

The means for area of concentration (Choral = 4.21, Instrumental = 3.96) were compared with an ANOVA. The results indicate that the groups were significant, F(1, 341) = 12.06, p < .001, which means that there were significant differences in Content Standard 7 among choral music and instrumental music faculty (Table 14). The eta squared was 0.03 which means that Area of Concentration describes approximately 3%

of the variance in Content Standard 7. The descriptive statistics (e.g. mean, standard deviation) are displayed in table 15.

Table 14

Analysis of Variance Table for Content Standard 7 by Area of Concentration

Term	*SS*	*df*	*F*	*p*	η^2_p
Area of Concentration	5.60	1	12.06	< .001	0.03
Residuals	158.43	341			

Table 15

Means, Standard Deviations, and Sample Size for Content Standard 7 by Area of Concentration

Area of Concentration	*M*	*SD*	*n*
Choral Music	4.21	0.54	160
Instrumental Music	3.96	0.78	183

Further, the researcher ran Tukey pairwise comparisons for all significant effects. For the main effect of Area of Concentration, the mean of Content Standard 7 for choral music faculty (M = 4.21, SD = 0.54) was significantly larger than for instrumental music faculty (M = 3.96, SD = 0.78).

The means for area of concentration (Choral = 3.85, Instrumental = 3.61) were compared with an ANOVA. The results indicate that the groups were significant, $F(1, 341) = 8.09$, $p = .005$, which means that there were significant differences in Content Standard 8 among choral music and instrumental music faculty (Table 16). The eta

squared was 0.02 which means that Area of Concentration describes approximately 2% of the variance in Content Standard 8. The descriptive statistics (e.g. mean, standard deviation) are displayed in table 17.

Table 16

Analysis of Variance Table for Content Standard 8 by Area of Concentration

Term	*SS*	*df*	*F*	*p*	η^2_p
Area of Concentration	4.83	1	8.09	.005	0.02
Residuals	203.85	341			

Table 17

Means, Standard Deviations, and Sample Size for Content Standard 8 by Area of Concentration

Area of Concentration	*M*	*SD*	*n*
Choral Music	3.85	0.68	160
Instrumental Music	3.61	0.84	183

Further, the researcher ran Tukey pairwise comparisons for all significant effects. For the main effect of Area of Concentration, the mean of Content Standard 8 for choral music faculty (M = 3.85, SD = 0.68) was significantly larger than for instrumental music faculty (M = 3.61, SD = 0.84).

The means for area of concentration (Choral = 4.06, Instrumental = 3.82) were compared with an ANOVA. The results indicate that the groups were significant, $F(1, 341) = 8.00$, $p = .005$, which means that there were significant differences in Content

Standard 9 among choral music and instrumental music faculty (Table 18). The eta squared was 0.02 which means that Area of Concentration describes approximately 2% of the variance in Content Standard 9. The descriptive statistics (e.g., mean, standard deviation) are displayed in table 19.

Table 18

Analysis of Variance Table for Content Standard 9 by Area of Concentration

Term	*SS*	*df*	*F*	*p*	η^2_p
Area of Concentration	4.78	1	8.00	.005	0.02
Residuals	203.54	341			

Table 19

Means, Standard Deviations, and Sample Size for Content Standard 9 by Area of Concentration

Area of Concentration	*M*	*SD*	*n*
Choral Music	4.06	0.68	160
Instrumental Music	3.82	0.85	183

Further, the researcher ran Tukey pairwise comparisons for all significant effects. For the main effect of Area of Concentration, the mean of Content Standard 9 for choral music faculty (M = 4.06, SD = 0.68) was significantly larger than for instrumental music faculty (M = 3.82, SD = 0.85).

Results for Research Question Two

Research question two was aimed at determining if faculty rating of the NSME Achievement Standards differed by area of concentration (i.e., Choral and Instrumental Music). The researcher ran a multivariate analysis of variance (MANOVA) to determine if there were significant relationships between the area of concentration of music education faculty and each of the nine NSME Achievement Standards. The main effect for Area of Concentration was significant, $F(32, 309) = 2.97$, $p < .001$, Partial $\eta^2 = 0.24$. This finding imply that the linear combination of all 32 of the Achievement Standards were significantly different between the levels of Area of Concentration. The researcher ran an ANOVA to assess the effects of area of concentration on each dependent variable.

Table 20

MANOVA results for the NSME Achievement Standards by Area of Concentration

Variable	*Pillai*	*F*	*df*	*Residual df*	*p*	η^2_p
Area of Concentration	0.24	2.97	32	309	< .001	0.24

The means for area of concentration (Choral = 4.17, Instrumental = 4.07) were compared with an ANOVA. The results indicate that the groups were not significant, $F(1, 341) = 3.26$, $p = .072$, which demonstrates variances between Achievement Standard 1 and both groups within Area of Concentration (choral or instrumental) (Table 21). The results revealed that there were no significant differences between Achievement Standard 1 by the groups within Area of Concentration. The descriptive statistics (i.e. mean, standard deviation) are displayed in table 22.

Table 21

Analysis of Variance Table for Achievement Standard 1 by Area of Concentration

Term	*SS*	*df*	*F*	*p*	η^2_p
Area of Concentration	0.91	1	3.26	.072	0.01
Residuals	95.17	340			

Table 22

Means, Standard Deviations, and Sample Size for Achievement Standard 1 by Area of Concentration

Area of Concentration	*M*	*SD*	*n*
Choral Music	4.17	0.61	160
Instrumental Music	4.07	0.45	182

The means for area of concentration (Choral = 4.69, Instrumental = 4.64) were compared with an ANOVA. The results indicate that the groups were not significant, $F(1, 341) = 1.07$, $p = .302$, which demonstrates variances between Achievement Standard 2 and both groups within Area of Concentration (choral or instrumental) (Table 23). The results revealed that there were no significant differences between Achievement Standard 2 by the groups within Area of Concentration. The descriptive statistics (e.g., mean, standard deviation) are displayed in table 24.

Table 23

Analysis of Variance Table for Achievement Standard 2 by Area of Concentration

Term	*SS*	*df*	*F*	*p*	η^2_p
Area of Concentration	0.27	1	1.07	.302	0.00
Residuals	86.06	340			

Table 24

Means, Standard Deviations, and Sample Size for Achievement Standard 2 by Area of Concentration

Area of Concentration	*M*	*SD*	*n*
Choral Music	4.69	0.53	160
Instrumental Music	4.64	0.48	182

The means for area of concentration (Choral = 4.54, Instrumental = 4.62) were compared with an ANOVA. The results indicate that the groups were not significant, $F(1, 341) = 1.73$, $p = .190$, which means that there were significant differences in Achievement Standard 3 among choral music and instrumental music faculty (Table 25). The results revealed that there were no significant differences between Achievement Standard 3 by the groups within Area of Concentration. The descriptive statistics (e.g., mean, standard deviation) are displayed in table 26. Further, the researcher elected not to run post-hoc comparisons because of non-significance.

Table 25

Analysis of Variance Table for Achievement Standard 3 by Area of Concentration

Term	*SS*	*df*	*F*	*p*	η^2_p
Area of Concentration	0.59	1	1.73	.190	0.01
Residuals	116.62	340			

Table 26

Means, Standard Deviations, and Sample Size for Achievement Standard 3 by Area of Concentration

Area of Concentration	*M*	*SD*	*n*
Choral Music	4.54	0.68	160
Instrumental Music	4.62	0.49	182

The means for area of concentration (Choral = 4.29, Instrumental = 4.18) were compared with an ANOVA. The results indicate that the groups were not significant, $F(1, 341) = 2.21$, $p = .138$, which demonstrates variances between Achievement Standard 4 and both groups within Area of Concentration (choral or instrumental) (Table 27). The results revealed that there were no significant differences between Achievement Standard 4 by the groups within Area of Concentration. The descriptive statistics (e.g., mean, standard deviation) are displayed in table 28. Further, the researcher elected not to run post-hoc comparisons because of non-significance.

Table 27

Analysis of Variance Table for Achievement Standard 4 by Area of Concentration

Term	*SS*	*df*	*F*	*p*	η^2_p
Area of Concentration	1.06	1	2.21	.138	0.01
Residuals	163.15	340			

Table 28

Means, Standard Deviations, and Sample Size for Achievement Standard 4 by Area of Concentration

Area of Concentration	*M*	*SD*	*n*
Choral Music	4.29	0.71	160
Instrumental Music	4.18	0.67	182

The means for area of concentration (Choral = 4.22, Instrumental = 4.40) were compared with an ANOVA. The results indicate that the groups were significant, $F(1, 340) = 7.82$, $p = .005$, which means that there were significant differences in Achievement Standard 5 among choral music and instrumental music faculty (Table 29). The eta squared was 0.02 showing that area of concentration describes approximately 2% of the variance in Achievement Standard 5. The means and standard deviations are illustrated in the table 30 below.

Table 29

Analysis of Variance Table for Achievement Standard 5 by Area of Concentration

Term	*SS*	*df*	*F*	*p*	η^2_p
Area of Concentration	2.83	1	7.82	.005	0.02
Residuals	123.06	340			

Table 30

Means, Standard Deviations, and Sample Size for Achievement Standard 5 by Area of Concentration

Area of Concentration	*M*	*SD*	*n*
Choral Music	4.22	0.58	160
Instrumental Music	4.40	0.62	182

Further, the researcher ran Tukey pairwise comparisons for all significant effects. For the main effect of Area of Concentration, the mean of Achievement Standard 5 for choral music faculty (M = 4.22, SD = 0.58) was significantly smaller than for instrumental music faculty (M = 4.40, SD = 0.62).

The means for area of concentration (Choral = 4.17, Instrumental = 4.35) were compared with an ANOVA. The results indicate that the groups were significant, $F(1, 340) = 7.69$, $p = .006$, which means that there were significant differences in Achievement Standard 6 among choral music and instrumental music faculty (Table 31). The eta squared was 0.02 showing that area of concentration describes approximately 2%

of the variance in Achievement Standard 6. The means and standard deviations are illustrated in the table 32 below.

Table 31

Analysis of Variance Table for Achievement Standard 6 by Area of Concentration

Term	*SS*	*df*	*F*	*p*	η^2_p
Area of Concentration	2.85	1	7.69	.006	0.02
Residuals	125.94	340			

Table 32

Means, Standard Deviations, and Sample Size for Achievement Standard 6 by Area of Concentration

Area of Concentration	*M*	*SD*	*n*
Choral Music	4.17	0.57	160
Instrumental Music	4.35	0.64	182

Further, the researcher ran Tukey pairwise comparisons for all significant effects. For the main effect of Area of Concentration, the mean of Achievement Standard 6 for choral music faculty (M = 4.17, SD = 0.57) was significantly smaller than for instrumental music faculty (M = 4.35, SD = 0.64).

The means for area of concentration (Choral = 4.01, Instrumental = 4.11) were compared with an ANOVA. The results indicate that the groups were not significant, $F(1, 341) = 1.76$, $p = .185$, which means that there were significant differences in Achievement Standard 7 among choral music and instrumental music faculty (Table 34).

The results revealed that there were no significant differences between Achievement Standard 7 by the groups within Area of Concentration. The descriptive statistics (e.g., mean, standard deviation) are displayed in table 35. Further, the researcher elected not to run post-hoc comparisons because of non-significance.

Table 33

Analysis of Variance Table for Achievement Standard 7 by Area of Concentration

Term	*SS*	*df*	*F*	*p*	η^2_p
Area of Concentration	0.81	1	1.76	.185	0.01
Residuals	155.78	340			

Table 34

Means, Standard Deviations, and Sample Size for Achievement Standard 7 by Area of Concentration

Area of Concentration	*M*	*SD*	*n*
Choral Music	4.01	0.64	160
Instrumental Music	4.11	0.70	182

The means for area of concentration (Choral = 4.08, Instrumental = 4.34) were compared with an ANOVA. The results indicate that the groups were significant, $F(1, 340) = 13.48$, $p < .001$, which means that there were significant differences in Achievement Standard 8 among choral music and instrumental music faculty (Table 35). The eta squared was 0.04 showing that area of concentration describes approximately 4%

of the variance in Achievement Standard 8. The means and standard deviations are illustrated in the table 36 below.

Table 35

Analysis of Variance Table for Achievement Standard 8 by Area of Concentration

Term	*SS*	*df*	*F*	*p*	η^2_p
Area of Concentration	5.49	1	13.48	< .001	0.04
Residuals	138.50	340			

Table 36

Means, Standard Deviations, and Sample Size for Achievement Standard 8 by Area of Concentration

Area of Concentration	*M*	*SD*	*n*
Choral Music	4.08	0.63	160
Instrumental Music	4.34	0.64	182

Further, the researcher ran Tukey pairwise comparisons for all significant effects. For the main effect of Area of Concentration, the mean of Achievement Standard 8 for choral music faculty (M = 4.08, SD = 0.63) was significantly smaller than for instrumental music faculty (M = 4.34, SD = 0.64).

The means for area of concentration (Choral = 4.05, Instrumental = 4.29) were compared with an ANOVA. The results indicate that the groups were significant, $F(1, 340) = 11.14$, $p < .001$, which means that there were significant differences in Achievement Standard 9 among choral music and instrumental music faculty (Table 37).

The eta squared was 0.03 showing that area of concentration describes approximately 3% of the variance in Achievement Standard 9. The means and standard deviations are illustrated in the table 38 below.

Table 37

Analysis of Variance Table for Achievement Standard 9 by Area of Concentration

Term	*SS*	*df*	*F*	*p*	η^2_p
Area of Concentration	4.95	1	11.14	< .001	0.03
Residuals	151.17	340			

Table 38

Means, Standard Deviations, and Sample Size for Achievement Standard 9 by Area of Concentration

Area of Concentration	*M*	*SD*	*n*
Choral Music	4.05	0.66	160
Instrumental Music	4.29	0.67	182

Further, the researcher ran Tukey pairwise comparisons for all significant effects. For the main effect of Area of Concentration, the mean of Achievement Standard 9 for choral music faculty (M = 4.05, SD = 0.66) was significantly smaller than for instrumental music faculty (M = 4.29, SD = 0.67).

The means for area of concentration (Choral = 4.06, Instrumental = 4.32) were compared with an ANOVA. The results indicate that the groups were significant, $F(1, 340) = 13.46$, $p < .001$, which means that there were significant differences in Content

Standard 9 among choral music and instrumental music faculty (Table 41). The eta squared was 0.04 showing that area of concentration describes approximately 4% of the variance in Achievement Standard 10. The means and standard deviations are illustrated in the table 42 below.

Table 39

Analysis of Variance Table for Achievement Standard 10 by Area of Concentration

Term	*SS*	*df*	*F*	*p*	η^2_p
Area of Concentration	5.83	1	13.46	< .001	0.04
Residuals	147.25	340			

Table 40

Means, Standard Deviations, and Sample Size for Achievement Standard 10 by Area of Concentration

Area of Concentration	*M*	*SD*	*n*
Choral Music	4.06	0.66	160
Instrumental Music	4.32	0.66	182

Further, the researcher ran Tukey pairwise comparisons for all significant effects. For the main effect of Area of Concentration, the mean of Achievement Standard 10 for choral music faculty (M = 4.06, SD = 0.66) was significantly smaller than for instrumental music faculty (M = 4.32, SD = 0.66).

The means for area of concentration (Choral = 3.50, Instrumental = 3.35) were compared with an ANOVA. The results indicate that the groups were not significant, F(1,

341) = 2.62, p = .107, which demonstrates variances between Achievement Standard 11 and both groups within Area of Concentration (choral or instrumental) (Table 41). The results revealed that there were no significant differences between Achievement Standard 11 by the groups within Area of Concentration. The descriptive statistics (e.g., mean, standard deviation) are displayed in table 42.

Table 41

Analysis of Variance Table for Achievement Standard 11 by Area of Concentration

Term	*SS*	*df*	*F*	*p*	η^2_p
Area of Concentration	1.87	1	2.62	.107	0.01
Residuals	243.49	340			

Table 42

Means, Standard Deviations, and Sample Size for Achievement Standard 11 by Area of Concentration

Area of Concentration	*M*	*SD*	*n*
Choral Music	3.50	0.79	160
Instrumental Music	3.35	0.90	182

The means for area of concentration (Choral = 3.41, Instrumental = 3.29) were compared with an ANOVA. The results indicate that the groups were not significant, F(1, 341) = 1.60, p = .207, which demonstrates variances between Achievement Standard 12 and both groups within Area of Concentration (choral or instrumental) (Table 43). The results revealed that there were no significant differences between Achievement Standard

12 by the groups within Area of Concentration. The descriptive statistics (e.g., mean, standard deviation) are displayed in table 44. Further, the researcher elected not to run post-hoc comparisons because of non-significance.

Table 43

Analysis of Variance Table for Achievement Standard 12 by Area of Concentration

Term	*SS*	*df*	*F*	*p*	η^2_p
Area of Concentration	1.25	1	1.60	.207	0.00
Residuals	266.34	340			

Table 44

Means, Standard Deviations, and Sample Size for Achievement Standard 12 by Area of Concentration

Area of Concentration	*M*	*SD*	*n*
Choral Music	3.41	0.88	160
Instrumental Music	3.29	0.89	182

The means for area of concentration (Choral = 3.38, Instrumental = 3.14) were compared with an ANOVA. The results indicate that the groups were significant, $F(1, 340) = 5.27$, $p = .022$, which means that there were significant differences in Achievement Standard 13 among choral music and instrumental music faculty (Table 45). The eta squared was 0.02 showing that area of concentration describes approximately 2% of the variance in Achievement Standard 13. The means and standard deviations are illustrated in the table 46 below.

Table 45

Analysis of Variance Table for Achievement Standard 13 by Area of Concentration

Term	*SS*	*df*	*F*	*p*	η^2_p
Area of Concentration	4.59	1	5.27	.022	0.02
Residuals	295.79	340			

Table 46

Means, Standard Deviations, and Sample Size for Achievement Standard 13 by Area of Concentration

Area of Concentration	*M*	*SD*	*n*
Choral Music	3.38	0.90	160
Instrumental Music	3.14	0.96	182

Further, the researcher ran Tukey pairwise comparisons for all significant effects. For the main effect of Area of Concentration, the mean of Achievement Standard 13 for choral music faculty (M = 3.38, SD = 0.90) was significantly larger than for instrumental music faculty (M = 3.14, SD = 0.96).

The means for area of concentration (Choral = 3.29, Instrumental = 3.16) were compared with an ANOVA. The results indicate that the groups were not significant, $F(1, 341) = 1.50$, $p = .221$, which demonstrates variances between Achievement Standard 14 and both groups within Area of Concentration (Table 48). The results revealed that there were no significant differences between Achievement Standard 14 by the groups within Area of Concentration. The descriptive statistics (e.g., mean, standard deviation) are

displayed in table 49. Further, the researcher elected not to run post-hoc comparisons because of non-significance.

Table 47

Analysis of Variance Table for Achievement Standard 14 by Area of Concentration

Term	*SS*	*df*	*F*	*p*	η^2_p
Area of Concentration	1.54	1	1.50	.221	0.00
Residuals	347.57	340			

Table 48

Means, Standard Deviations, and Sample Size for Achievement Standard 14 by Area of Concentration

Area of Concentration	*M*	*SD*	*n*
Choral Music	3.29	1.01	160
Instrumental Music	3.16	1.01	182

The means for area of concentration (Choral = 3.32, Instrumental = 3.34) were compared with an ANOVA. The results indicate that the groups were not significant, $F(1, 341) = 0.04$, $p = .841$, which demonstrates variances between Achievement Standard 15 and both groups within Area of Concentration (choral or instrumental) (Table 49). The results revealed that there were no significant differences between Achievement Standard 15 by the groups within Area of Concentration. The descriptive statistics (e.g., mean, standard deviation) are displayed in table 50.

Table 49

Analysis of Variance Table for Achievement Standard 15 by Area of Concentration

Term	*SS*	*df*	*F*	*p*	η^2_p
Area of Concentration	0.04	1	0.04	.841	0.00
Residuals	345.62	340			

Table 50

Means, Standard Deviations, and Sample Size for Achievement Standard 15 by Area of Concentration

Area of Concentration	*M*	*SD*	*n*
Choral Music	3.32	1.00	160
Instrumental Music	3.34	1.02	182

The means for area of concentration (Choral = 3.32, Instrumental = 3.16) were compared with an ANOVA. The results indicate that the groups were not significant, $F(1, 341) = 1.92$, $p = .167$, which demonstrates variances between Achievement Standard 16 and both groups within Area of Concentration (choral or instrumental) (Table 51). The results revealed that there were no significant differences between Achievement Standard 16 by the groups within Area of Concentration. The descriptive statistics (e.g., mean, standard deviation) are displayed in table 52.

Table 51

Analysis of Variance Table for Achievement Standard 16 by Area of Concentration

Term	*SS*	*df*	*F*	*p*	η^2_p
Area of Concentration	2.02	1	1.92	.167	0.01
Residuals	357.80	340			

Table 52

Means, Standard Deviations, and Sample Size for Achievement Standard 16 by Area of Concentration

Area of Concentration	*M*	*SD*	*n*
Choral Music	3.32	1.02	160
Instrumental Music	3.16	1.03	182

The means for area of concentration (Choral = 4.41, Instrumental = 4.27) were compared with an ANOVA. The results indicate that the groups were not significant, $F(1, 341) = 3.48$, $p = .063$, which demonstrates variances between Achievement Standard 17 and both groups within Area of Concentration (choral or instrumental) (Table 53). The results revealed that there were no significant differences between Achievement Standard 17 by the groups within Area of Concentration. The descriptive statistics (e.g., mean, standard deviation) are displayed in table 54.

Table 53

Analysis of Variance Table for Achievement Standard 17 by Area of Concentration

Term	*SS*	*df*	*F*	*p*	η^2_p
Area of Concentration	1.60	1	3.48	.063	0.01
Residuals	156.40	340			

Table 54

Means, Standard Deviations, and Sample Size for Achievement Standard 17 by Area of Concentration

Area of Concentration	*M*	*SD*	*n*
Choral Music	4.41	0.61	160
Instrumental Music	4.27	0.74	182

The means for area of concentration (Choral = 4.56, Instrumental = 4.45) were compared with an ANOVA. The results indicate that the groups were not significant, $F(1, 341) = 2.70$, $p = .101$, which demonstrates variances between Achievement Standard 18 and both groups within Area of Concentration (Table 55). The results revealed that there were no significant differences between Achievement Standard 18 by the groups within Area of Concentration. The descriptive statistics (e.g., mean, standard deviation) are displayed in table 56.

Table 55

Analysis of Variance Table for Achievement Standard 18 by Area of Concentration

Term	*SS*	*df*	*F*	*p*	η^2_p
Area of Concentration	1.07	1	2.70	.101	0.01
Residuals	134.43	340			

Table 56

Means, Standard Deviations, and Sample Size for Achievement Standard 18 by Area of Concentration

Area of Concentration	*M*	*SD*	*n*
Choral Music	4.56	0.59	160
Instrumental Music	4.45	0.66	182

The means for area of concentration (Choral = 4.50, Instrumental = 4.34) were compared with an ANOVA. The results indicate that the groups were significant, $F(1, 340) = 4.46$, $p = .035$, suggesting that there were differences in Achievement Standard 19 among the levels of area of concentration were all comparable (Table 57). The eta squared was 0.01 showing that area of concentration describes approximately 1% of the variance in Achievement Standard 19. The means and standard deviations are illustrated in the table 58 below.

Table 57

Analysis of Variance Table for Achievement Standard 19 by Area of Concentration

Term	*SS*	*df*	*F*	*p*	η^2_p
Area of Concentration	2.16	1	4.46	.035	0.01
Residuals	164.88	340			

Table 58

Means, Standard Deviations, and Sample Size for Achievement Standard 19 by Area of Concentration

Area of Concentration	*M*	*SD*	*n*
Choral Music	4.50	0.60	160
Instrumental Music	4.34	0.77	182

Further, the researcher ran Tukey pairwise comparisons for all significant effects. For the main effect of Area of Concentration, the mean of Achievement Standard 19 for choral music faculty (M = 4.50, SD = 0.60) was significantly larger than for instrumental music faculty (M = 4.34, SD = 0.77).

The means for area of concentration (Choral = 4.58, Instrumental = 4.37) were compared with an ANOVA. The results indicate that the groups were significant, $F(1, 340) = 7.36$, $p = .007$, which means that there were significant differences in Achievement Standard 20 among choral music and instrumental music faculty (Table 59). The eta squared was 0.02 showing that area of concentration describes

approximately 2% of the variance in Achievement Standard 20. The means and standard deviations are illustrated in the table 60 below.

Table 59

Analysis of Variance Table for Achievement Standard 20 by Area of Concentration

Term	*SS*	*df*	*F*	*p*	η^2_p
Area of Concentration	3.67	1	7.36	.007	0.02
Residuals	169.54	340			

Table 60

Means, Standard Deviations, and Sample Size for Achievement Standard 20 by Area of Concentration

Area of Concentration	*M*	*SD*	*n*
Choral Music	4.58	0.67	160
Instrumental Music	4.37	0.74	182

Further, the researcher ran Tukey pairwise comparisons for all significant effects. For the main effect of Area of Concentration, the mean of Achievement Standard 20 for choral music faculty (M = 4.58, SD = 0.67) was significantly larger than for instrumental music faculty (M = 4.37, SD = 0.74).

The means for area of concentration (Choral = 4.00, Instrumental = 3.85) were compared with an ANOVA. The results indicate that the groups were not significant, $F(1, 341) = 2.79$, $p = .096$, which demonstrates variances between Achievement Standard 21 and both groups within Area of Concentration (choral or instrumental) (Table 61). The

results revealed that there were no significant differences between Achievement Standard 21 by the groups within Area of Concentration. The descriptive statistics (e.g., mean, standard deviation) are displayed in table 62.

Table 61

Analysis of Variance Table for Achievement Standard 21 by Area of Concentration

Term	*SS*	*df*	*F*	*p*	η^2_p
Area of Concentration	2.02	1	2.79	.096	0.01
Residuals	245.69	340			

Table 62

Means, Standard Deviations, and Sample Size for Achievement Standard 21 by Area of Concentration

Area of Concentration	*M*	*SD*	*n*
Choral Music	4.00	0.76	160
Instrumental Music	3.85	0.92	182

The means for area of concentration (Choral = 4.47, Instrumental = 4.30) were compared with an ANOVA. The results indicate that the groups were significant, $F(1, 340) = 5.55$, $p = .019$, which means that there were significant differences in Achievement Standard 22 among choral music and instrumental music faculty (Table 63). The eta squared was 0.02 showing that area of concentration describes approximately 2% of the variance in Achievement Standard 22. The means and standard deviations are illustrated in the table 64 below.

Table 63

Analysis of Variance Table for Achievement Standard 22 by Area of Concentration

Term	*SS*	*df*	*F*	*p*	η^2_p
Area of Concentration	2.71	1	5.55	.019	0.02
Residuals	165.88	340			

Table 64

Means, Standard Deviations, and Sample Size for Achievement Standard 22 by Area of Concentration

Area of Concentration	*M*	*SD*	*n*
Choral Music	4.47	0.62	160
Instrumental Music	4.30	0.76	182

Further, the researcher ran Tukey pairwise comparisons for all significant effects. For the main effect of Area of Concentration, the mean of Achievement Standard 22 for choral music faculty (M = 4.47, SD = 0.62) was significantly larger than for instrumental music faculty (M = 4.30, SD = 0.76).

The means for area of concentration (Choral = 4.62, Instrumental = 4.45) were compared with an ANOVA. The results indicate that the groups were significant, $F(1, 340) = 5.09$, $p = .025$, which means that there were significant differences in Achievement Standard 23 among choral music and instrumental music faculty (Table 65). The eta squared was 0.01 showing that area of concentration describes

approximately 1% of the variance in Achievement Standard 23. The means and standard deviations are illustrated in the table 66 below.

Table 65

Analysis of Variance Table for Achievement Standard 23 by Area of Concentration

Term	*SS*	*df*	*F*	*p*	η^2_p
Area of Concentration	2.41	1	5.09	.025	0.01
Residuals	160.80	340			

Table 66

Means, Standard Deviations, and Sample Size for Achievement Standard 23 by Area of Concentration

Area of Concentration	*M*	*SD*	*n*
Choral Music	4.62	0.63	160
Instrumental Music	4.45	0.73	182

Further, the researcher ran Tukey pairwise comparisons for all significant effects. For the main effect of Area of Concentration, the mean of Achievement Standard 23 for choral music faculty (M = 4.62, SD = 0.63) was significantly larger than for instrumental music faculty (M = 4.45, SD = 0.73).

The means for area of concentration (Choral = 4.30, Instrumental = 3.90) were compared with an ANOVA. The results indicate that the groups were significant, $F(1, 340) = 19.87$, $p < .001$, which means that there were significant differences in Achievement Standard 24 among choral music and instrumental music faculty (Table

67). The eta squared was 0.06 showing that area of concentration describes approximately 6% of the variance in Achievement Standard 24. The means and standard deviations are illustrated in the table 68 below.

Table 67

Analysis of Variance Table for Achievement Standard 24 by Area of Concentration

Term	*SS*	*df*	*F*	*p*	η^2_p
Area of Concentration	13.55	1	19.87	< .001	0.06
Residuals	231.82	340			

Table 68

Means, Standard Deviations, and Sample Size for Achievement Standard 24 by Area of Concentration

Area of Concentration	*M*	*SD*	*n*
Choral Music	4.30	0.74	160
Instrumental Music	3.90	0.89	182

Further, the researcher ran Tukey pairwise comparisons for all significant effects. For the main effect of Area of Concentration, the mean of Achievement Standard 24 for choral music faculty (M = 4.30, SD = 0.74) was significantly larger than for instrumental music faculty (M = 3.90, SD = 0.89).

The means for area of concentration (Choral = 4.44, Instrumental = 4.08) were compared with an ANOVA. The results indicate that the groups were significant, $F(1, 340) = 17.45$, $p < .001$, which means that there were significant differences in

Achievement Standard 25 among choral music and instrumental music faculty (Table 69). The eta squared was 0.05 showing that area of concentration describes approximately 5% of the variance in Achievement Standard 25. The means and standard deviations are illustrated in the table 70 below.

Table 69

Analysis of Variance Table for Achievement Standard 25 by Area of Concentration

Term	*SS*	*df*	*F*	*p*	η^2_p
Area of Concentration	10.74	1	17.45	< .001	0.05
Residuals	209.14	340			

Table 70

Means, Standard Deviations, and Sample Size for Achievement Standard 25 by Area of Concentration

Area of Concentration	*M*	*SD*	*n*
Choral Music	4.44	0.68	160
Instrumental Music	4.08	0.87	182

Further, the researcher ran Tukey pairwise comparisons for all significant effects. For the main effect of Area of Concentration, the mean of Achievement Standard 25 for choral music faculty (M = 4.44, SD = 0.68) was significantly larger than for instrumental music faculty (M = 4.08, SD = 0.87).

The means for area of concentration (Choral = 4.06, Instrumental = 3.68) were compared with an ANOVA. The results indicate that the groups were significant, F(1,

340) = 17.45, $p < .001$, which means that there were significant differences in Achievement Standard 13 among choral music and instrumental music faculty (Table 71). The eta squared was 0.04 showing that area of concentration describes approximately 4% of the variance in Achievement Standard 26. The means and standard deviations are illustrated in the table 72 below.

Table 71

Analysis of Variance Table for Achievement Standard 26 by Area of Concentration

Term	*SS*	*df*	*F*	*p*	η^2_p
Area of Concentration	12.37	1	12.79	< .001	0.04
Residuals	328.89	340			

Table 72

Means, Standard Deviations, and Sample Size for Achievement Standard 26 by Area of Concentration

Area of Concentration	*M*	*SD*	*n*
Choral Music	4.06	0.92	160
Instrumental Music	3.68	1.04	182

Further, the researcher ran Tukey pairwise comparisons for all significant effects. For the main effect of Area of Concentration, the mean of Achievement Standard 26 for choral music faculty ($M = 4.06$, $SD = 0.92$) was significantly larger than for instrumental music faculty ($M = 3.68$, $SD = 1.04$).

The means for area of concentration (Choral = 4.18, Instrumental = 3.76) were compared with an ANOVA. The results indicate that the groups were significant, $F(1, 340) = 17.86$, $p < .001$, which means that there were significant differences in Achievement Standard 27 among choral music and instrumental music faculty (Table 73). The eta squared was 0.05 showing that area of concentration describes approximately 5% of the variance in Achievement Standard 27. The means and standard deviations are illustrated in the table 74 below.

Table 73

Analysis of Variance Table for Achievement Standard 27 by Area of Concentration

Term	*SS*	*df*	*F*	*p*	η^2_p
Area of Concentration	14.84	1	17.86	< .001	0.05
Residuals	282.58	340			

Table 74

Means, Standard Deviations, and Sample Size for Achievement Standard 27 by Area of Concentration

Area of Concentration	*M*	*SD*	*n*
Choral Music	4.18	0.85	160
Instrumental Music	3.76	0.97	182

Further, the researcher ran Tukey pairwise comparisons for all significant effects. For the main effect of Area of Concentration, the mean of Achievement Standard 27 for

choral music faculty (M = 4.18, SD = 0.85) was significantly larger than for instrumental music faculty (M = 3.76, SD = 0.97).

The means for area of concentration (Choral = 4.41, Instrumental = 4.12) were compared with an ANOVA. The results indicate that the groups were significant, $F(1, 340) = 17.86$, $p < .001$, which means that there were significant differences in Achievement Standard 28 among choral music and instrumental music faculty (Table 75). The eta squared was 0.03 showing that area of concentration describes approximately 3% of the variance in Achievement Standard 28. The means and standard deviations are illustrated in the table 76 below.

Table 75

Analysis of Variance Table for Achievement Standard 28 by Area of Concentration

Term	*SS*	*df*	*F*	*p*	η^2_p
Area of Concentration	7.52	1	11.55	< .001	0.03
Residuals	221.35	340			

Table 76

Means, Standard Deviations, and Sample Size for Achievement Standard 28 by Area of Concentration

Area of Concentration	*M*	*SD*	*n*
Choral Music	4.41	0.74	160
Instrumental Music	4.12	0.86	182

Further, the researcher ran Tukey pairwise comparisons for all significant effects. For the main effect of Area of Concentration, the mean of Achievement Standard 28 for choral music faculty (M = 4.41, SD = 0.74) was significantly larger than for instrumental music faculty (M = 4.12, SD = 0.86).

The means for area of concentration (Choral = 4.36, Instrumental = 4.01) were compared with an ANOVA. The results indicate that the groups were significant, $F(1, 340) = 14.15$, $p < .001$, which means that there were significant differences in Achievement Standard 29 among choral music and instrumental music faculty (Table 77). The eta squared was 0.04 showing that area of concentration describes approximately 4% of the variance in Achievement Standard 29. The means and standard deviations are illustrated in the table 78 below.

Table 77

Analysis of Variance Table for Achievement Standard 29 by Area of Concentration

Term	*SS*	*df*	*F*	*p*	η^2_p
Area of Concentration	10.48	1	14.15	< .001	0.04
Residuals	251.69	340			

Table 78

Means, Standard Deviations, and Sample Size for Achievement Standard 29 by Area of Concentration

Area of Concentration	*M*	*SD*	*n*
Choral Music	4.36	0.77	160
Instrumental Music	4.01	0.93	182

Further, the researcher ran Tukey pairwise comparisons for all significant effects. For the main effect of Area of Concentration, the mean of Achievement Standard 29 for choral music faculty ($M = 4.36$, $SD = 0.77$) was significantly larger than for instrumental music faculty ($M = 4.01$, $SD = 0.93$).

The means for area of concentration (Choral = 4.33, Instrumental = 3.95) were compared with an ANOVA. The results indicate that the groups were significant, $F(1, 340) = 15.00$, $p < .001$, suggesting that there were differences in Achievement Standard 30 among the levels of area of concentration were all comparable (Table 79). The eta squared was 0.04 showing that area of concentration describes approximately 4% of the variance in Achievement Standard 30. The means and standard deviations are illustrated in the table 80 below.

Table 79

Analysis of Variance Table for Achievement Standard 30 by Area of Concentration

Term	*SS*	*df*	*F*	*p*	η^2_p
Area of Concentration	12.29	1	15.00	< .001	0.04
Residuals	278.55	340			

Table 80

Means, Standard Deviations, and Sample Size for Achievement Standard 30 by Area of Concentration

Area of Concentration	*M*	*SD*	*n*
Choral Music	4.33	0.83	160
Instrumental Music	3.95	0.97	182

Further, the researcher Tukey pairwise comparisons for all significant effects. For the main effect of Area of Concentration, the mean of Achievement Standard 30 for choral music faculty (M = 4.33, SD = 0.83) was significantly larger than for instrumental music faculty (M = 3.95, SD = 0.97).

The means for area of concentration (Choral = 4.23, Instrumental = 3.74) were compared with an ANOVA. The results indicate that the groups were significant, $F(1, 340) = 23.81$, $p < .001$, suggesting that there were differences in Achievement Standard 31 among the levels of area of concentration were all comparable (Table 82). The eta squared was 0.07 showing that area of concentration describes approximately 7% of the

variance in Achievement Standard 31. The means and standard deviations are illustrated in the table 83 below.

Table 81

Analysis of Variance Table for Achievement Standard 31 by Area of Concentration

Term	*SS*	*df*	*F*	*p*	η^2_p
Area of Concentration	20.40	1	23.81	< .001	0.07
Residuals	291.31	340			

Table 82

Means, Standard Deviations, and Sample Size for Achievement Standard 31 by Area of Concentration

Area of Concentration	*M*	*SD*	*n*
Choral Music	4.23	0.82	160
Instrumental Music	3.74	1.01	182

Further, the researcher Tukey pairwise comparisons for all significant effects. For the main effect of Area of Concentration, the mean of Achievement Standard 31 for choral music faculty (M = 4.23, SD = 0.82) was significantly larger than for instrumental music faculty (M = 3.74, SD = 1.01).

The means for area of concentration (Choral = 4.28, Instrumental = 3.82) were compared with an ANOVA. The results indicate that the groups were significant, $F(1, 340) = 20.25$, $p < .001$, which means that there were significant differences in Achievement Standard 32 among choral music and instrumental music faculty (Table

83). The eta squared was 0.06 showing that area of concentration describes approximately 6% of the variance in Achievement Standard 32. The means and standard deviations are illustrated in the table 84 below.

Table 83

Analysis of Variance Table for Achievement Standard 32 by Area of Concentration

Term	*SS*	*df*	*F*	*p*	η^2_p
Area of Concentration	17.79	1	20.25	< .001	0.06
Residuals	298.72	340			

Table 84

Means, Standard Deviations, and Sample Size for Achievement Standard 32 by Area of Concentration

Area of Concentration	*M*	*SD*	*n*
Choral Music	4.28	0.83	160
Instrumental Music	3.82	1.02	182

Further, the researcher ran Tukey pairwise comparisons for all significant effects. For the main effect of Area of Concentration, the mean of Achievement Standard 32 for choral music faculty (M = 4.28, SD = 0.83) was significantly larger than for instrumental music faculty (M = 3.82, SD = 1.02).

Results for Research Question Three

Research question three was aimed at determining if faculty rating of the NSME Five Competencies differed by area of concentration (i.e., Choral and Instrumental

Music). The researcher ran a multivariate analysis of variance (MANOVA) to determine if there were significant relationships between the area of concentration of music faculty and each of the five competencies. The main effect for the independent variable, area of concentration, was significant at $F(5, 336) = 4.35$, $p < .001$, Partial $\eta^2 = 0.06$. These findings suggest the linear combination each of the five competencies were significantly different between the two areas of concentration. Additionally, the researcher ran an analysis of variance (ANOVA) to measure the effects of area of concentration on each of the five NSME Competencies (Table 85).

Table 85

MANOVA results for the Five NSME Competencies by Area of Concentration

Variable	*Pillai*	*F*	*df*	*Residual df*	*p*	η^2_p
Area of Concentration	0.06	4.35	5	336	< .001	0.06

The means for area of concentration (Choral = 4.50, Instrumental = 4.38) were compared with an ANOVA. The results indicate that the groups were not significant, $F(1, 341) = 2.73$, $p = .099$, which demonstrates variances between NSME Competency 1 and both groups within Area of Concentration (choral or instrumental) (Table 86). The results revealed that there were no significant differences between NSME Competency 1 by the groups within Area of Concentration. The descriptive statistics (e.g. mean, standard deviation) are displayed in table 87.

Table 86

Analysis of Variance Table for NSME Competency1 by Area of Concentration

Term	*SS*	*df*	*F*	*p*	η^2_p
Area of Concentration	1.13	1	2.73	.099	0.01
Residuals	141.08	340			

Table 87

Means, Standard Deviations, and Sample Size for NSME Competency 1 by Area of Concentration

Area of Concentration	*M*	*SD*	*n*
Choral Music	4.50	0.63	160
Instrumental Music	4.38	0.65	182

The means for area of concentration (Choral = 4.14, Instrumental = 4.10) were compared with an ANOVA. The results indicate that the groups were not significant, $F(1, 341) = 0.33$, $p = .564$, which demonstrates variances between NSME Competency 2 and both groups within Area of Concentration (choral or instrumental) (Table 88). The results revealed that there were no significant differences between NSME Competency 2 by the groups within Area of Concentration. The descriptive statistics (e.g., mean, standard deviation) are displayed in table 89.

Table 88

Analysis of Variance Table for NSME Competency 2 by Area of Concentration

Term	*SS*	*df*	*F*	*p*	η^2_p
Area of Concentration	0.13	1	0.33	.564	0.00
Residuals	129.19	340			

Table 89

Means, Standard Deviations, and Sample Size for NSME Competency 2 by Area of Concentration

Area of Concentration	*M*	*SD*	*n*
Choral Music	4.14	0.58	160
Instrumental Music	4.10	0.65	182

The means for area of concentration (Choral = 4.08, Instrumental = 3.96) were compared with an ANOVA. The results indicate that the groups were not significant, $F(1, 341) = 2.45$, $p = .118$, which demonstrates variances between NSME Competency 3 and both groups within Area of Concentration (Table 90). The results revealed that there were no significant differences between NSME Competency 3 by the groups within Area of Concentration. The descriptive statistics (e.g., mean, standard deviation) are displayed in table 91.

Table 90

Analysis of Variance Table for NSME Competency 3 by Area of Concentration

Term	*SS*	*df*	*F*	*p*	η^2_p
Area of Concentration	1.10	1	2.45	.118	0.01
Residuals	151.83	340			

Table 91

Means, Standard Deviations, and Sample Size for NSME Competency 3 by Area of Concentration

Area of Concentration	*M*	*SD*	*n*
Choral Music	4.08	0.56	160
Instrumental Music	3.96	0.75	182

The means for area of concentration (Choral = 4.41, Instrumental = 4.07) were compared with an ANOVA. The results indicate that the groups were significant, $F(1, 340) = 16.72$, $p < .001$, which means that there were significant differences in NSME Competency 4 among choral music and instrumental music faculty (Table 92). The eta squared was 0.05 showing that area of concentration describes approximately 5% of the variance in NSME Competency. The means and standard deviations are illustrated in the table 93 below.

Table 92

Analysis of Variance Table for NSME Competency 4 by Area of Concentration

Term	*SS*	*df*	*F*	*p*	η^2_p
Area of Concentration	10.23	1	16.72	< .001	0.05
Residuals	207.98	340			

Table 93

Means, Standard Deviations, and Sample Size for NSME Competency 4 by Area of Concentration

Area of Concentration	*M*	*SD*	*n*
Choral Music	4.41	0.69	160
Instrumental Music	4.07	0.86	182

Further, the researcher ran Tukey pairwise comparisons for all significant effects. For the main effect of Area of Concentration, the mean of NSME Competency 4 for choral music faculty (M = 4.41, SD = 0.69) was significantly larger than for instrumental music faculty (M = 4.07, SD = 0.86).

The means for area of concentration (Choral = 4.08, Instrumental = 3.97) were compared with an ANOVA. The results indicate that the groups were not significant, $F(1, 341) = 2.73$, $p = .099$, which demonstrates variances between NSME Competency 5 and both groups within Area of Concentration (choral or instrumental) (Table 94). The results revealed that there were no significant differences between NSME Competency 5 by the groups within Area of Concentration. The descriptive statistics (e.g., mean,

standard deviation) are displayed in table 95. Further, the researcher elected not to run post-hoc comparisons because of non-significance.

Table 94

Analysis of Variance Table for NSME Competency 5 by Area of Concentration

Term	*SS*	*df*	*F*	*p*	η^2_p
Area of Concentration	1.01	1	2.43	.120	0.01
Residuals	140.81	340			

Table 95

Means, Standard Deviations, and Sample Size for NSME Competency 5 by Area of Concentration

Area of Concentration	*M*	*SD*	*n*
Choral Music	4.08	0.55	160
Instrumental Music	3.97	0.72	182

Summary of Results

The participants in this study represent 25 institutions in the following states: Alabama, Florida, Georgia, Kentucky, Louisiana, Mississippi, North Carolina, South Carolina, Tennessee, Virginia, and West Virginia. Of the 343 participants, 160 were identified as choral music faculty, and 183 were identified as instrumental music faculty. Further, the majority of the participants had experience teaching at the K-12 level, had at least eight or more years of experience in higher education, and taught at an institution with at least 100 undergraduate students in their music department.

Using a series of one-way MANOVAs to answer the three research questions, data analysis revealed three findings. First, there were statistically significant differences between how choral music and instrumental music faculty rated the effectiveness of instruction of all nine Content Standards. Specifically, a series of one-way ANOVAs revealed that the overall mean scores for instrumental faculty were significantly larger for Content Standard 2 (playing on instruments), while the mean scores for choral music faculty were significantly larger for Content Standard 7 (evaluating music), Content Standard 8 (understanding relationships), and Content Standard 9 (relating music to history and culture).

Second, after ranking the top 10 scoring Achievement Standards for each area of concentration, the findings revealed that two Content Standards were not represented in the choral music list (Content Standards 2 and 4, respectively), while four Content Standards were not represented in the instrumental music list (Content Standards 4, 7, 8, and 9, respectively). Finally, the results of the ANOVA revealed that the overall mean scores for choral music faculty were significantly larger for Competency 4 (knowledge of standard musical works).

CHAPTER V – DISCUSSION

The fundamental intent of this study was to determine if and to what extent music education faculty report engaging in NSME Standards-based instruction. Music education faculty have the chargeable duty of providing their students with instruction that is equally grounded in knowledge and empirical research that may be beneficial to them as future music educators. While this basic philosophy may be a common consent within the field of education, there are those whose research findings suggest a disparity between the music curricula and what is being taught in the college and university classroom (Adderley, 1996, 2000; McCaskill, 1998; Parker, 1993; Sprugeon).

For this study, the researchers' aim was to satisfy the following research questions:

1. Do faculty rating of effectiveness of NSME Standards-based instruction differ between choral and instrumental areas of music education concentration?
2. Which achievement standard(s) within each content standard received the greatest instructional emphasis when choral and instrumental areas of concentration are compared?
3. Do faculty rating of the strengths of instructional programs to prepare graduates to teach the five competencies that should be mastered by all K-12 students differ by area of concentration?

Results

Research Question One

The aim of research question one was to determine if there was a difference between choral and instrumental music faculty in rating the effectiveness of instruction of

the NSME Content Standards. The overall MANOVA revealed a significant main effect for area of concentration and the nine Content Standards, suggesting that the combination of all nine Content Standards were different between choral and instrumental music faculty. These findings contradicted those of Adderley (1996), who concluded that the rating of effectiveness of the NSME Standards did not differ with the faculty members' area of teaching concentration. The current researcher believes that Adderley's study, being limited to the State of South Carolina, may have contributed to his participants sharing similar views toward NSME Standard-based instruction. However, the current study included music faculty from 25 institutions in 11 states located in the Southeastern region of the United States, and may include faculty with a more diverse position regarding the level of NSME Standards-based instruction.

Because the overall findings for this model was significant, the researcher also conducted an Analysis of Variance (ANOVA) on the dependent variables to survey the effects of faculty's area of concentration on each of the Content Standards. The ANOVA, administered on each of the nine Content Standards, found significant differences in five of the Content Standards (Content Standards 2, 3, 7, 8, and 9, respectively), whereas non-significance was found in four of the Content Standards (Content Standards 1, 4, 5, and 6, respectively).

The significant outcomes of the ANOVA led the investigator in making several conclusions. First, the researcher concluded that choral and instrumental music faculty differed (with instrumental music faculty mean scores being significantly higher) in how they rated the effectiveness of instruction being provided to their students in being able to perform on instruments (Content Standard 2). Second, that choral and instrumental

music faculty differed (with choral music faculty mean scores being significantly higher) in how they rated the effectiveness of instruction being provided to their students concerning improvising melodies, variations, and accompaniments (Content Standard 3). Third, that choral and instrumental music faculty differed (with choral music faculty mean scores being significantly higher) in how they rated the effectiveness of instruction being offered to their students regarding their ability to evaluate music and music performances (Content Standard 7). Fourth, the researcher concluded that choral and instrumental faculty differed (with choral music faculty mean scores being significantly higher) in how they rated the effectiveness of instruction being provided to their students concerning their understanding the relationships between music, the arts, and disciplines outside of music (Content Standard 8). Finally, the investigator concluded that choral and instrumental faculty differed (with choral music faculty mean scores being significantly higher) in how they rated the effectiveness of instruction being provided to their students regarding them being able to understand music in relationship to history and culture (Content Standard 9) (Table 96).

Table 96

ANOVA Results for Research Question One

Non-Significant	Significant
Content Standard 1	Content Standard 2 – Instrumental Larger
Content Standard 4	Content Standard 3 – Choral Larger
Content Standard 5	Content Standard 7 – Choral Larger
Content Standard 6	Content Standard 8 – Choral Larger
	Content Standard 9 – Choral Larger

The significant outcomes, in general, were aligned with the initial assumptions of the researcher relevant to the reported effectiveness of the nine NSME Content Standards. Specifically, the researcher believed that choral music an instrumental faculty rating in performing on instruments (Content Standard 2) would be dissimilar based on the basic tenet of the two areas of concentration; choral music focusing on singing, and instrumental music focusing on playing instruments. However, when considering the number of school districts that employ one music educator to be responsible for the districts' or schools' entire music program (i.e., choir, band, strings), the researcher believes it would be in the best interest of college music education majors to have music faculty committed to providing students a balanced music education curriculum.

While exploring research question one, another outcome revealed while exploring research question one which agreed with the early hypothesis of the researcher was the rating of both areas of concentration toward the instruction of improvising melodies,

variations, and accompaniments (Content Standard 3). Because improvisation is a music concept that is most often associated with instrumental music, it was not problematic to assume that the rating of effective instruction between choral music and instrumental music for this Content Standard would not be similar. However, since choral music majors are often find themselves teaching band and strings once they enter the teaching field, the researcher believes that this finding should provide further evidence to choral music faculty that taking a more proactive role in the instruction of improvisation would better serve their undergraduate choral music students.

The results of the ANOVA revealed four outcomes that were non-significant. The researcher concluded that choral and instrumental music faculty were similar in how they rated the effectiveness of instruction being provided to their students concerning being proficient in singing, alone and with others, a varied repertoire of music (Content Standard 1). Based on the results of the ANOVA, the researcher concluded that choral and instrumental music faculty did not differ in how they rated the effectiveness of instruction being provided to their students regarding composing and arranging music within specified guidelines (Content Standard 4). The researcher also concluded that choral and instrumental music faculty were similar in how they rated the effectiveness of instruction being provided to their students in reading and notating music (Content Standard 5). Finally, there was no difference in how choral and instrumental music faculty rated the effectiveness of instruction being provided to their students regarding listening to, analyzing, and describing music (Content Standard 6).

Research Question Two

Research question two is intended to identify the NSME Achievement Standards that choral and instrumental music faculty emphasize in their classroom instruction, which in turn could help bring attention to needed areas of improvement regarding NSME Standards-based music teacher preparation. Further, though each Achievement Standard is aligned with a specific Content Standard, the results of this research question could also identify specific Content Standards that may need to be bolstered within the music teacher education curricula.

There are nine NSME Content Standards (Appendix G), each with several associated Achievement Standards (Appendix H). For this purpose of this study, Achievement Standards 1 – 5 were aligned to Content Standard 1; Achievement Standards 6 – 11 were aligned to Content Standard 2; Achievement Standards 12 – 14 are aligned with Content Standard 3; Achievement Standards 15 – 17 are aligned with Content Standard 4; Achievement Standards 18 – 20 were aligned with Content Standard 5; Achievement Standards 21 – 24 were aligned with Content Standard 6; Achievement Standards 25 and 26 were aligned with Content Standard 7; Achievement Standards 27 and 28 were aligned with Content Standard 8; and Achievement Standards 29 – 32 were aligned with Content Standard 9.

The demographic information, specifically, the means, standard deviations, and sample size, were provided earlier in chapter 4. Using this demographic information, the researcher identified the top 10 Achievement Standards for each level of Area of Concentration (Table 97 & 98). Based on the data analysis, for choral music faculty, the Achievement Standards receiving the greatest instructional emphasis were identified as

follows: Singing from memory a varied repertoire of songs (Achievement Standard 2); Identify male and female voice types by listening to a vocal music compositions (Achievement Standard 23); Identify simple meter forms when presented aurally (Achievement Standard 20); Identify and understand conventional music terminology (Achievement Standard 18); Sing ostinatos, partner songs, and rounds (Achievement Standard 3); Notate rhythm patterns using conventional music terms utilized in music method books (Achievement Standard 19); Utilize suitable music vocabulary to describe their favorite styles of music (Achievement Standard 25); Identify by genre aural examples of music from various historical periods and cultures (Achievement Standard 28); Describe the unique characteristics of various genres and styles of music from a variety of cultures (Achievement Standard 29); and describe how music may influence their daily lives and describe characteristics that make specific styles of music appropriate for specific life circumstances (Achievement Standard 30). For instrumental music faculty, the Achievement Standards receiving the greatest instructional emphasis were identified as follows: Playing from memory a varied repertoire of songs representing genres and styles from various cultures (Achievement Standard 2); Playing ostinatos, partner songs, and rounds (Achievement Standard 3); Identify the sounds of band and string instruments (Achievement Standard 23); Identify and understand music terms, dynamics, tempo markings, and articulations (Achievement Standard 18); Playing independently, on pitch and in rhythm, with appropriate timbre, and maintaining a steady tempo (Achievement Standard 5); Identify simple meter forms when presented aurally (Achievement Standard 20); Perform on at least one instrument using correct pitch, rhythms, dynamics, and tempo (Achievement Standard 6); Notate rhythm patterns using

conventional music terms utilized in music method books (Achievement Standard 19); Repeat short rhythmic and melodic patterns on at least one instrument (Achievement Standard 8); and perform independent instrumental parts while other students play contrasting parts within the same piece of music (Achievement Standard 10).

Table 97

Achievement Standards Receiving Greatest Emphasis – Choral Music Faculty

Achievement Standard	*M*	*SD*	Content Standard
2	4.69	0.53	1
23	4.62	0.63	6
20	4.58	0.67	3
18	4.56	0.59	5
3	4.54	0.68	1
19	4.50	0.60	5
25	4.44	0.68	7
28	4.41	0.74	8
29	4.36	0.77	9
30	4.33	0.83	9

Table 98

Achievement Standards Receiving Greatest Emphasis – Instrumental Music Faculty

Achievement Standard	*M*	*SD*	Content Standard
2	4.64	0.48	1
3	4.62	0.49	1
23	4.45	0.73	6
18	4.45	0.66	5
5	4.40	0.62	1
20	4.37	0.74	5
6	4.35	0.64	2
19	4.34	0.77	5
8	4.34	0.64	2
10	4.32	0.66	3

After analyzing the results presented in the tables 99 and 100, the researcher developed two conclusions. First, choral music faculty used most of their instructional time emphasizing the Content Standards that are focused on singing, performance, and reading music. Alternatively, instrumental music faculty appear to devote most their instructional time toward the performance-based Content Standards. In fact, the data revealed that six of the top 10 Achievement Standards are aligned with performance-based Content Standards.

Second, the findings suggest the choral music faculty are more diversified in their NSME Standards-based instructional practices than their instrumental music counterparts. Upon surveying the choral music table above, there were only two Content Standards (Content Standard 2 and Content Standard 4) that were not represented. However, for instrumental music faculty, five of the top 10 most practiced Achievement Standards represent the inclusion of only two Content Standards. Additionally, table 100 shows that the top 10 Achievement Standards, as identified by instrumental music faculty, are associated with the following Content Standards: Singing alone and with others (Content Standard 1); Performing on instruments alone and with others (Content Standard 2); Improvising melodies (Content Standard 3); Reading and notating music (Content Standard 5); and listening to, analyzing, and describing music (Content Standard 6). This finding is like that of Adderley (1996), whose research outcomes led him to conclude that there was an absence of instruction focused on composing and arranging music (Content Standard 4), and understanding relationships between music, the arts, and disciplines outside of music (Content Standards 8).

Research Question Three

The aim of research question three was to determine if there was a difference between choral and instrumental music faculty in rating the effectiveness of instruction of the Five NSME Competencies that music students should master after completing a NSME Standards-based curricula. The overall MANOVA revealed a significant main effect for area of concentration on the five NSME Competencies, suggesting that the combination of all five Competencies were different between choral and instrumental music faculty. Due to the researcher not being able to locate other NSME Standards-

based studies looking specifically at how music faculty rate the effectiveness of the five competencies, there was no empirical research to compare with the findings of the current study. However, the researcher believes that this finding is important when considering that the Competencies are the end goals of a NSME Standards-based curricula. Further, the investigator believes that these findings will provide information pertaining to the five Competencies that were otherwise absent in other NSME Standards-based studies.

Because the overall findings for this model was significant, the researcher also conducted an Analysis of Variance (ANOVA) on the dependent variables to survey the effects of faculty area of concentration on each of the five Competencies. The ANOVA, administered on each Competency, found significance in one of the five Competencies (Competency 4), whereas non-significance was found in four of the Competencies (Competency 1, 2, 3, and 5, respectively).

The significant outcome of the ANOVA led the researcher to conclude that choral and instrumental music faculty differed (with choral music faculty mean scores being significantly higher) in how they rated the effective teaching practices toward NSME Competency 4 (basic knowledge of music). The fulfillment of Competency 4 is parallel to Content Standard 6 (listening to and analyzing music) and Content Standard 7 (evaluating music), of which, Content Standard 6 was also found to be significant in the analysis of research question one. It is the opinion of the researcher that these differences may result from the limitations in exposure to a variety of pertinent music literature on behalf of the respondents in this study. Although outside of the scope of this study, exploring the musical diversity and aptitude of music faculty in higher education may be a topic of interest for future investigations.

The results of the ANOVA revealed that the outcomes of the remaining four NSME Competencies were non-significant. First, it was confirmed that choral and instrumental music faculty were similar in how they rated students in being able to interchange thoughts, knowledge, and ideas relative to music at a basic level (Competency 1). Further, these music faculty were similar in the rating of students' ability to identify music problems as well as find viable solutions for these problems (Competency 2). The analysis also indicated that choral and instrumental music faculty rated similarly students' ability to understand and explain basic analysis of music compositions (Competency 3). Finally, choral and instrumental music faculty were similar in students' ability to show relationships between music and the other academic disciplines (Competency 5).

The researcher believe that the findings attained from research question three revealed some positive trends regarding the teaching practices of future music educators being taught by the respondents of this study. Competency 1 (communicate proficiently) serves as the foundation of those skills that are critical to effective music educators. Competency 2 (problem solving) aids students in being able to identify and correct various performance concerns. Competency 3 (analysis of music) is often used to not only to gain an understanding of the purpose and inspiration behind a specific music competition, but it is employed as an aid for music educators to effectively illustrate this knowledge to their students. Competency 5 (relate with other disciplines) offered benefits that are two-fold; first, it benefits music students in being successful in other academic classes; and second, it offers the music teacher a research-supported rationale to justify the importance of a viable music education program.

In whole, the results of the current study reinforce the conclusion made by Adderley (1996) that generally, music faculty believe that they are providing their students with "good" or "superior" quality training toward appropriate music teacher education. After comparing the findings of the current study with those of prior NSME Standards-based investigations, it is the opinion of the current researcher that little has changed since the inception of the NSME Standards regarding the quality of instruction being provided to music education majors as reported by higher music education faculty.

Conclusion

Based on the information presented resulting from analysis of the three questions that guided this study, the researcher took away two convincing thoughts. First, the data presented in the current study shows that choral music faculty and instrumental music faculty are not placing the same emphasis on effectively teaching all nine of the NSME Content Standards. In fact, the findings suggest a major deficiency with the teaching of the non-performance based Content and Achievement Standards by instrumental music faculty. It is the opinion of the researcher that music department administrators may elect to further assess this deficiency.

Second, the results of this study showed that choral and instrumental music faculty differ in how they rated the quality of instruction that their institution was providing their music majors. According to the data, approximately 70% of the respondents indicated that their institutions were providing either "very good" or "excellent" quality of instruction regarding the Five NSME Competencies. The researcher finds these outcomes to be promising to music education because it is the

achievement of the five NSME Competencies that serve as the criterion for developing and maintaining a distinguished music education program.

Recommendations

The researcher offers several recommendations for future research on the topic of the National Standards of Music Education. A similar study conducted by Adderley (1996) was limited to colleges and universities within the State of South Carolina. The sample used in the current study was acquired from higher education institutions located in the Southeastern region of the United States. A replication of this study in other regions of the country may offer a more thorough depiction of the current teaching practices of music faculty throughout the United States.

One of the outcomes of this study suggest that the non-performance-based standards were often neglected in the music faculty's daily practices. While this outcome was most noticeable in instrumental music, the researcher also noted areas of deficiency with choral music faculty as well. As echoed by Hope (1995) and Abrahams (2000), higher education has the responsibility of training new music teachers to be proficient teaching all nine of the NSME Standards, which is critical because these standards require music teachers to be knowledgeable rather than standardized. Hope (1995) also noted the prevalence of performance-based standards, stating that music study in Massachusetts was centered on the instruction of performance as one of the three core concepts in music education. Therefore, a study focusing on the non-performance NSME Standards could reveal outcomes that would be beneficial in creating a more balanced NSME Standards-based curricula.

While gathering data for this study, the researcher received several questions and comments from music faculty who ultimately elected not to participate in the study. Through conversing with these faculty members, it was discovered that at least at their institution, the areas of concentration also included elementary music education designed for K-4 music specialists, general K-4 music education designed for elementary teachers who do not specialize in music, and music education technology designed for musicians to teach all aspects of computer technology and music production in secondary schools. Byo (1997) made a reference to the second area of concentration in a study that compared the perceptions of elementary music specialists and "generalists" with regards to quality instruction of the NSME Standards. However, her study only considered teachers in Grade 4 and was limited to schools within the State of Florida. Additionally, the researcher was not aware that areas of concentration such as music education technology existed within music education. Thus, he believes that further research on these additional areas of concentration is warranted.

The current study centered on the quality of music teacher preparation as reported by higher education faculty. A study that centers on the quality of instruction being provided by music faculty from the perspective of current music education students and recent college and university music education graduates (within five years) may provide post-secondary administrators with information that could be valuable in the context of faculty evaluations and assessment.

This investigation looked at the areas of concentration of music faculty and did not consider the specific courses that the participants taught that were relevant to the NSME Standards. In the literature of related material for the current study, Froseth

(1996) refers to an informal survey that he conducted while at The University of Michigan investigating the NSME Standards' knowledge-based of music majors in various education methods' classes. A study assessing specific courses within the curriculum that faculty and students identify as being more Standards-centered could provide college faculty and administrators with empirical data, presenting areas within the music education curricula that may need to be revisited.

In 2014, The National Association for Music Education formed a focus group charged with the task of updating the original NSME Standards to be written to focus more on creativity and long-term comprehension. However, the 2014 Music Standards have not been embraced with the same enthusiasm as the original NSME Standards; and thus, this lack of interest may have negatively affected the rate of adoption within the music education community. Therefore, an empirical study aimed at comparing the NSME Standards and the 2014 Standards may assist the framers in identifying specific elements that triggered the failure in the diffusion of this innovation.

The NSME Standards resulted from the establishment of new standards for K-12 set forth by the *Goals 2000* mandate (Abrahams, 2000; Mark, 1995). Since their inception, K-12 has experienced several education reform initiatives, including *No Child Left Behind* and *Tech-Prep Education*. Current trends in K-12 education has seen many states transition toward The Common Core State Standards Initiative. Therefore, the researcher recommends that future research be aimed at investigating the relationship between NSME Standards and The Common Core State Standards.

Summary

Since their development in 1994, The National Standards of Music Education has successfully served as the template for a unified music education curricula for K-12 music teachers. With colleges and universities being responsible for training future music teachers, it was logical to conclude that higher education would play a critical role in the nation-wide adoption and implementation of the NSME Standards. It was this appeal for the restructuring of music teacher education programs that initiated countless NSME Standards-based investigations within the decade following their development and inception.

The findings of research question two reveled the absence of four Content Standards upon identifying the ten most emphasized Achievement Standards. As mentioned earlier, music education researchers have long cited similar shortcomings regarding comprehensive Standards-based instruction in music teacher education programs. Conway (2008) and Reimer (2004) stated that higher education, in totality, has not placed the same amount of focus on the "non-performance" Content Standards as to those aimed toward playing and singing.

In their Standards-based studies, Adderley (1996) and Abrahams (2000) focused on determining if and to what extent music faculty are engaged in standards-based instruction. Both stressed the significance of higher education in the successful implementation of the music Standards, and were instrumental in advocating for aligning specific Content Standards with specific courses within the curriculum. Almost a decade later, Frederickson (2010) and Lehman (2008) echoed similar beliefs, suggesting that Standards-based instruction of individual Content Standards be assigned to designated

classes. Specifically, Frederickson considers the applied music studio to be the ideal environment for effectively teaching all of the Content Standards, particularly focusing on those Standards that the literature has discovered that often receive less consideration in the teaching practices of music education faculty.

While most of the empirical research and subsequent articles related to the NSME Standards during the period of 1994 – 2001 were targeted toward K-12 education, there were a significant number of music education researchers who recognized the need to examine the various aspects of the NSME Standards from the position of higher education. However, the implementation of *The No Child Left Behind Act* seem to signal a sharp decline in the interest of NSME Standards-based investigations, especially in the context of higher education. Therefore, the results of this investigation do contribute to an aging body of literature relative to the implications of the NSME Standards from the perspective of higher education.

APPENDIX A – IRB Approval

THE UNIVERSITY OF
SOUTHERN MISSISSIPPI

INSTITUTIONAL REVIEW BOARD
118 College Drive #5147 | Hattiesburg, MS 39406-0001
Phone: 601.266.5997 | Fax: 601.266.4377 | www.usm.edu/research/institutional.review.board

NOTICE OF COMMITTEE ACTION

The project has been reviewed by The University of Southern Mississippi Institutional Review Board in accordance with Federal Drug Administration regulations (21 CFR 26, 111), Department of Health and Human Services (45 CFR Part 46), and university guidelines to ensure adherence to the following criteria:

- The risks to subjects are minimized.
- The risks to subjects are reasonable in relation to the anticipated benefits.
- The selection of subjects is equitable.
- Informed consent is adequate and appropriately documented.
- Where appropriate, the research plan makes adequate provisions for monitoring the data collected to ensure the safety of the subjects.
- Where appropriate, there are adequate provisions to protect the privacy of subjects and to maintain the confidentiality of all data.
- Appropriate additional safeguards have been included to protect vulnerable subjects.
- Any unanticipated, serious, or continuing problems encountered regarding risks to subjects must be reported immediately, but not later than 10 days following the event. This should be reported to the IRB Office via the "Adverse Effect Report Form".
- If approved, the maximum period of approval is limited to twelve months.
  Projects that exceed this period must submit an application for renewal or continuation.

PROTOCOL NUMBER: 17011201
PROJECT TITLE: Knowledge and Practices of Faculty at NASM-Accredited Institutions in the Southeast Region Regarding Standards-based Instruction
PROJECT TYPE: New Project
RESEARCHER(S): Jonathan Nelson
COLLEGE/DIVISION: College of Education and Psychology
DEPARTMENT: Educational Research and Administration
FUNDING AGENCY/SPONSOR: N/A
IRB COMMITTEE ACTION: Exempt Review Approval
PERIOD OF APPROVAL: 01/23/2017 to 01/22/2018
Lawrence A. Hosman, Ph.D.
Institutional Review Board

APPENDIX B – NSME Standards Questionnaire

NSME STANDARDS SURVEY

This questionnaire is aimed at determining the level of engagement of National Standards-based instruction being implemented in music education curricula at NASM-accredited institutions in the southeast region of the United States.

Your participation is strictly voluntary, and you may choose to stop at any time. Once you have indicated your responses to each of the items, please click on the submit button at the end. By doing so, you are giving consent to participate in this study. Please be aware that your identity will remain completely anonymous. Completing this questionnaire will take approximately 15 minutes.

Q4 Number of total years teaching in higher education:
- ❍ 0-3 years
- ❍ 4-7 years
- ❍ 8-12 years
- ❍ 13 or more years

Q5 With which regional accreditation organization is your institution associated?
- ❍ SACS
- ❍ Higher Learning Commission
- ❍ ACCJC
- ❍ Other _____

Q6 Do you have experience teaching music education at the K-12 level?
- ❍ Yes
- ❍ No

Q7 Which statement best describes the number of undergraduate and graduate music students currently enrolled at your institution?
- ❍ 0-50 students
- ❍ 51-100 students
- ❍ 101-200 students
- ❍ More than 200 students

Q8 Which area of concentration makes up the majority of your teaching load?
- ❍ Instrumental Music Education
- ❍ Choral Music Education

Q10 On the following items, please indicate what quality of preparation is provided by your department to music education students for Content Standard 1: Singing, alone and with others, a varied repertoire of music.

	Poor	Below Average	Average	Very Good	Excellent
Singing expressively, with appropriate dynamics, phrasing, and interpretation.	❍	❍	❍	❍	❍
Sings from memory a varied repertoire of songs representing genres and styles from various cultures.	❍	❍	❍	❍	❍
Sing ostinatos, partner songs, and rounds.	❍	❍	❍	❍	❍
Sing in groups, blending vocal timbres, matching dynamic levels, and responding to the cues of the conductor.	❍	❍	❍	❍	❍
Singing independently, on pitch and in rhythm, with appropriate timbre, diction, and posture, and maintain a steady tempo.	❍	❍	❍	❍	❍

Q11 On the following items, please indicate what quality of preparation is provided by your department to music education students for Content Standard 2: Performing on instruments, alone and with others, a varied repertoire of music.

	Poor	Below Average	Average	Very Good	Excellent
Perform on at least one instrument using correct pitch, rhythms, dynamics, and tempo.	❍	❍	❍	❍	❍
Perform accurate rhythms, melody, and harmony in an individual and ensemble setting.	❍	❍	❍	❍	❍
Perform on instruments a variety of styles and genres of music	❍	❍	❍	❍	❍
Repeat short rhythmic and melodic patterns on at least one instrument.	❍	❍	❍	❍	❍
Perform in instrumental ensembles of unmatched instruments with the ability to respond to gestures provided by the conductor.	❍	❍	❍	❍	❍
Perform independent instrumental parts while other students play contrasting parts within the same piece of music.	❍	❍	❍	❍	❍
Performing on instruments, alone and with others, a varied repertoire of music.	❍	❍	❍	❍	❍

Q12 On the following items, please indicate what quality of preparation is provided by your department to music education students for Content Standard 3: Improvising melodies, variations, and accompaniments.

	Poor	Below Average	Average	Very Good	Excellent
Improvise simple melody and harmony parts	❍	❍	❍	❍	❍
Improvise simple variations on well-known melodies.	❍	❍	❍	❍	❍
Improvise short songs incorporating the use of traditional and non-traditional instruments, as well as electronic instruments and sound libraries.	❍	❍	❍	❍	❍
Improvising melodies, variations, and accompaniments.	❍	❍	❍	❍	❍

Q13 On the following items, please indicate what quality of preparation is provided by your department to music education students for Content Standard 4: Composing and arranging music within specified guidelines.

	Poor	Below Average	Average	Very Good	Excellent
Compose music for a single instrument or small ensemble that complement readings and dramatizations.	❍	❍	❍	❍	❍
Compose or arrange a short song in a specified style of music, form, and instrumentation.	❍	❍	❍	❍	❍
Compose or arrange short songs incorporating the use of traditional and non-traditional instruments, as well as electronic instruments and sound libraries.	❍	❍	❍	❍	❍
Composing and arranging music within specified guidelines.	❍	❍	❍	❍	❍

Q14 On the following items, please indicate what quality of preparation is provided by your department to music education students for Content Standard 5: Reading and notating music.

	Poor	Below Average	Average	Very Good	Excellent
Use note names and/or solfege to read a musical passage in both treble and bass clefs.	❍	❍	❍	❍	❍
Identify and understand conventional music terms, dynamics, tempo markings, and articulations.	❍	❍	❍	❍	❍
Notate rhythm patterns using conventional music terms utilized in music method books.	❍	❍	❍	❍	❍
Reading and notating music.	❍	❍	❍	❍	❍

Q15 On the following items, please indicate what quality of preparation is provided by your department to music education students for Content Standard 6: Listening to, analyzing, and describing music.

	Poor	Below Average	Average	Very Good	Excellent
Identify simple meter forms when presented aurally.	❍	❍	❍	❍	❍
Demonstrate an understanding of musical forms of music from a variety of cultures.	❍	❍	❍	❍	❍
Use correct language in describing melody and harmony, music notation, music instruments, and music presentations.	❍	❍	❍	❍	❍
Identify the sounds of band and orchestra instruments / identify the male and female voice types by listening to a vocal music composition.	❍	❍	❍	❍	❍
Listening to, analyzing, and describing music.	❍	❍	❍	❍	❍

Q16 On the following items, please indicate what quality of preparation is provided by your department to music education students for Content Standard 7: Evaluation music and music performance.

	Poor	Below Average	Average	Very Good	Excellent
Create an applicable rubric to appraise music performances, compositions, and arrangements.	❍	❍	❍	❍	❍
Utilize suitable music vocabulary to describe their favorite styles of music and music compositions.	❍	❍	❍	❍	❍
Evaluating music and music performance.	❍	❍	❍	❍	❍

Q17 On the following items, please indicate what quality of preparation is provided by your department to music education students for Content Standard 8: Understanding relationships between music, the other arts, and disciplines outside the arts.

	Poor	Below Average	Average	Very Good	Excellent
Compare and contrast common terminology used in music and at least one other art.	❍	❍	❍	❍	❍
Understand and explain how music relates to other academic subjects represented in the elementary and secondary curricula.	❍	❍	❍	❍	❍
Understanding relationships between music, the other arts, and disciplines outside the arts.	❍	❍	❍	❍	❍

Q19 The National Standards for Music Education were established to assist the classroom teacher in developing students with a basic knowledge of the music discipline.
Rate the quality of instruction that your institution provides to music education student regarding the five competencies all music students are expected to have mastered upon graduating high school. Rate each competency on a scale of 1 (Poor) to 5 (Superior):

	Poor	Below Average	Average	Very Good	Excellent
Students are able to communicate at a basic level.	❍	❍	❍	❍	❍
Students are able to communicate proficiently in music, including the ability to define and solve musical problems with insight, and technical proficiency.	❍	❍	❍	❍	❍
Students are able to develop and present basic analysis of musical works of from a structural, historical, and cultural perspectives, and from combinations of those perspectives.	❍	❍	❍	❍	❍
Students are knowledgeable of standard musical works from a variety of cultures and historical periods.	❍	❍	❍	❍	❍
Students are able to relate various genres of music knowledge and skills within and across the music genres.	❍	❍	❍	❍	❍

Q18 On the following items, please indicate what quality of preparation is provided by your department to music education students for Content Standard 9: Understanding music in relation to history and culture.

	Poor	Below Average	Average	Very Good	Excellent
Identify by genre or style aural examples of music from various historical periods and cultures.	❍	❍	❍	❍	❍
Describe the unique characteristics of various genres and styles of music from a variety of cultures.	❍	❍	❍	❍	❍
Describe how music may influence their daily lives and describe characteristics that make specific styles of music appropriate for specific life circumstances.	❍	❍	❍	❍	❍
Compare, in several cultures of the world, functions music serves, roles of musicians, and conditions under which music is typically performed.	❍	❍	❍	❍	❍
Understanding the influence of musicians in various cultures and life events.	❍	❍	❍	❍	❍
Understanding music in relation to history and culture.	❍	❍	❍	❍	❍

APPENDIX C – Permission to Use Survey

Gmail **Jon Nelson <jonnelson1988@gmail.com>**

Re: MUSIC EDUCATION RESEARCH REQUEST-JONATHAN NELSON

3 messages

Cecil Adderley <cadderley@berklee.edu> Thu, Nov 5, 2015 at 10:58 AM
To: Jonathan Nelson <jonathan.nelson@eagles.usm.edu>

Jonathan,

Yes, this is acceptable as I am the copyright holder of the survey, and grant you permission. I would also like to wish you much success with your research.

Please say hello to Dr. Anita Davis who also works at USM, as we have worked together in the past.

Take care,
Cecil Adderley

On Tue, Nov 3, 2015 at 10:54 PM, Jonathan Nelson <jonathan.nelson@eagles.usm.edu> wrote:
> Please see the attached pdf regarding my research study

--
Cecil Adderley, Ph.D., Chair
Music Education Department
Berklee College of Music
1140 Boylston St., MS-22 MUED
Boston, MA 02215-3693
617-747-2425 - office
617-747-6268 - fax

Jon Nelson <jonnelson1988@gmail.com> Thu, Feb 25, 2016 at 10:29 PM
To: Cecil Adderley <cadderley@berklee.edu>

Dr. Adderley,

I am contacting you again to ask for your permission to make minor modifications to your instrument. Specifically, I want to delete (not use) some of the questions.

Thanks for your time and consideration.

J. Nelson

" If It Doesn't Make Sense, It's Probably Not True"
- Judge Judy
[Quoted text hidden]

Cecil Adderley <cadderley@berklee.edu> Sat, Feb 27, 2016 at 6:39 AM
To: Jon Nelson <jonnelson1988@gmail.com>

Jon,

Yes, this is acceptable for your research, and I grant you permission to do so.

I wish you continued success,
Cecil Adderley
[Quoted text hidden]

APPENDIX D – The NMSE Content Standards

1. Singing, alone and with others, a varied repertoire of music.
2. Performing on instruments, alone and with others, a varied repertoire of music.
3. Improvising melodies, variations, and accompaniments.
4. Composing and arranging music within specified guidelines.
5. Reading and notating music.
6. Listening to, analyzing, and describing music.
7. Evaluation of music and music performance.
8. Understanding relationships between music, the other arts, and disciplines outside the arts.
9. Understanding music in relation to history and culture.

APPENDIX E – The NSME Achievement Standards

1. Singing expressively, with appropriate dynamics, phrasing, and interpretation.
2. Sings from memory a varied repertoire of songs representing genres and styles from various cultures.
3. Sing ostinatos, partner songs, and rounds.
4. Sing in groups, blending vocal timbres, matching dynamic levels, and responding to the cues of the conductor.
5. Singing independently, on pitch and in rhythm, with appropriate timbre, diction, and posture, and maintain a steady tempo.
6. Perform on at least one instrument using correct pitch, rhythms, dynamics, and tempo.
7. Perform accurate rhythms, melody, and harmony in an individual and ensemble setting.
8. Repeat short rhythmic and melodic patterns on at least one instrument.
9. Perform in instrumental ensembles of unmatched instruments with the ability to respond to gestures provided by the conductor.
10. Perform independent instrumental parts while other students play contrasting parts within the same piece of music.
11. Improvise simple melody and harmony parts.
12. Improvise simple variations on well-known melodies.
13. Improvise short songs incorporating the use of traditional and non-traditional instruments, as well as electronic instruments and sound libraries.

14. Compose music for a single instrument or small ensemble that complement readings and dramatizations.
15. Compose or arrange a short song in a specified style of music, form, and instrumentation.
16. Compose or arrange short songs incorporating the use of traditional and non-traditional instruments, as well as electronic instruments and sound libraries.
17. Use note names and/or solfege to read a musical passage in both treble and bass clefs.
18. Identify and understand conventional music terms, dynamics, tempo markings, and articulations.
19. Notate rhythm patterns using conventional music terms utilized in music method books.
20. Identify simple meter forms when presented aurally.
21. Demonstrate an understanding of musical forms of music from a variety of cultures.
22. Use correct language in describing melody and harmony, music notation, music instruments, and music presentations.
23. Identify the sounds of band and orchestra instruments / identify the male and female voice types by listening to a vocal music composition.
24. Create an applicable rubric to appraise music performances, compositions, and arrangements.
25. Utilize suitable music vocabulary to describe their favorite styles of music and music compositions.

26. Compare and contrast common terminology used in music and at least one other art.
27. Understand and explain how music relates to other academic subjects represented in the elementary and secondary curricula.
28. Identify by genre or style aural examples of music from various historical periods and cultures.
29. Describe the unique characteristics of various genres and styles of music from a variety of cultures.
30. Describe how music may influence their daily lives and describe characteristics that make specific styles of music appropriate for specific life circumstances.
31. Compare, in several cultures of the world, functions music serves, roles of musicians, and conditions under which music is typically performed.
32. Understanding the influence of musicians in various cultures and life events.

APPENDIX F – The NSME Competencies

1. Students are able to communicate at a basic level.
2. Students are able to communicate proficiently in music, including the ability to define and solve musical problems with insight, and technical proficiency.
3. Students are able to develop and present basic analysis of musical works of from a structural, historical, and cultural perspectives, and from combinations of those perspectives.
4. Students are knowledgeable of standard musical works from a variety of cultures and historical periods.
5. Students are able to relate various genres of music knowledge and skills within and across the music genres.

APPENDIX G – Results of Test of Assumptions

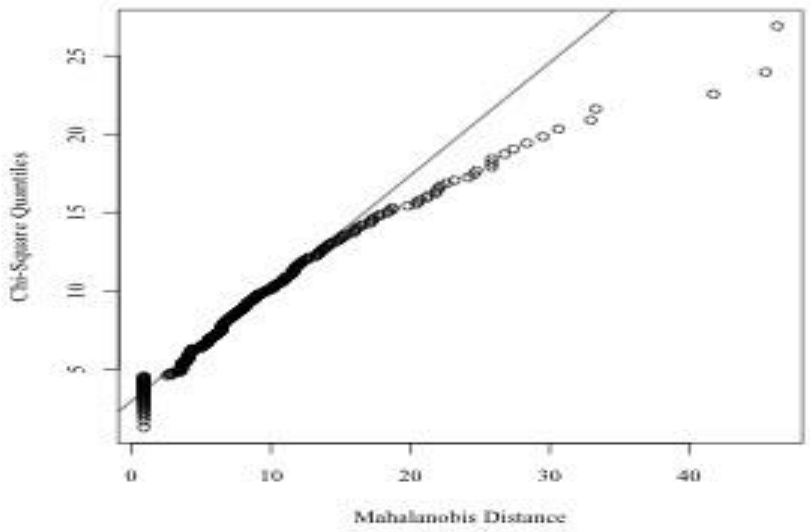

Figure A1. Mahalanobis distance scatterplot for Research Question One.

The assumption of multicollinearity is tested by analyzing multicollinearity among the dependent variables using a correlation matrix (Field, 2009). In the table below, all combinations of variables had absolute values less than .9, which suggest that the results are not likely to be significantly influenced by multicollinearity. Thus, this assumption was satisfied.

Table A1.

Correlations between Dependent Variables for Research Question One

Variable	1	2	3	4	5	6	7	8	9
1. CS1	-								
2. CS2	0.11	-							
3. CS3	0.03	0.21	-						
4. CS4	0.06	0.17	0.63	-					
5. CS5	0.10	0.30	0.09	0.21	-				
6. CS6	0.16	0.37	0.30	0.31	0.57	-			
7. CS7	0.13	0.27	0.37	0.30	0.33	0.52	-		
8. CS8	0.05	0.15	0.49	0.44	0.13	0.35	0.47	-	
9. CS9	0.16	0.28	0.48	0.47	0.23	0.46	0.48	0.61	-

The assumption of homogeneity of covariance matrices is tested using the results from Box's *M* test. For the current study, the results were significant, x^2 (45) = 141.88, $p < .001$. These results suggest that the covariance matrices for choral and instrumental music area of concentration were significantly different from each other. Thus, this assumption was not satisfied.

The researcher ran an ANOVA with the aim of identifying substantial differences between Content Standard 1 by Area of Concentration (Choral or Instrumental). The researcher addresses the assumption of normality and the assumption of homogeneity of variance. The first assumes that the participant distributions are normal, and is tested by examining the Q-Q scatterplot (Figure A2) created in the statistical analysis (DeCarlo,

1997). The latter assumes that the participant distributions have equal variances and is tested using the Levene's test (DeCarlo, 1997; Levene, 1960). For the current study, the outcome of the Levene's test was significant $F(1, 341) = 8.84$, $p = .003$. Thus, this assumption was violated.

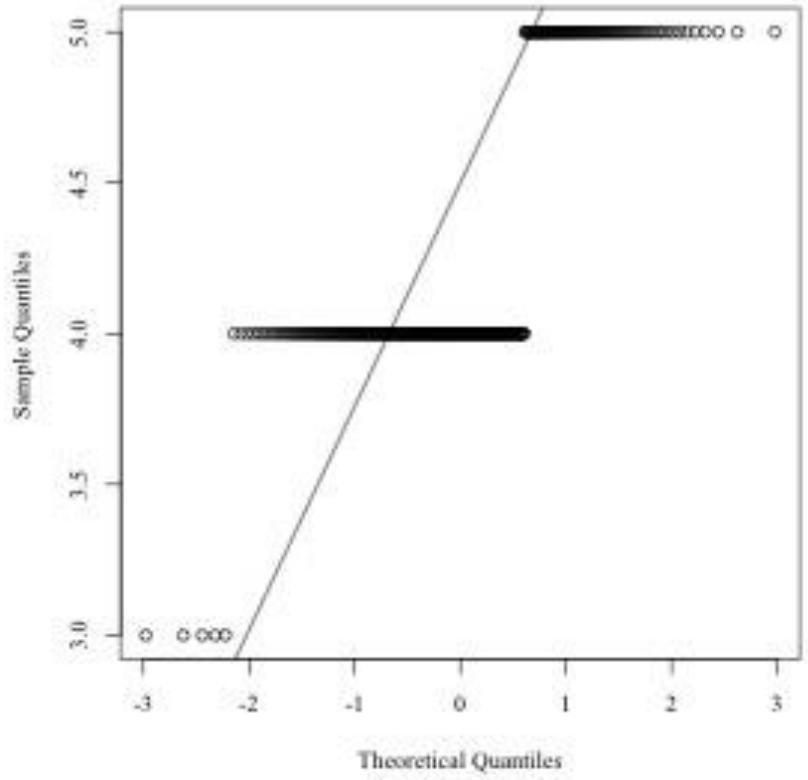

Figure A2. Q-Q scatterplot for normality for Content Standard 1.

The researcher ran an ANOVA with the aim of identifying substantial differences between Content Standard 2 by Area of Concentration (Choral or Instrumental). The researcher addresses the assumption of normality and the assumption of homogeneity of variance. The first assumes that the participant distributions are normal, and is tested by examining the Q-Q scatterplot (Figure A3) created in the statistical analysis (DeCarlo, 1997). The latter assumes that the participant distributions have equal variances and is

tested using the Levene's test (DeCarlo, 1997; Levene, 1960). For the current study, the outcome of the Levene's test was significant $F(1, 341) = 7.99$, $p = .003$. Thus, this assumption was violated.

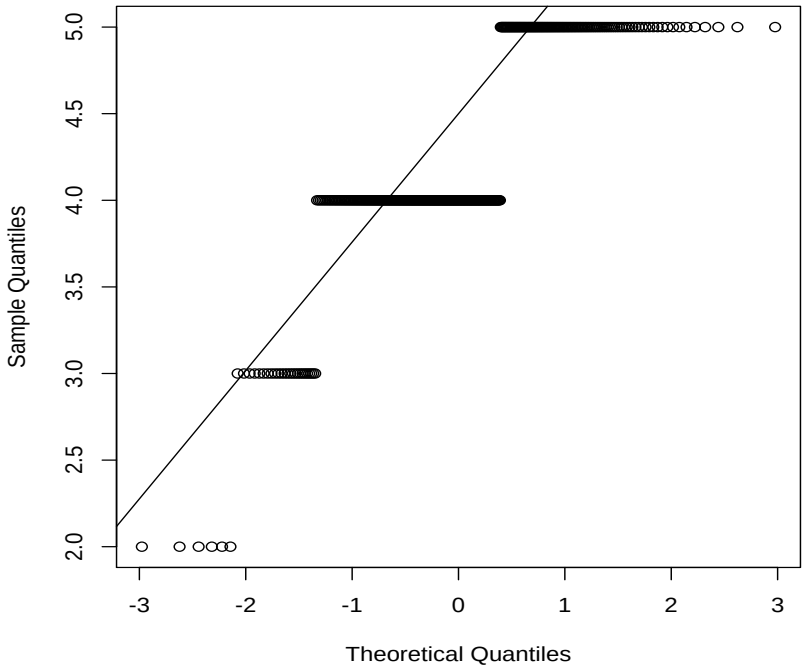

Figure A3. Q-Q scatterplot for normality for Content Standard 2.

The researcher ran an ANOVA with the aim of identifying substantial differences between Content Standard 3 by Area of Concentration (Choral or Instrumental). The researcher addresses the assumption of normality and the assumption of homogeneity of variance. The first assumes that the participant distributions are normal, and is tested by examining the Q-Q scatterplot (Figure A4) created in the statistical analysis (DeCarlo, 1997). The latter assumes that the participant distributions have equal variances and is tested using the Levene's test (DeCarlo, 1997; Levene, 1960). For the current study, the

outcome of the Levene's test was significant $F(1, 341) = 19.36$, $p < .003$. Thus, this assumption was violated.

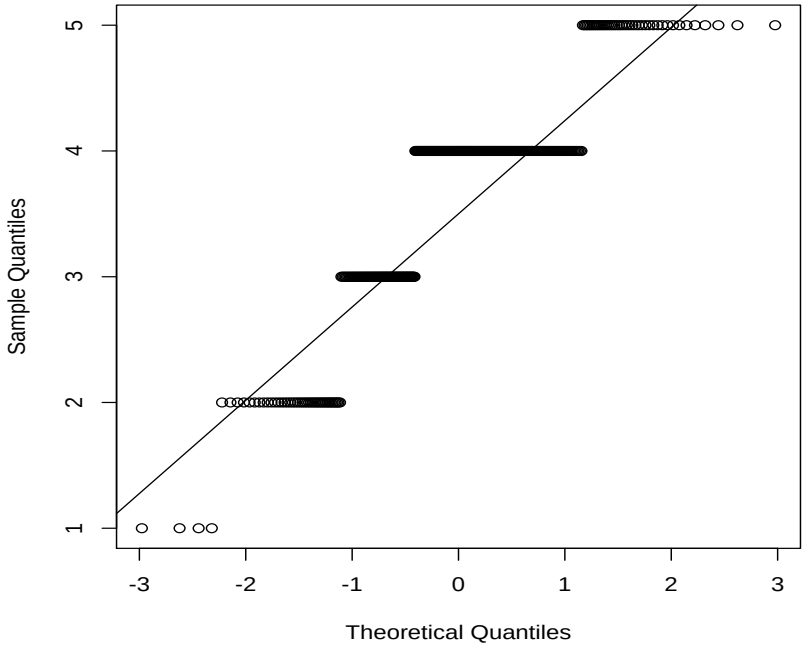

Figure A4. Q-Q scatterplot for normality for Content Standard 3.

The researcher ran an ANOVA with the aim of identifying substantial differences between Content Standard 4 by Area of Concentration. The researcher addresses the assumption of normality and the assumption of homogeneity of variance. The first assumes that the participant distributions are normal, and is tested by examining the Q-Q scatterplot (Figure A5) created in the statistical analysis (DeCarlo, 1997). The latter assumes that the participant distributions have equal variances and is tested using the Levene's test (DeCarlo, 1997; Levene, 1960). For the current study, the outcome of the Levene's test was significant $F(1, 341) = 8.08$, $p = .005$. Thus, this assumption was violated.

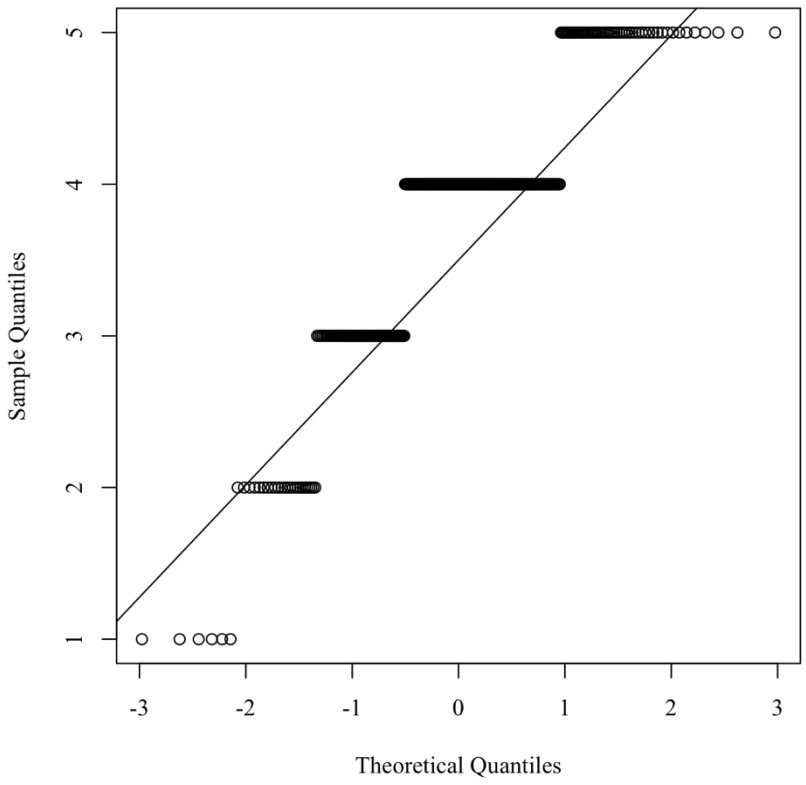

Figure A5. Q-Q scatterplot for normality for Content Standard 4.

The researcher ran an ANOVA with the aim of identifying substantial differences between Content Standard 5 by Area of Concentration. The researcher addresses the assumption of normality and the assumption of homogeneity of variance. The first assumes that the participant distributions are normal, and is tested by examining the Q-Q scatterplot (Figure A6) created in the statistical analysis (DeCarlo, 1997). The latter assumes that the participant distributions have equal variances and is tested using the Levene's test (DeCarlo, 1997; Levene, 1960). For the current study, the outcome of the Levene's test was significant $F(1, 341) = 7.41$, $p = .007$. Thus, this assumption was violated.

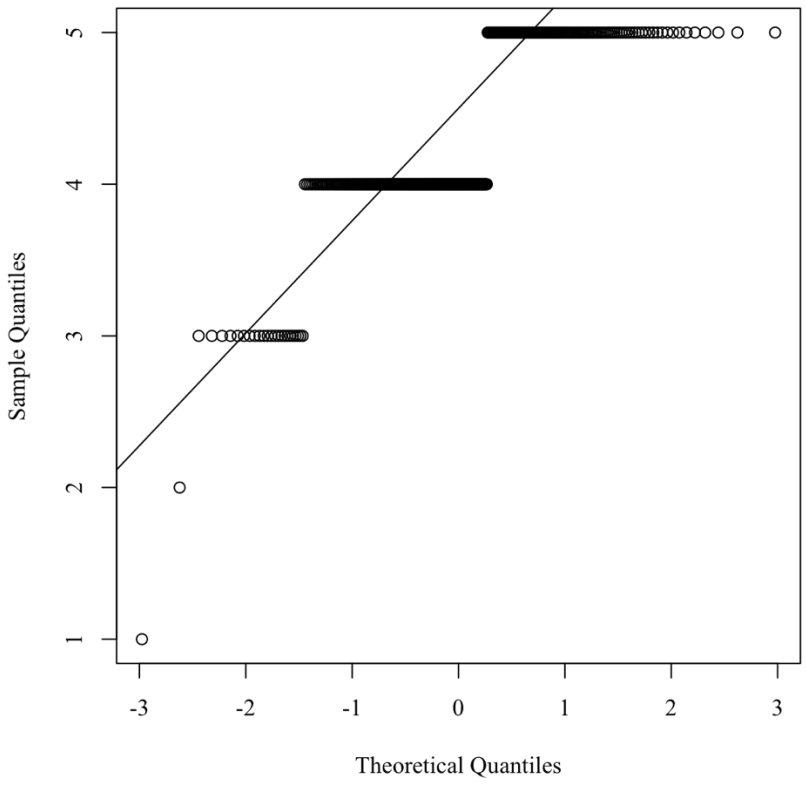

Figure A6. Q-Q scatterplot for normality for Content Standard 5.

The researcher ran an ANOVA with the aim of identifying substantial differences between Content Standard 6 by Area of Concentration. The researcher addresses the assumption of normality and the assumption of homogeneity of variance. The first assumes that the participant distributions are normal, and is tested by examining the Q-Q scatterplot (Figure A7) created in the statistical analysis (DeCarlo, 1997). The latter assumes that the participant distributions have equal variances and is tested using the Levene's test (DeCarlo, 1997; Levene, 1960). For the current study, the outcome of the Levene's test was significant $F(1, 341) = 2.91$, $p = .089$. Thus, this assumption was satisfied.

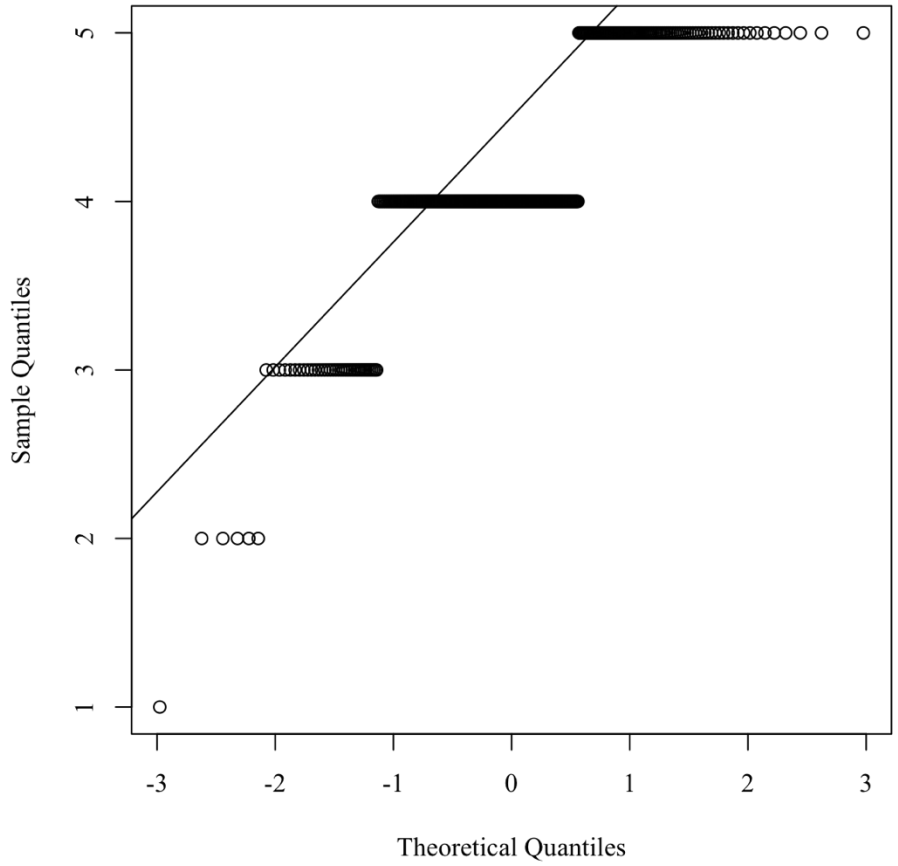

Figure A7. Q-Q scatterplot for normality for Content Standard 6.

The researcher ran an ANOVA with the aim of identifying substantial differences between Content Standard 7 by Area of Concentration. The researcher addresses the assumption of normality and the assumption of homogeneity of variance. The first assumes that the participant distributions are normal, and is tested by examining the Q-Q scatterplot (Figure A8) created in the statistical analysis (DeCarlo, 1997). The latter assumes that the participant distributions have equal variances and is tested using the Levene's test (DeCarlo, 1997; Levene, 1960). For the current study, the outcome of the

Levene's test was significant $F(1, 341) = 7.83$, $p = .005$. Thus, this assumption was violated.

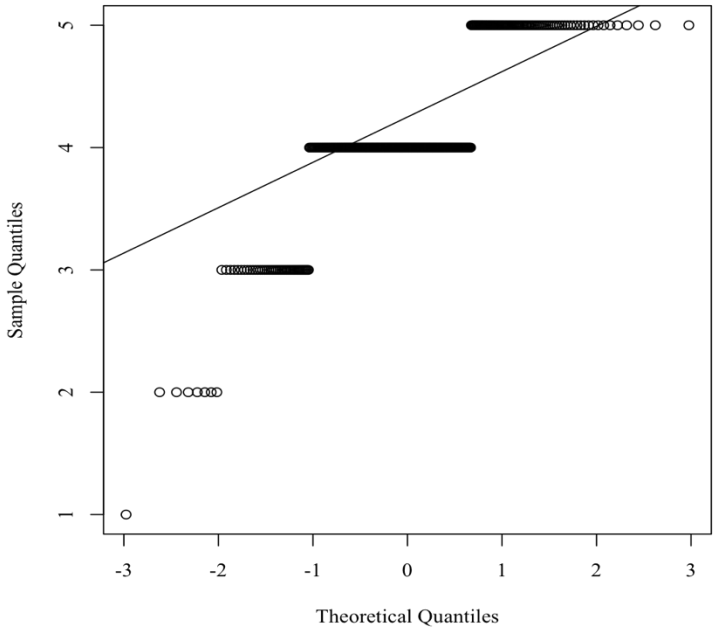

Figure A8. Q-Q scatterplot for normality for Content Standard 7.

The researcher ran an ANOVA with the aim of identifying substantial differences between Content Standard 8 by Area of Concentration. The researcher addresses the assumption of normality and the assumption of homogeneity of variance. The first assumes that the participant distributions are normal, and is tested by examining the Q-Q scatterplot (Figure A9) created in the statistical analysis (DeCarlo, 1997). The latter assumes that the participant distributions have equal variances and is tested using the Levene's test (DeCarlo, 1997; Levene, 1960). For the current study, the outcome of the Levene's test was significant $F(1, 341) = 13.13$, $p < .001$. Thus, this assumption was violated.

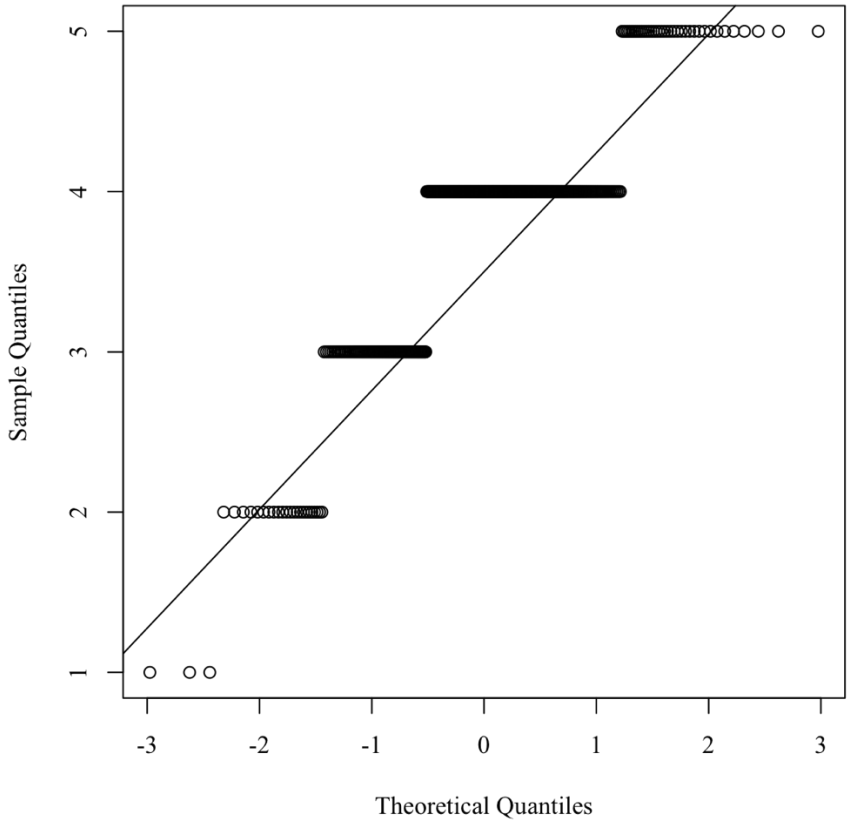

Figure A9. Q-Q scatterplot for normality for Content Standard 8.

The researcher ran an ANOVA with the aim of identifying substantial differences between Content Standard 9 by Area of Concentration. The researcher addresses the assumption of normality and the assumption of homogeneity of variance. The first assumes that the participant distributions are normal, and is tested by examining the Q-Q scatterplot (Figure A10) created in the statistical analysis (DeCarlo, 1997). The latter assumes that the participant distributions have equal variances and is tested using the Levene's test (DeCarlo, 1997; Levene, 1960). For the current study, the outcome of the Levene's test was significant $F(1, 341) = 6.54$, $p = .011$. Thus, this assumption was violated.

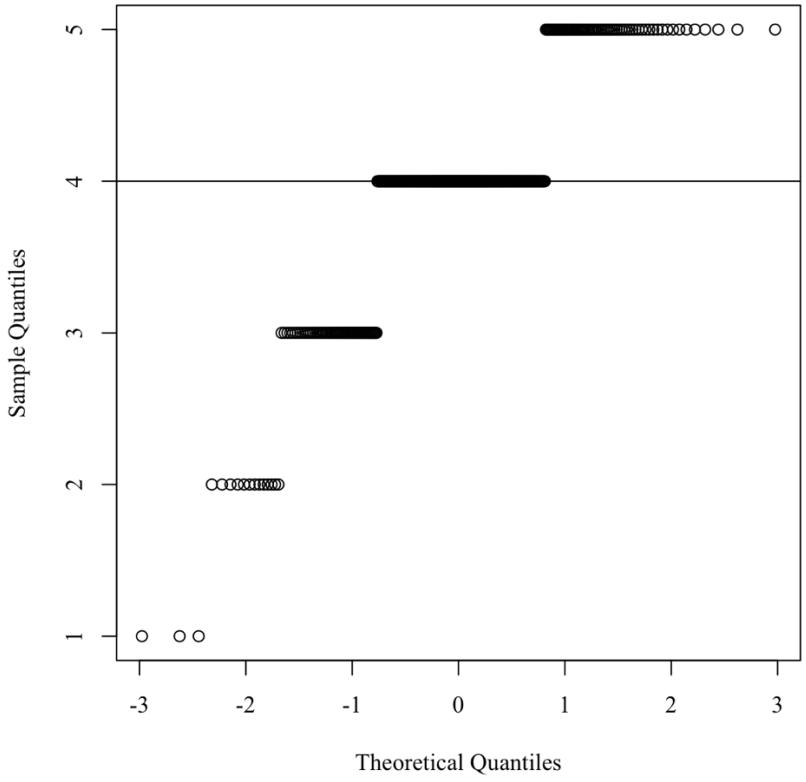

Figure A10. Q-Q scatterplot for normality for Content Standard 9.

The assumption of multivariate normality is tested by determining Mahalanobis' distances compared with the quantiles of a Chi-square distribution (Field, 2009; Intellectus Statistics, 2017). Field (2009) states that the assumption is true if the data points create a relatively straight line. The figure below suggest that this assumption is satisfied.

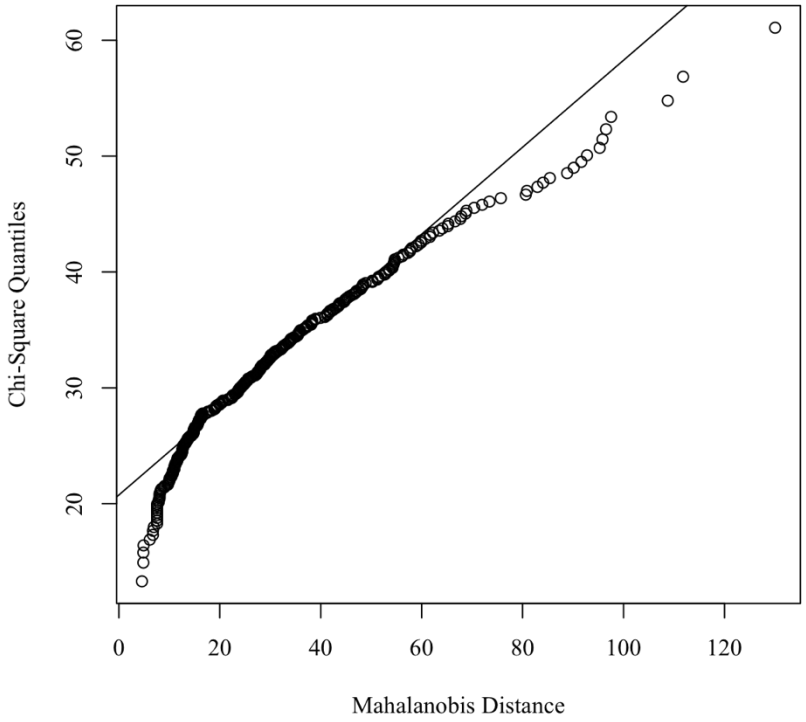

Figure A11. Mahalanobis distance scatterplot for Research Question Two.

To test multicollinearity between the dependent variables, the researcher ran a correlation matrix. The combinations of Achievement Standard 28 and Achievement Standard 29 contained correlations that were greater than .9, which suggest that there are singularities between these two dependent variables. Intellectus Statistics (2017) describes singularities as having two or more variables that are almost identical. According to Intellectus Statistics (2017), biased analysis results may occur when correlations less than -.9 and greater than .9 are present.

The researcher used Box's *M* test to test the assumption of homogeneity of covariance matrices. The results were significant, $\chi^2(528) = 1087.27$, $p < .001$, showing

that the covariance matrices for Choral Music and Instrumental Music were significantly different from each other. Thus, this assumption was not satisfied.

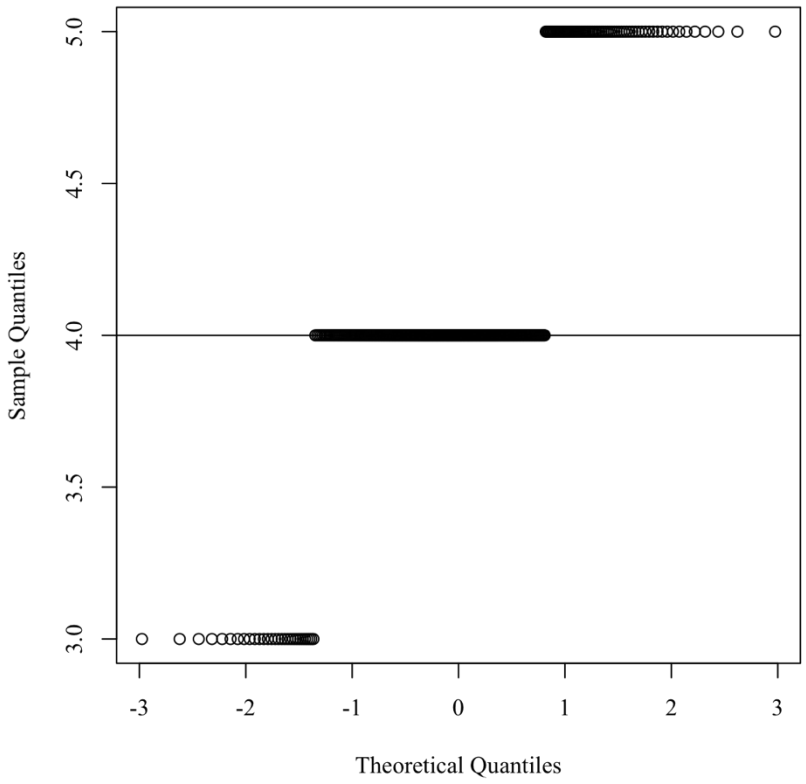

Figure A12. Q-Q scatterplot for normality for Achievement Standard 1.

The researcher ran an ANOVA with the aim of identifying substantial differences between Achievement Standard 2 by Area of Concentration. The researcher addressed the assumption of normality and the assumption of homogeneity of variance. The first assumes that the participant distributions are normal, and is tested by examining the Q-Q scatterplot (Figure A13) created in the statistical analysis (DeCarlo, 1997). The latter assumes that the participant distributions have equal variances and is tested using the Levene's test (DeCarlo, 1997; Levene, 1960). For the current study, the outcome of the

Levene's test was significant $F(1, 341) = 1.07$, $p = .302$. Thus, this assumption was satisfied.

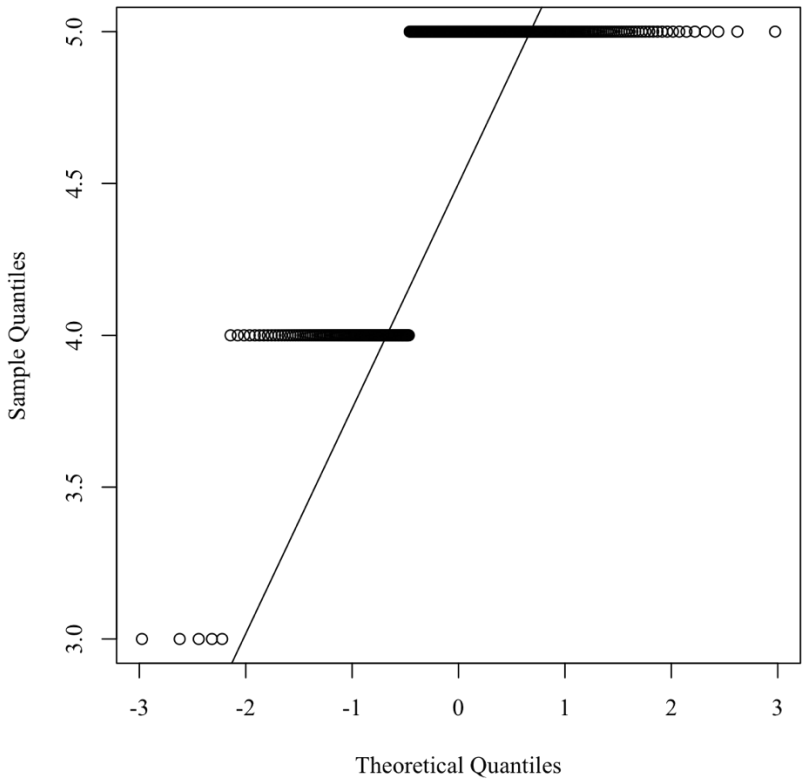

Figure A13. Q-Q scatterplot for normality for Achievement Standard 2.

The researcher ran an ANOVA with the aim of identifying substantial differences between Achievement Standard 3 by Area of Concentration. The researcher addressed the assumption of normality and the assumption of homogeneity of variance. The first assumes that the participant distributions are normal, and is tested by examining the Q-Q scatterplot (Figure A14) created in the statistical analysis (DeCarlo, 1997). The latter assumes that the participant distributions have equal variances and is tested using the Levene's test (DeCarlo, 1997; Levene, 1960). For the current study, the outcome of the

Levene's test was significant $F(1, 341) = 1.73$, $p = .190$. Thus, this assumption was satisfied.

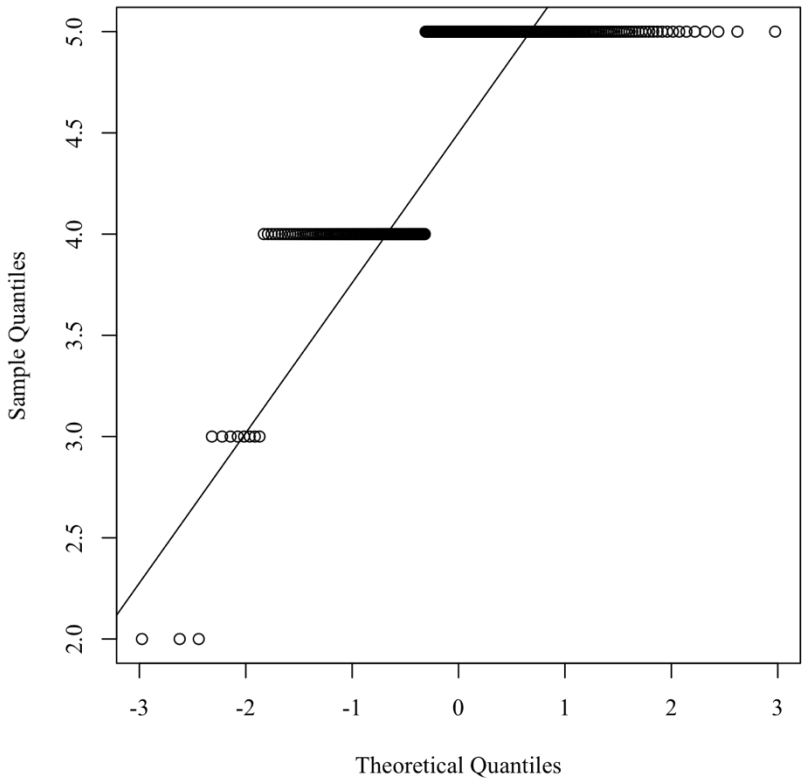

Figure A14. Q-Q scatterplot for normality for Achievement Standard 3.

The researcher ran an ANOVA with the aim of identifying substantial differences between Achievement Standard 4 by Area of Concentration. The researcher addressed the assumption of normality and the assumption of homogeneity of variance. The first assumes that the participant distributions are normal, and is tested by examining the Q-Q scatterplot (Figure A15) created in the statistical analysis (DeCarlo, 1997). The latter assumes that the participant distributions have equal variances and is tested using the Levene's test (DeCarlo, 1997; Levene, 1960). For the current study, the outcome of the

Levene's test was significant $F(1, 341) = 3.72$, $p = .055$. Thus, this assumption was satisfied.

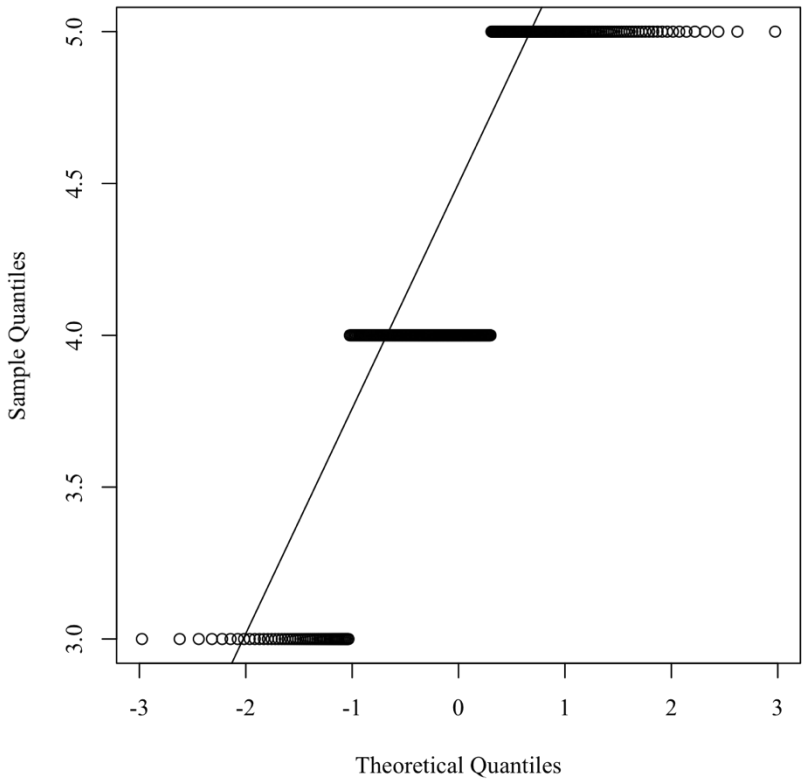

Figure A15. Q-Q scatterplot for normality for Achievement Standard 4.

The researcher ran an ANOVA with the aim of identifying substantial differences between Achievement Standard 5 by Area of Concentration. The researcher addressed the assumption of normality and the assumption of homogeneity of variance. The first assumes that the participant distributions are normal, and is tested by examining the Q-Q scatterplot (Figure A16) created in the statistical analysis (DeCarlo, 1997). The latter assumes that the participant distributions have equal variances and is tested using the Levene's test (DeCarlo, 1997; Levene, 1960). For the current study, the outcome of the

Levene's test was significant $F(1, 341) = 10.53$, $p = .001$. Thus, this assumption was violated.

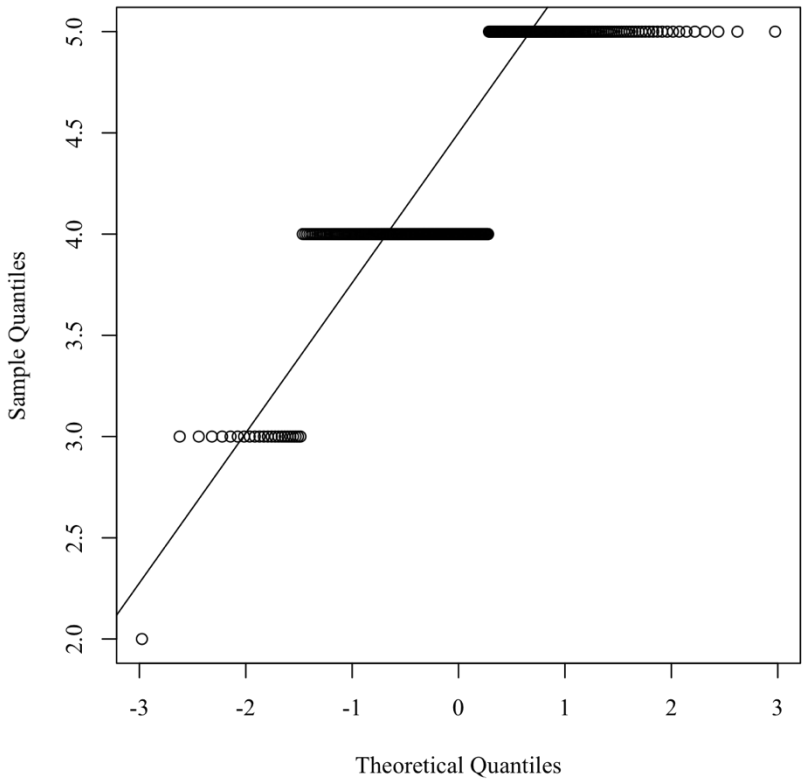

Figure A16. Q-Q scatterplot for normality for Achievement Standard 5.

The researcher ran an ANOVA with the aim of identifying substantial differences between Achievement Standard 6 by Area of Concentration. The researcher addressed the assumption of normality and the assumption of homogeneity of variance. The first assumes that the participant distributions are normal, and is tested by examining the Q-Q scatterplot (Figure A17) created in the statistical analysis (DeCarlo, 1997). The latter assumes that the participant distributions have equal variances and is tested using the Levene's test (DeCarlo, 1997; Levene, 1960). For the current study, the outcome of the

Levene's test was significant $F(1, 341) = 10.34$, $p = .001$. Thus, this assumption was violated.

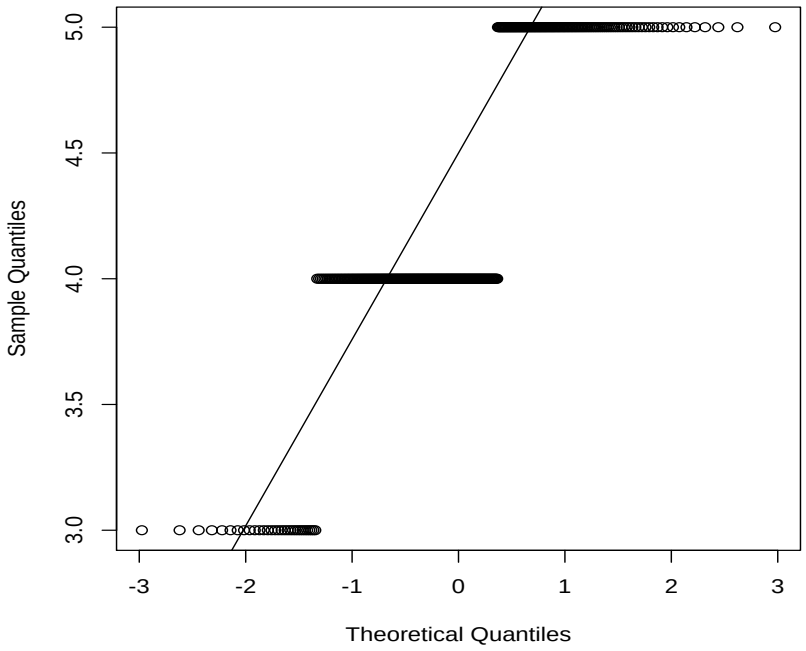

Figure A17. Q-Q scatterplot for normality for Achievement Standard 6.

The researcher ran an ANOVA with the aim of identifying substantial differences between Achievement Standard 7 by Area of Concentration. The researcher addressed the assumption of normality and the assumption of homogeneity of variance. The first assumes that the participant distributions are normal, and is tested by examining the Q-Q scatterplot (Figure A18) created in the statistical analysis (DeCarlo, 1997). The latter assumes that the participant distributions have equal variances and is tested using the Levene's test (DeCarlo, 1997; Levene, 1960). For the current study, the outcome of the Levene's test was significant $F(1, 341) = 2.90$, $p = .089$. Thus, this assumption was satisfied.

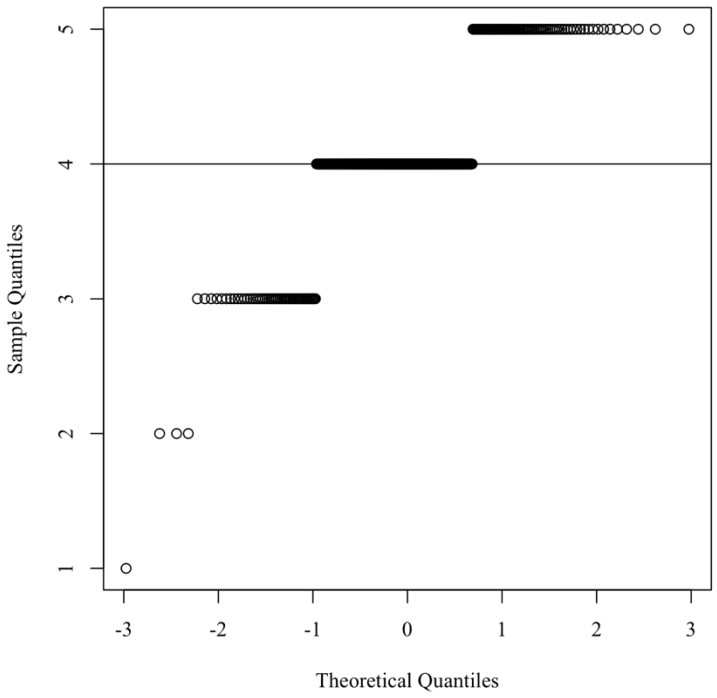

Figure A18. Q-Q scatterplot for normality for Achievement Standard 7.

The researcher ran an ANOVA with the aim of identifying substantial differences between Achievement Standard 8 by Area of Concentration. The researcher addressed the assumption of normality and the assumption of homogeneity of variance. The first assumes that the participant distributions are normal, and is tested by examining the Q-Q scatterplot (Figure A19) created in the statistical analysis (DeCarlo, 1997). The latter assumes that the participant distributions have equal variances and is tested using the Levene's test (DeCarlo, 1997; Levene, 1960). For the current study, the outcome of the Levene's test was significant $F(1, 341) = 6.58$, $p = .011$. Thus, this assumption was violated.

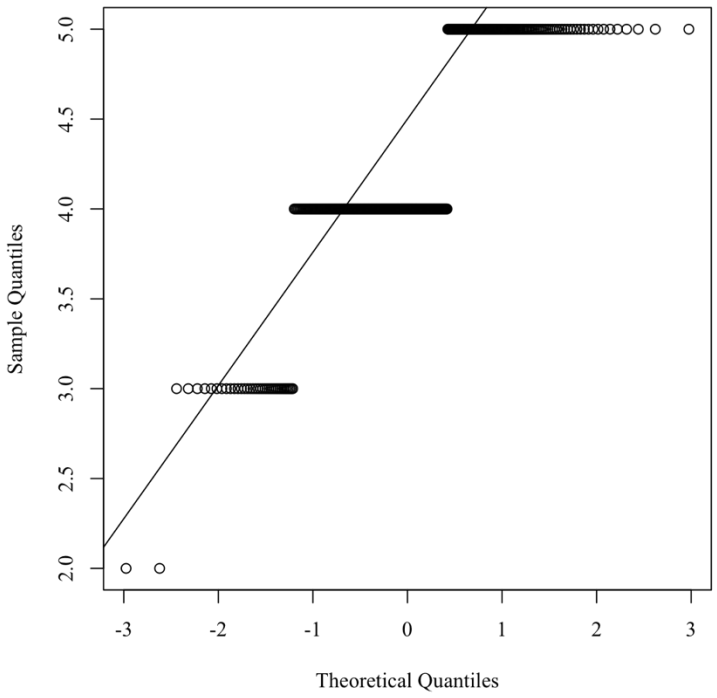

Figure A19. Q-Q scatterplot for normality for Achievement Standard 8.

The researcher ran an ANOVA with the aim of identifying substantial differences between Achievement Standard 9 by Area of Concentration. The researcher addressed the assumption of normality and the assumption of homogeneity of variance. The first assumes that the participant distributions are normal, and is tested by examining the Q-Q scatterplot (Figure A20) created in the statistical analysis (DeCarlo, 1997). The latter assumes that the participant distributions have equal variances and is tested using the Levene's test (DeCarlo, 1997; Levene, 1960). For the current study, the outcome of the Levene's test was significant $F(1, 341) = 4.69$, $p = .031$. Thus, this assumption was violated.

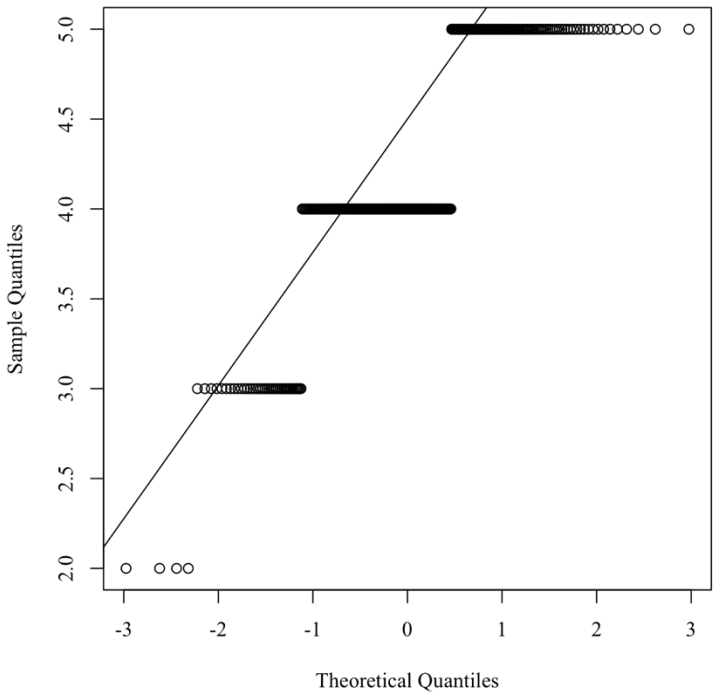

Figure A20. Q-Q scatterplot for normality for Achievement Standard 9.

The researcher ran an ANOVA with the aim of identifying substantial differences between Achievement Standard 10 by Area of Concentration. The researcher addressed the assumption of normality and the assumption of homogeneity of variance. The first assumes that the participant distributions are normal, and is tested by examining the Q-Q scatterplot (Figure A21) created in the statistical analysis (DeCarlo, 1997). The latter assumes that the participant distributions have equal variances and is tested using the Levene's test (DeCarlo, 1997; Levene, 1960). For the current study, the outcome of the Levene's test was significant $F(1, 341) = 4.69$, $p = .031$. Thus, this assumption was violated.

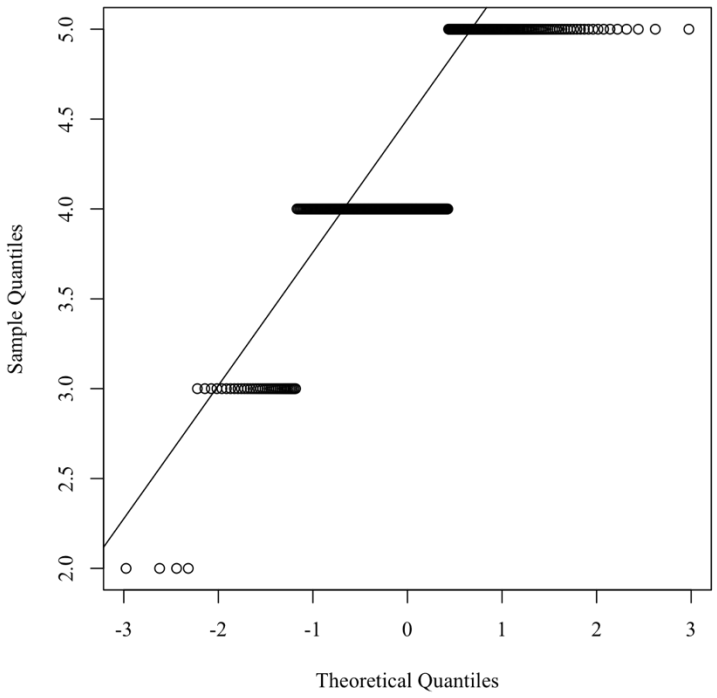

Figure A21. Q-Q scatterplot for normality for Achievement Standard 10.

The researcher ran an ANOVA with the aim of identifying substantial differences between Achievement Standard 11 by Area of Concentration. The researcher addressed the assumption of normality and the assumption of homogeneity of variance. The first assumes that the participant distributions are normal, and is tested by examining the Q-Q scatterplot (Figure A22) created in the statistical analysis (DeCarlo, 1997). The latter assumes that the participant distributions have equal variances and is tested using the Levene's test (DeCarlo, 1997; Levene, 1960). For the current study, the outcome of the Levene's test was significant $F(1, 341) = 0.18$, $p = .668$. Thus, this assumption was satisfied.

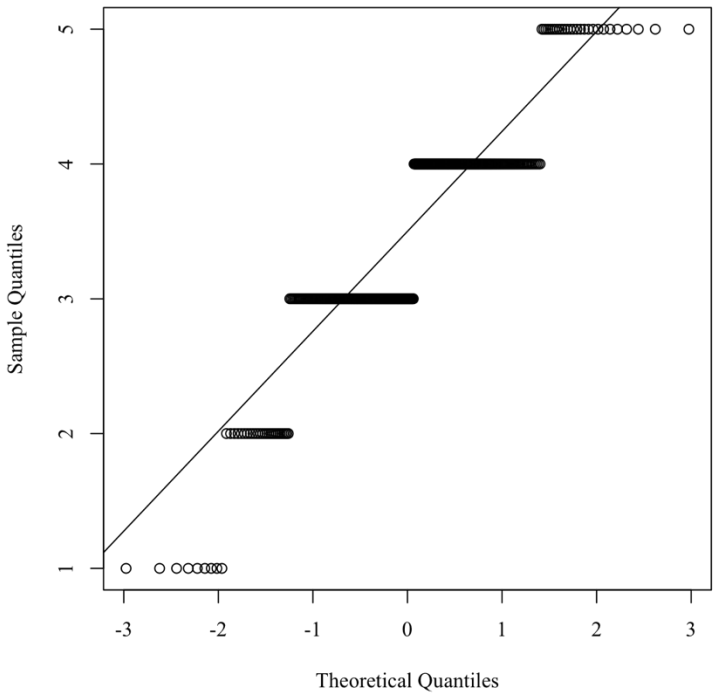

Figure A22. Q-Q scatterplot for normality for Achievement Standard 11.

The researcher ran an ANOVA with the aim of identifying substantial differences between Achievement Standard 12 by Area of Concentration. The researcher addressed the assumption of normality and the assumption of homogeneity of variance. The first assumes that the participant distributions are normal, and is tested by examining the Q-Q scatterplot (Figure A23) created in the statistical analysis (DeCarlo, 1997). The latter assumes that the participant distributions have equal variances and is tested using the Levene's test (DeCarlo, 1997; Levene, 1960). For the current study, the outcome of the Levene's test was significant $F(1, 341) = 0.24$, $p = .626$. Thus, this assumption was satisfied.

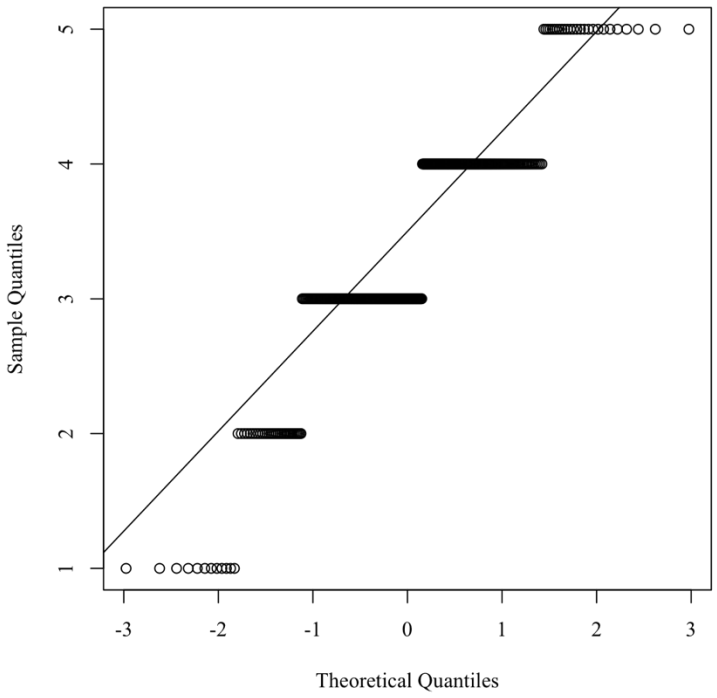

Figure A23. Q-Q scatterplot for normality for Achievement Standard 12.

The researcher ran an ANOVA with the aim of identifying substantial differences between Achievement Standard 13 by Area of Concentration. The researcher addressed the assumption of normality and the assumption of homogeneity of variance. The first assumes that the participant distributions are normal, and is tested by examining the Q-Q scatterplot (Figure A24) created in the statistical analysis (DeCarlo, 1997). The latter assumes that the participant distributions have equal variances and is tested using the Levene's test (DeCarlo, 1997; Levene, 1960). For the current study, the outcome of the Levene's test was significant $F(1, 341) = 0.11$, $p = .741$. Thus, this assumption was satisfied.

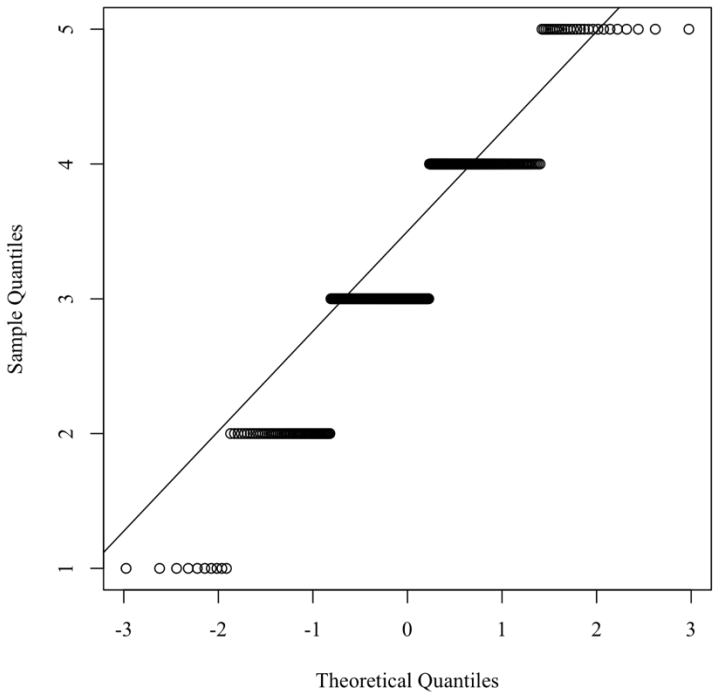

Figure A24. Q-Q scatterplot for normality for Achievement Standard 13.

The researcher ran an ANOVA with the aim of identifying substantial differences between Achievement Standard 14 by Area of Concentration. The researcher addressed the assumption of normality and the assumption of homogeneity of variance. The first assumes that the participant distributions are normal, and is tested by examining the Q-Q scatterplot (Figure A25) created in the statistical analysis (DeCarlo, 1997). The latter assumes that the participant distributions have equal variances and is tested using the Levene's test (DeCarlo, 1997; Levene, 1960). For the current study, the outcome of the Levene's test was significant $F(1, 341) = 1.16$, $p = .283$. Thus, this assumption was satisfied.

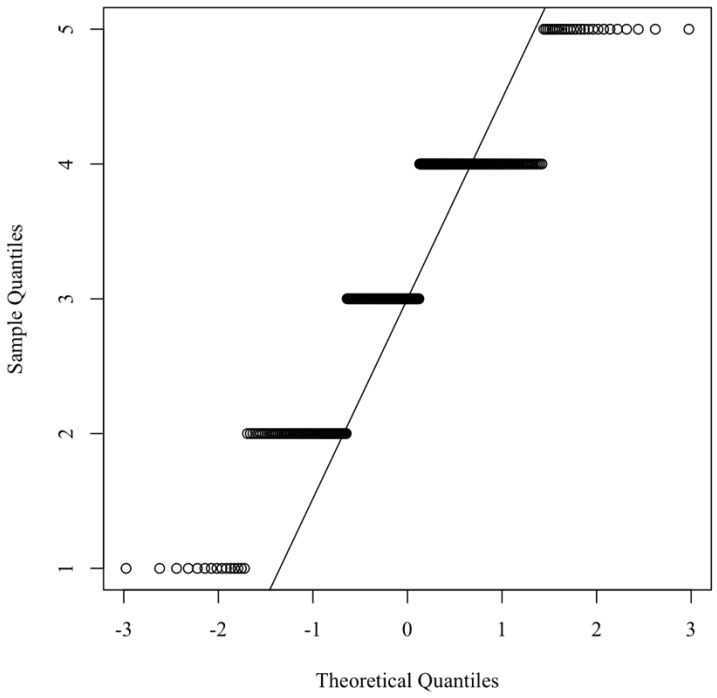

Figure A25. Q-Q scatterplot for normality for Achievement Standard 14.

The researcher ran an ANOVA with the aim of identifying substantial differences between Achievement Standard 15 by Area of Concentration. The researcher addressed the assumption of normality and the assumption of homogeneity of variance. The first assumes that the participant distributions are normal, and is tested by examining the Q-Q scatterplot (Figure A26) created in the statistical analysis (DeCarlo, 1997). The latter assumes that the participant distributions have equal variances and is tested using the Levene's test (DeCarlo, 1997; Levene, 1960). For the current study, the outcome of the Levene's test was significant $F(1, 341) = 0.10$, $p = .753$. Thus, this assumption was satisfied.

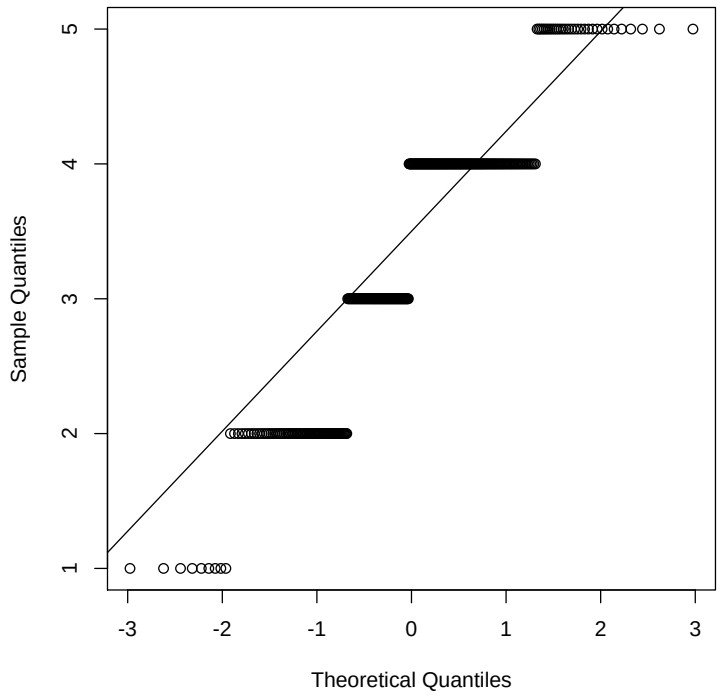

Figure A26. Q-Q scatterplot for normality for Achievement Standard 15.

The researcher ran an ANOVA with the aim of identifying substantial differences between Achievement Standard 16 by Area of Concentration. The researcher addressed the assumption of normality and the assumption of homogeneity of variance. The first assumes that the participant distributions are normal, and is tested by examining the Q-Q scatterplot (Figure A27) created in the statistical analysis (DeCarlo, 1997). The latter assumes that the participant distributions have equal variances and is tested using the Levene's test (DeCarlo, 1997; Levene, 1960). For the current study, the outcome of the Levene's test was significant $F(1, 341) = 0.64$, $p < .423$. Thus, this assumption was satisfied.

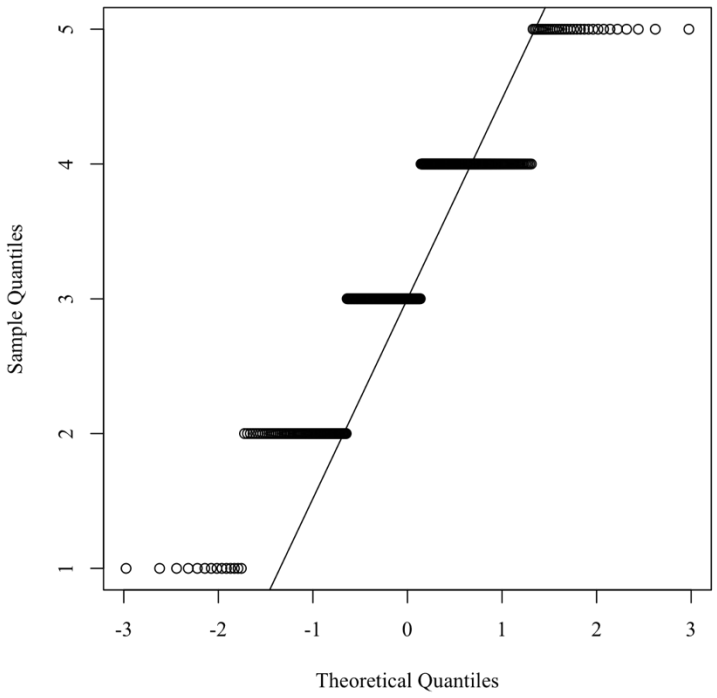

Figure A27. Q-Q scatterplot for normality for Achievement Standard 16.

The researcher ran an ANOVA with the aim of identifying substantial differences between Achievement Standard 17 by Area of Concentration. The researcher addressed the assumption of normality and the assumption of homogeneity of variance. The first assumes that the participant distributions are normal, and is tested by examining the Q-Q scatterplot (Figure A22) created in the statistical analysis (DeCarlo, 1997). The latter assumes that the participant distributions have equal variances and is tested using the Levene's test (DeCarlo, 1997; Levene, 1960). For the current study, the outcome of the Levene's test was significant $F(1, 341) = 1.06$, $p = .305$. Thus, this assumption was satisfied.

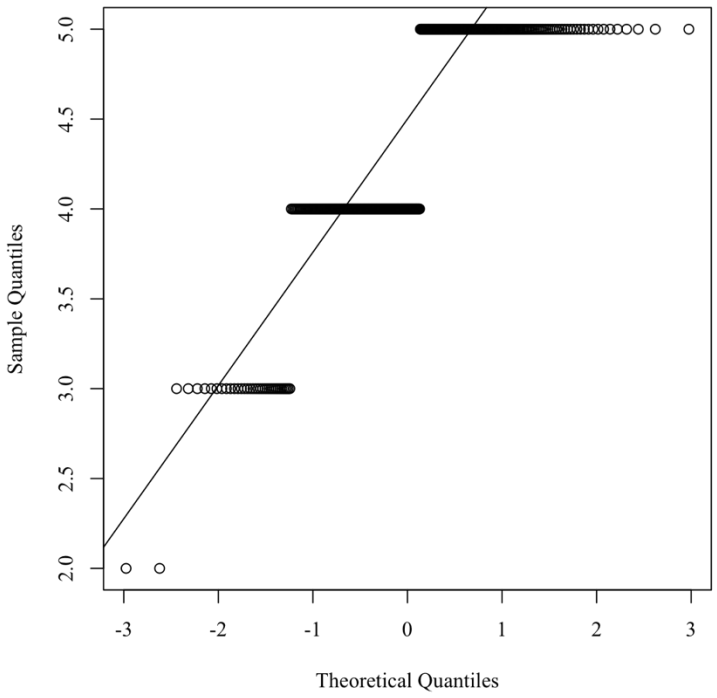

Figure A28. Q-Q scatterplot for normality for Achievement Standard 17.

The researcher ran an ANOVA with the aim of identifying substantial differences between Achievement Standard 18 by Area of Concentration. The researcher addressed the assumption of normality and the assumption of homogeneity of variance. The first assumes that the participant distributions are normal, and is tested by examining the Q-Q scatterplot (Figure A29) created in the statistical analysis (DeCarlo, 1997). The latter assumes that the participant distributions have equal variances and is tested using the Levene's test (DeCarlo, 1997; Levene, 1960). For the current study, the outcome of the Levene's test was significant $F(1, 341) = 2.70$, $p = .101$. Thus, this assumption was satisfied.

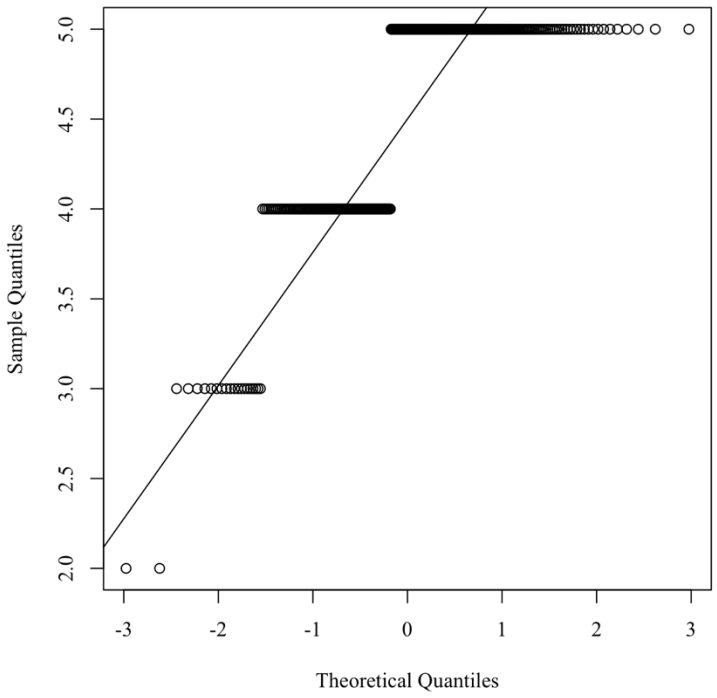

Figure A29. Q-Q scatterplot for normality for Achievement Standard 18.

The researcher ran an ANOVA with the aim of identifying substantial differences between Achievement Standard 19 by Area of Concentration. The researcher addressed the assumption of normality and the assumption of homogeneity of variance. The first assumes that the participant distributions are normal, and is tested by examining the Q-Q scatterplot (Figure 30) created in the statistical analysis (DeCarlo, 1997). The latter assumes that the participant distributions have equal variances and is tested using the Levene's test (DeCarlo, 1997; Levene, 1960). For the current study, the outcome of the Levene's test was significant $F(1, 341) = 8.13$, $p = .005$. Thus, this assumption was violated.

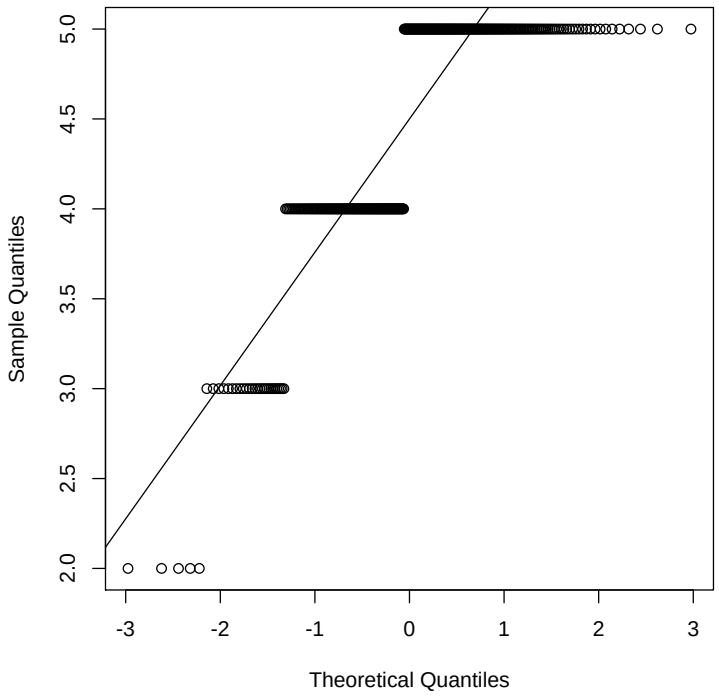

Figure A30. Q-Q scatterplot for normality for Achievement Standard 19.

The researcher ran an ANOVA with the aim of identifying substantial differences between Achievement Standard 20 by Area of Concentration. The researcher addressed the assumption of normality and the assumption of homogeneity of variance. The first assumes that the participant distributions are normal, and is tested by examining the Q-Q scatterplot (Figure A31) created in the statistical analysis (DeCarlo, 1997). The latter assumes that the participant distributions have equal variances and is tested using the Levene's test (DeCarlo, 1997; Levene, 1960). For the current study, the outcome of the Levene's test was significant $F(1, 341) = 7.36$, $p = .007$. Thus, this assumption was violated.

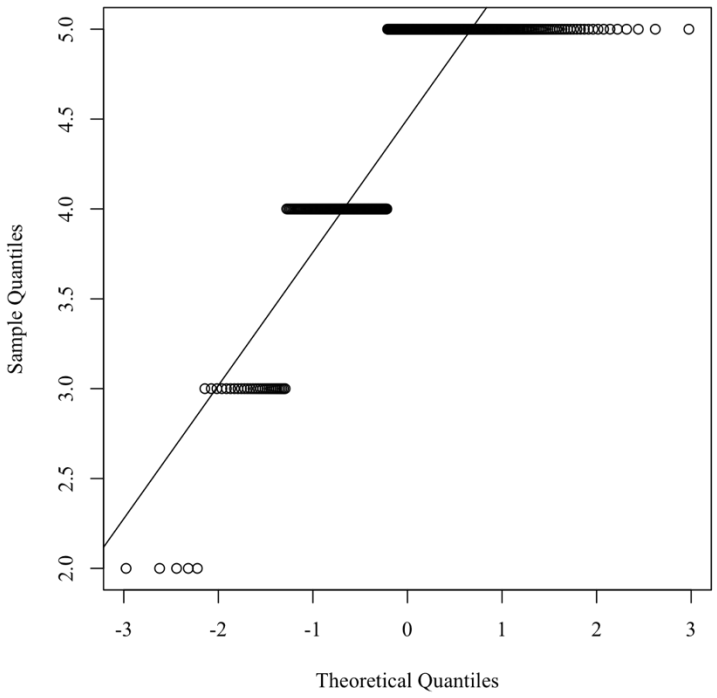

Figure A31. Q-Q scatterplot for normality for Achievement Standard 20.

The researcher ran an ANOVA with the aim of identifying substantial differences between Achievement Standard 21 by Area of Concentration. The researcher addressed the assumption of normality and the assumption of homogeneity of variance. The first assumes that the participant distributions are normal, and is tested by examining the Q-Q scatterplot (Figure A32) created in the statistical analysis (DeCarlo, 1997). The latter assumes that the participant distributions have equal variances and is tested using the Levene's test (DeCarlo, 1997; Levene, 1960). For the current study, the outcome of the Levene's test was significant $F(1, 341) = 5.33$, $p = .022$. Thus, this assumption was violated.

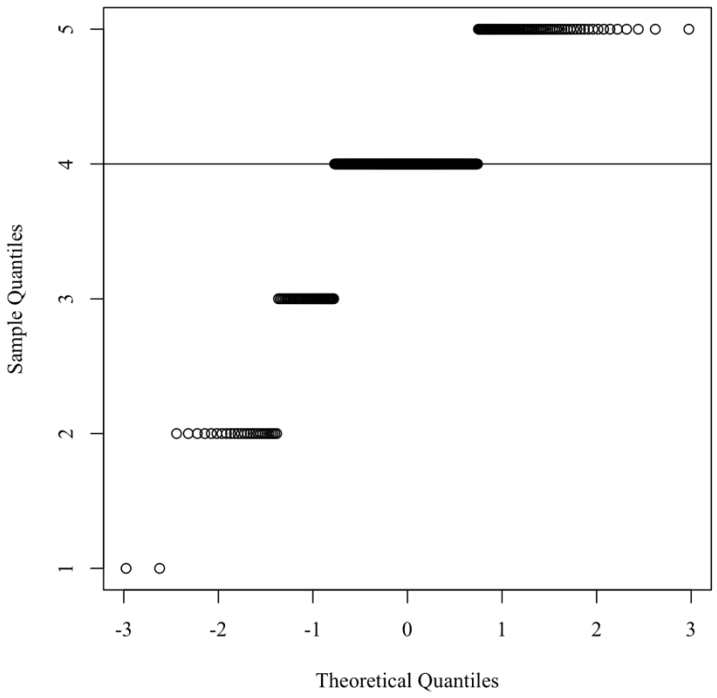

Figure A32. Q-Q scatterplot for normality for Achievement Standard 21.

The researcher ran an ANOVA with the aim of identifying substantial differences between Achievement Standard 22 by Area of Concentration. The researcher addressed the assumption of normality and the assumption of homogeneity of variance. The first assumes that the participant distributions are normal, and is tested by examining the Q-Q scatterplot (Figure A33) created in the statistical analysis (DeCarlo, 1997). The latter assumes that the participant distributions have equal variances and is tested using the Levene's test (DeCarlo, 1997; Levene, 1960). For the current study, the outcome of the Levene's test was significant $F(1, 341) = 2.69$, $p = .102$. Thus, this assumption was satisfied.

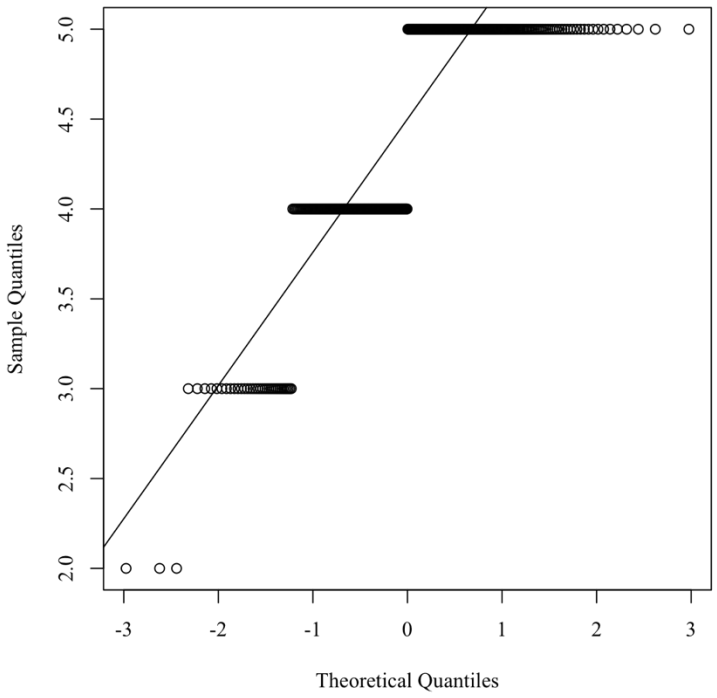

Figure A33. Q-Q scatterplot for normality for Achievement Standard 22.

The researcher ran an ANOVA with the aim of identifying substantial differences between Achievement Standard 23 by Area of Concentration. The researcher addressed the assumption of normality and the assumption of homogeneity of variance. The first assumes that the participant distributions are normal, and is tested by examining the Q-Q scatterplot (Figure A34) created in the statistical analysis (DeCarlo, 1997). The latter assumes that the participant distributions have equal variances and is tested using the Levene's test (DeCarlo, 1997; Levene, 1960). For the current study, the outcome of the Levene's test was significant $F(1, 341) = 5.09$, $p = .025$. Thus, this assumption was violated.

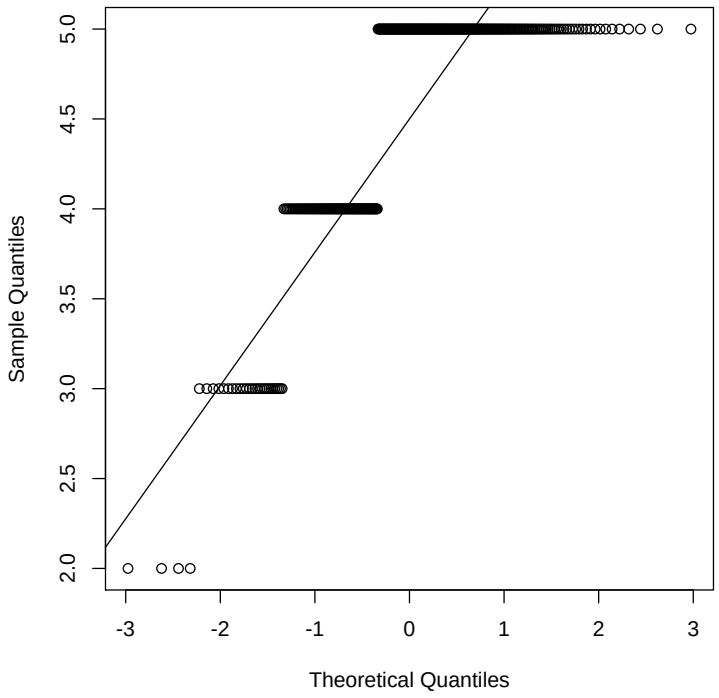

Figure A34. Q-Q scatterplot for normality for Achievement Standard 23.

The researcher ran an ANOVA with the aim of identifying substantial differences between Achievement Standard 24 by Area of Concentration. The researcher addressed the assumption of normality and the assumption of homogeneity of variance. The first assumes that the participant distributions are normal, and is tested by examining the Q-Q scatterplot (Figure A35) created in the statistical analysis (DeCarlo, 1997). The latter assumes that the participant distributions have equal variances and is tested using the Levene's test (DeCarlo, 1997; Levene, 1960). For the current study, the outcome of the Levene's test was significant $F(1, 341) = 1.81$, $p = .180$. Thus, this assumption was satisfied.

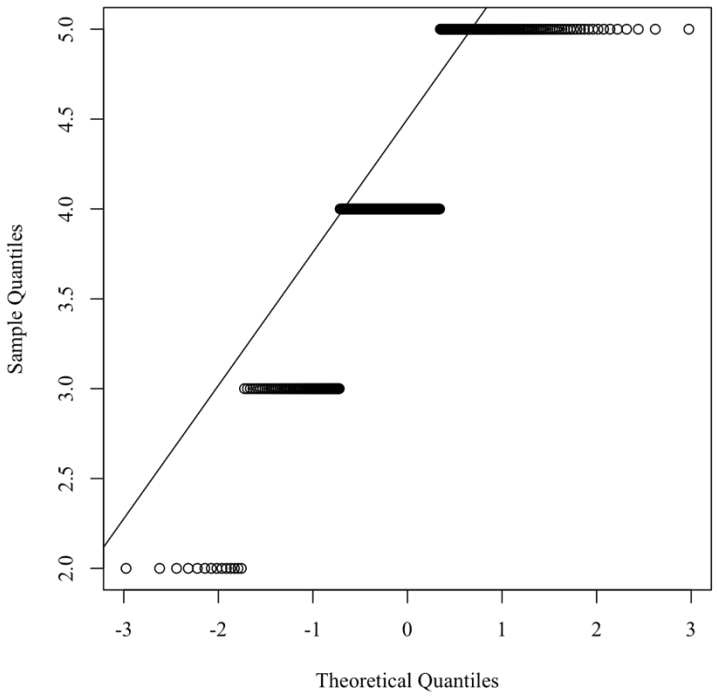

Figure A35. Q-Q scatterplot for normality for Achievement Standard 24.

The researcher ran an ANOVA with the aim of identifying substantial differences between Achievement Standard 25 by Area of Concentration. The researcher addressed the assumption of normality and the assumption of homogeneity of variance. The first assumes that the participant distributions are normal, and is tested by examining the Q-Q scatterplot (Figure A36) created in the statistical analysis (DeCarlo, 1997). The latter assumes that the participant distributions have equal variances and is tested using the Levene's test (DeCarlo, 1997; Levene, 1960). For the current study, the outcome of the Levene's test was significant $F(1, 341) = 1.82$, $p = .178$. Thus, this assumption was satisfied.

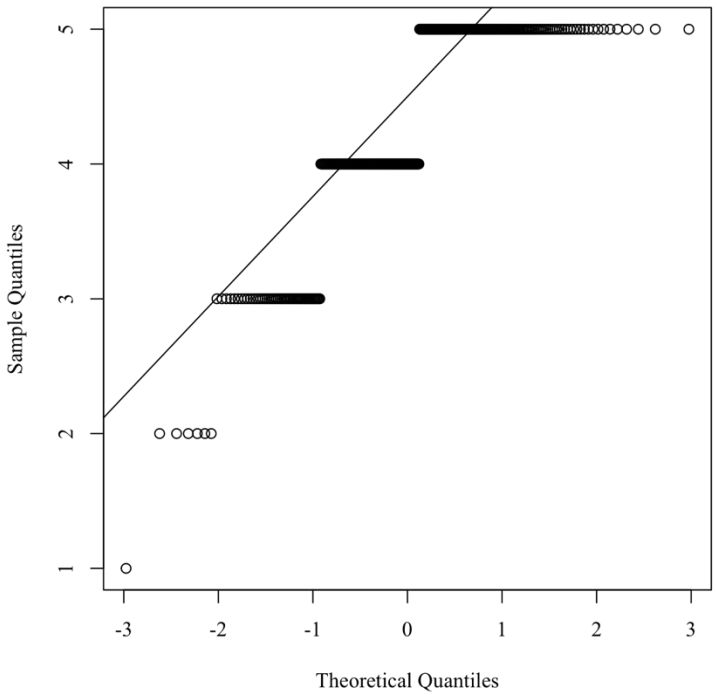

Figure A36. Q-Q scatterplot for normality for Achievement Standard 25.

The researcher ran an ANOVA with the aim of identifying substantial differences between Achievement Standard 26 by Area of Concentration. The researcher addressed the assumption of normality and the assumption of homogeneity of variance. The first assumes that the participant distributions are normal, and is tested by examining the Q-Q scatterplot (Figure A37) created in the statistical analysis (DeCarlo, 1997). The latter assumes that the participant distributions have equal variances and is tested using the Levene's test (DeCarlo, 1997; Levene, 1960). For the current study, the outcome of the Levene's test was significant $F(1, 341) = 4.26$, $p = .040$. Thus, this assumption was violated.

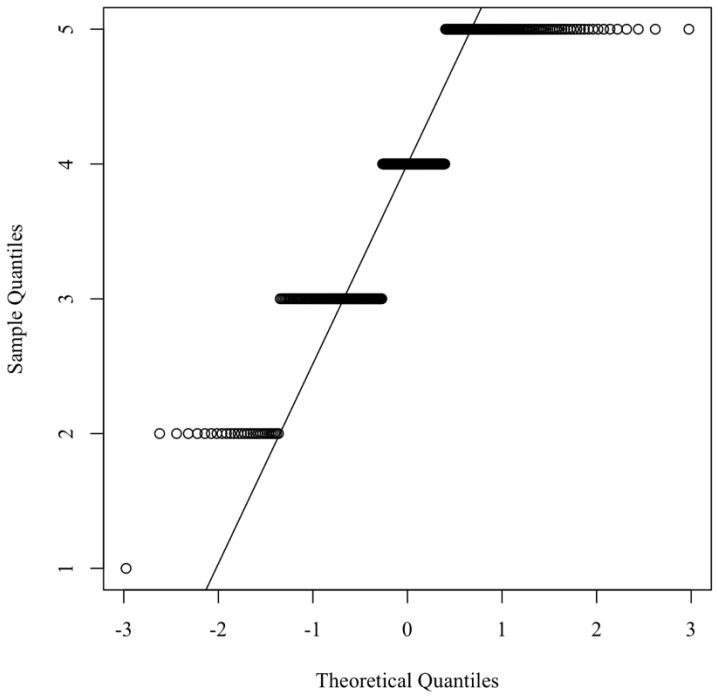

Figure A37. Q-Q scatterplot for normality for Achievement Standard 26.

The researcher ran an ANOVA with the aim of identifying substantial differences between Achievement Standard 27 by Area of Concentration. The researcher addressed the assumption of normality and the assumption of homogeneity of variance. The first assumes that the participant distributions are normal, and is tested by examining the Q-Q scatterplot (Figure A38) created in the statistical analysis (DeCarlo, 1997). The latter assumes that the participant distributions have equal variances and is tested using the Levene's test (DeCarlo, 1997; Levene, 1960). For the current study, the outcome of the Levene's test was significant $F(1, 341) = 1.73$, $p = .190$. Thus, this assumption was satisfied.

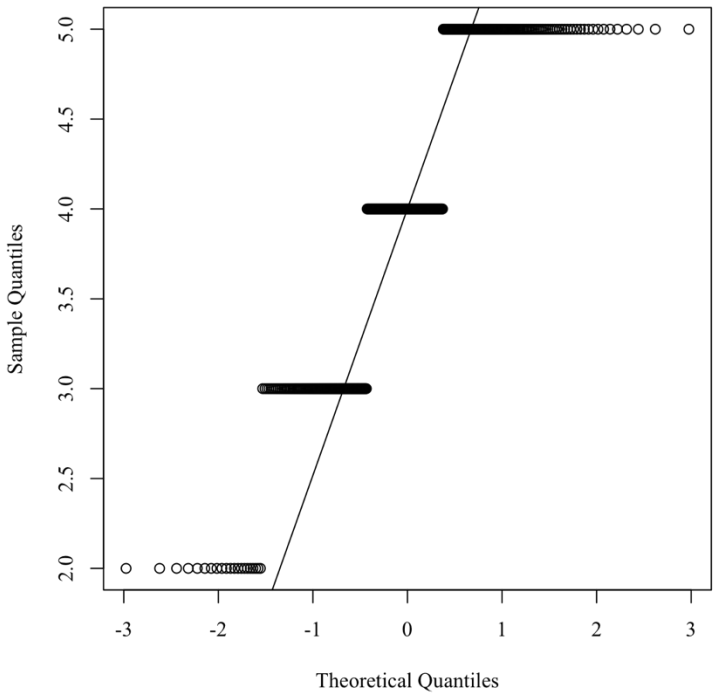

Figure A38. Q-Q scatterplot for normality for Achievement Standard 27.

The researcher ran an ANOVA with the aim of identifying substantial differences between Achievement Standard 28 by Area of Concentration. The researcher addressed the assumption of normality and the assumption of homogeneity of variance. The first assumes that the participant distributions are normal, and is tested by examining the Q-Q scatterplot (Figure A39) created in the statistical analysis (DeCarlo, 1997). The latter assumes that the participant distributions have equal variances and is tested using the Levene's test (DeCarlo, 1997; Levene, 1960). For the current study, the outcome of the Levene's test was significant $F(1, 341) = 1.61$, $p = .206$. Thus, this assumption was satisfied.

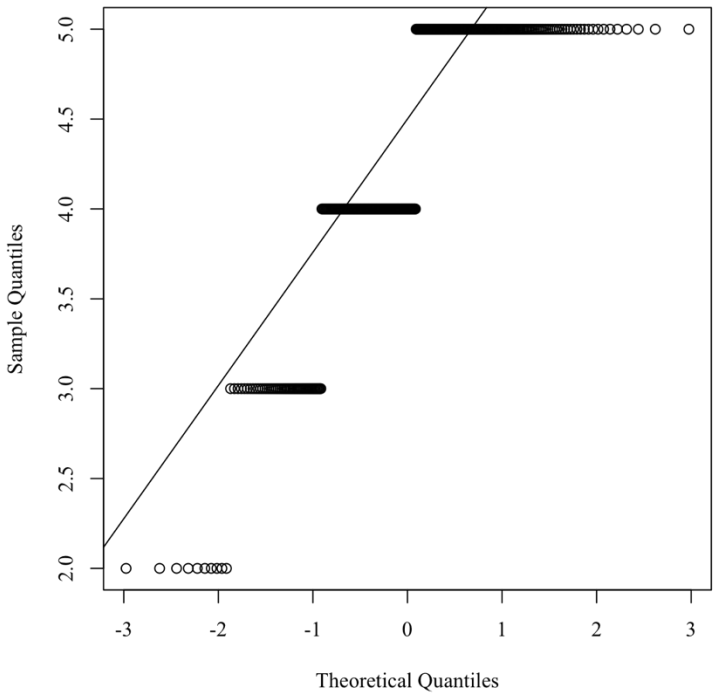

Figure A39. Q-Q scatterplot for normality for Achievement Standard 28.

The researcher ran an ANOVA with the aim of identifying substantial differences between Achievement Standard 29 by Area of Concentration. The researcher addressed the assumption of normality and the assumption of homogeneity of variance. The first assumes that the participant distributions are normal, and is tested by examining the Q-Q scatterplot (Figure A40) created in the statistical analysis (DeCarlo, 1997). The latter assumes that the participant distributions have equal variances and is tested using the Levene's test (DeCarlo, 1997; Levene, 1960). For the current study, the outcome of the Levene's test was significant $F(1, 341) = 1.42$, $p = .234$. Thus, this assumption was violated.

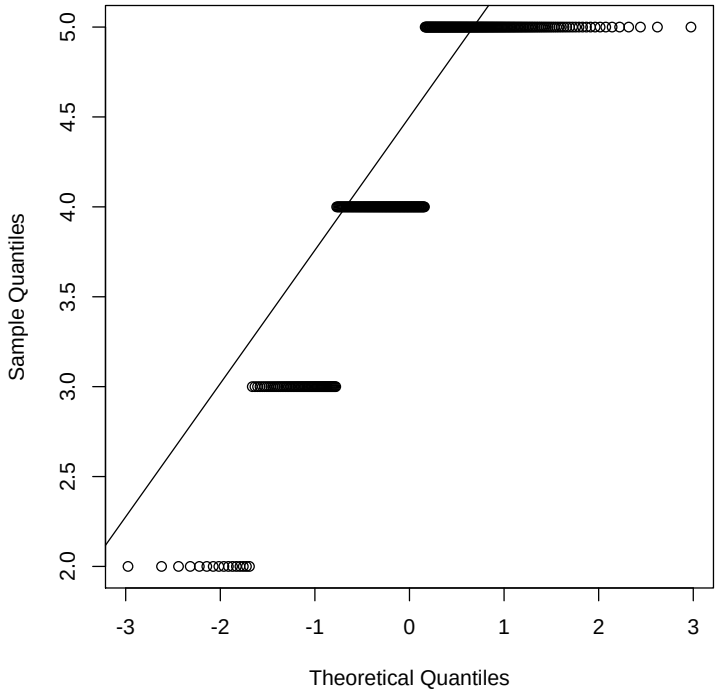

Figure A40. Q-Q scatterplot for normality for Achievement Standard 29.

The researcher ran an ANOVA with the aim of identifying substantial differences between Achievement Standard 30 by Area of Concentration. The researcher addressed the assumption of normality and the assumption of homogeneity of variance. The first assumes that the participant distributions are normal, and is tested by examining the Q-Q scatterplot (Figure A41) created in the statistical analysis (DeCarlo, 1997). The latter assumes that the participant distributions have equal variances and is tested using the Levene's test (DeCarlo, 1997; Levene, 1960). For the current study, the outcome of the Levene's test was significant $F(1, 341) = 0.85$, $p = .357$. Thus, this assumption was satisfied.

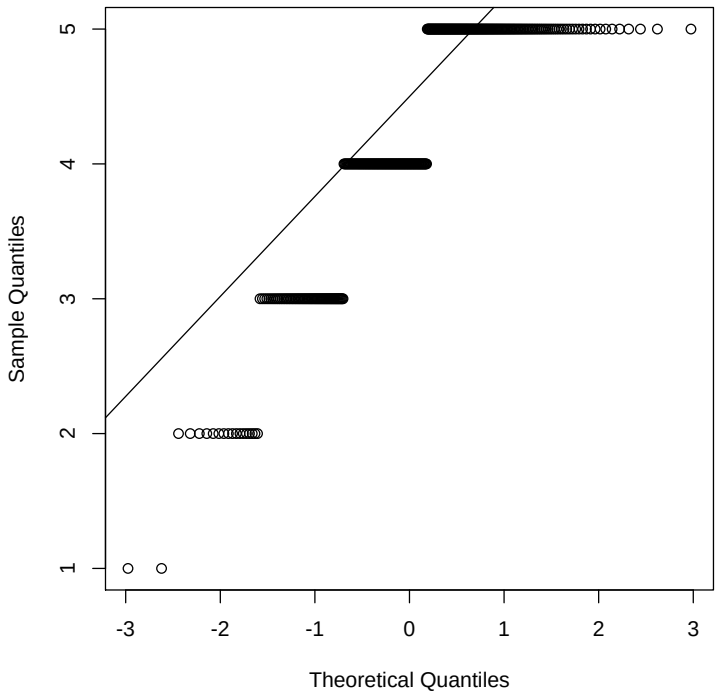

Figure A41. Q-Q scatterplot for normality for Achievement Standard 30.

The researcher ran an ANOVA with the aim of identifying substantial differences between Achievement Standard 31 by Area of Concentration. The researcher addressed the assumption of normality and the assumption of homogeneity of variance. The first assumes that the participant distributions are normal, and is tested by examining the Q-Q scatterplot (Figure A42) created in the statistical analysis (DeCarlo, 1997). The latter assumes that the participant distributions have equal variances and is tested using the Levene's test (DeCarlo, 1997; Levene, 1960). For the current study, the outcome of the Levene's test was significant $F(1, 341) = 4.59$, $p = .033$. Thus, this assumption was violated.

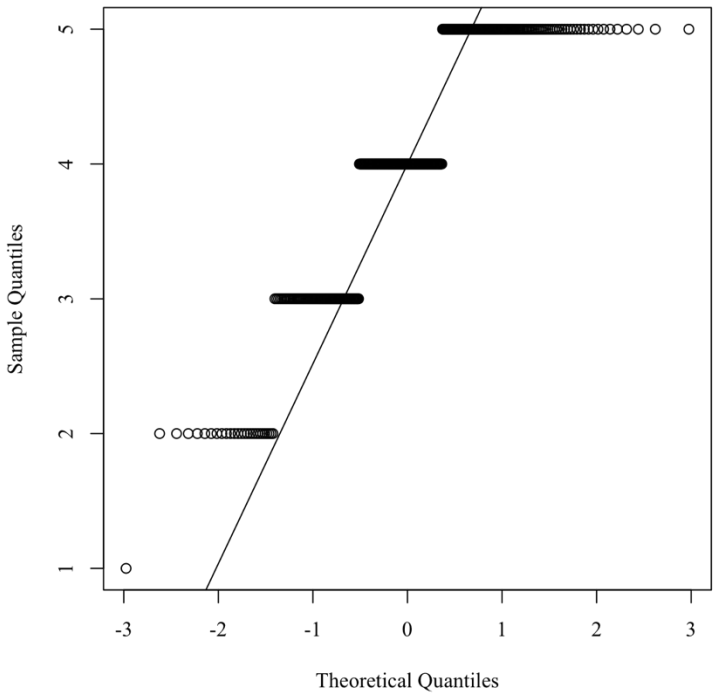

Figure A42. Q-Q scatterplot for normality for Achievement Standard 31.

The researcher ran an ANOVA with the aim of identifying substantial differences between Achievement Standard 32 by Area of Concentration. The researcher addressed the assumption of normality and the assumption of homogeneity of variance. The first assumes that the participant distributions are normal, and is tested by examining the Q-Q scatterplot (Figure A43) created in the statistical analysis (DeCarlo, 1997). The latter assumes that the participant distributions have equal variances and is tested using the Levene's test (DeCarlo, 1997; Levene, 1960). For the current study, the outcome of the Levene's test was significant $F(1, 341) = 1.80$, $p = .181$. Thus, this assumption was satisfied.

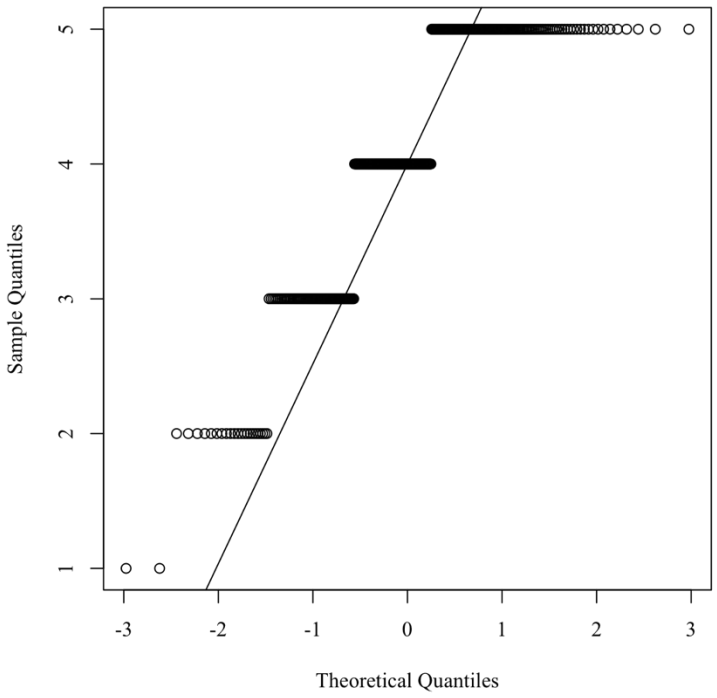

Figure A43. Q-Q scatterplot for normality for Achievement Standard 32.

The assumption of multivariate normality is tested by determining Mahalanobis' distances compared with the quantiles of a Chi-square distribution (Field, 2009; Intellectus Statistics, 2017). Field (2009) states that the assumption is true if the data points create a relatively straight line. The figure below shows that this assumption is satisfied.

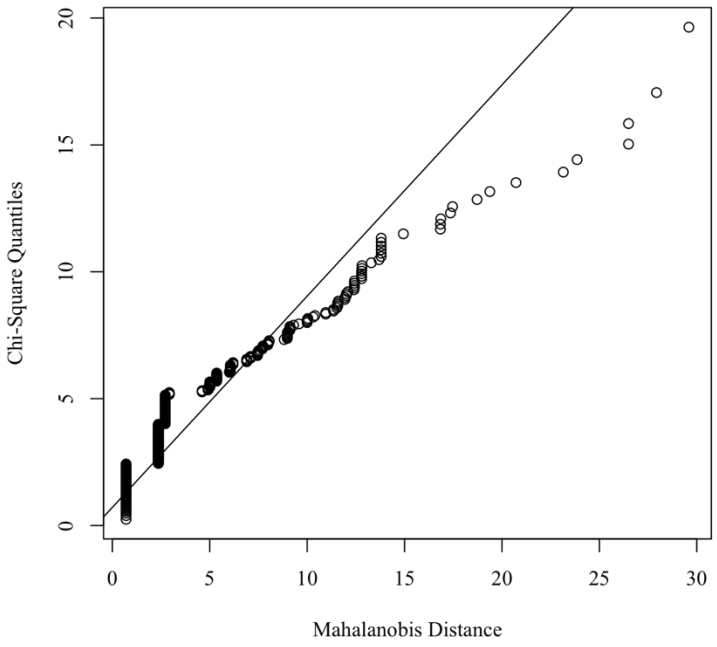

Figure A44. Mahalanobis distance scatterplot for Research Question Three.

The assumption of multicollinearity is tested by analyzing multicollinearity among the dependent variables using a correlation matrix (Field, 2009). In the table below, all combinations of variables had absolute values less than .9, which suggest that the results are not likely to be significantly influenced by multicollinearity. Thus, this assumption is satisfied.

Table A2.

Correlations between Dependent Variables for Research Question Three

Variable	1	2	3	4	5
1. Competency 1	-				
2. Competency 2	0.61	-			
3. Competency 3	0.58	0.74	-		
4. Competency 4	0.69	0.52	0.60	-	
5. Competency 5	0.57	0.70	0.75	0.68	-

The assumption of homogeneity of covariance matrices are tested using the results from Box's *M* test. For the current study, the results were significant, $\chi^2(15) = 77.37$, $p < .001$. These results suggest that the covariance matrices for choral and instrumental music area of concentration were significantly different from each other. Thus, this assumption was not satisfied.

The researcher ran an ANOVA with the aim of identifying substantial differences between NSME Competency 1 by Area of Concentration. The researcher addressed the assumption of normality and the assumption of homogeneity of variance. The first assumes that the participant distributions are normal, and is tested by examining the Q-Q scatterplot (Figure A45) created in the statistical analysis (DeCarlo, 1997). The latter assumes that the participant distributions have equal variances and is tested using the Levene's test (DeCarlo, 1997; Levene, 1960). For the current study, the outcome of the Levene's test was significant $F(1, 341) = 1.36$, $p = .244$. Thus, this assumption was satisfied.

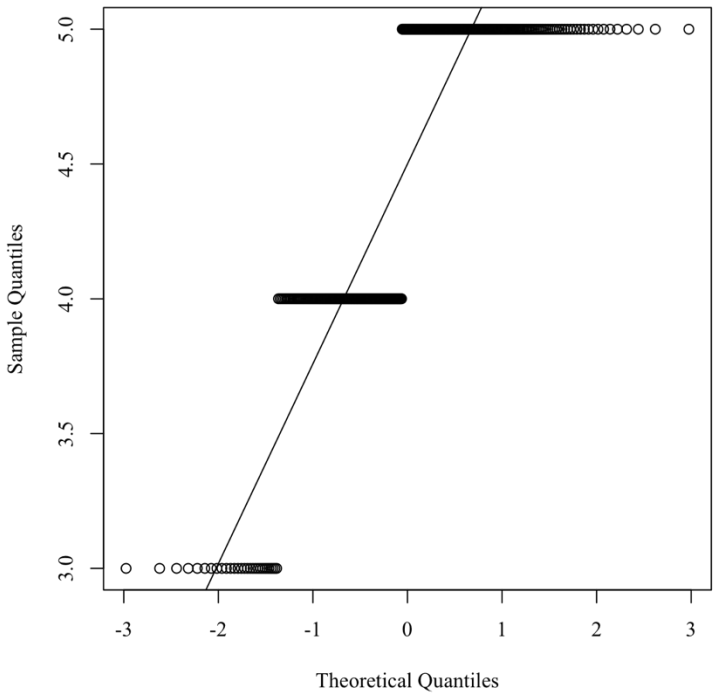

Figure A45. Q-Q scatterplot for normality for NSME Competency 1.

The researcher ran an ANOVA with the aim of identifying substantial differences between NSME Competency 2 by Area of Concentration. The researcher addressed the assumption of normality and the assumption of homogeneity of variance. The first assumes that the participant distributions are normal, and is tested by examining the Q-Q scatterplot (Figure A46) created in the statistical analysis (DeCarlo, 1997). The latter assumes that the participant distributions have equal variances and is tested using the Levene's test (DeCarlo, 1997; Levene, 1960). For the current study, the outcome of the Levene's test was significant $F(1, 341) = 2.21$, $p = .138$. Thus, this assumption was satisfied.

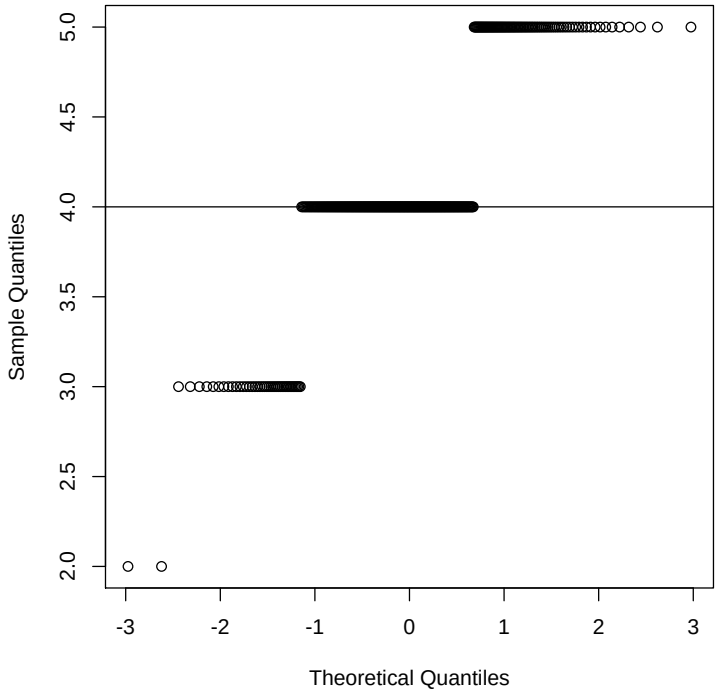

Figure A46. Q-Q scatterplot for normality for NSME Competency 2.

The researcher ran an ANOVA with the aim of identifying substantial differences between NSME Competency 3 by Area of Concentration. The researcher addressed the assumption of normality and the assumption of homogeneity of variance. The first assumes that the participant distributions are normal, and is tested by examining the Q-Q scatterplot (Figure A47) created in the statistical analysis (DeCarlo, 1997). The latter assumes that the participant distributions have equal variances and is tested using the Levene's test (DeCarlo, 1997; Levene, 1960). For the current study, the outcome of the Levene's test was significant $F(1, 341) = 14.15$, $p < .001$. Thus, this assumption was violated.

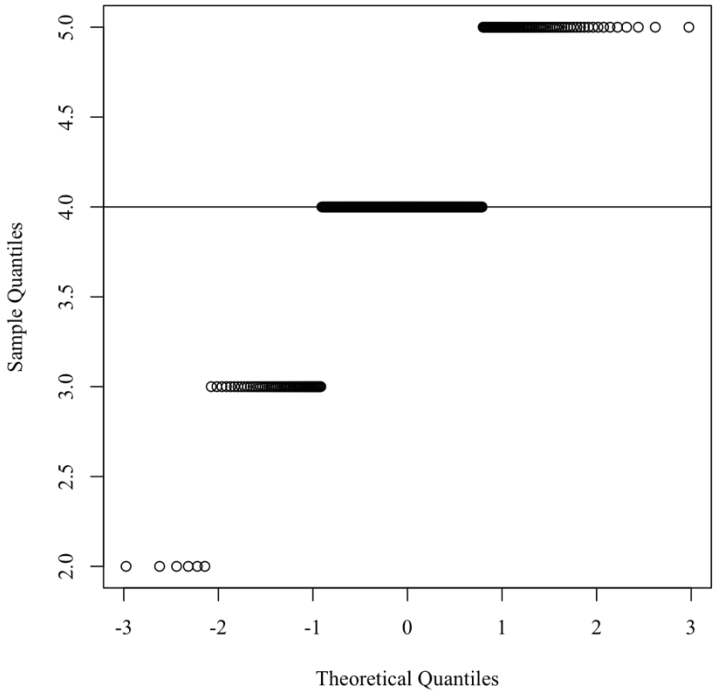

Figure A47. Q-Q scatterplot for normality for NSME Competency 3.

The researcher ran an ANOVA with the aim of identifying substantial differences between NSME Competency 4 by Area of Concentration. The researcher addressed the assumption of normality and the assumption of homogeneity of variance. The first assumes that the participant distributions are normal, and is tested by examining the Q-Q scatterplot (Figure A48) created in the statistical analysis (DeCarlo, 1997). The latter assumes that the participant distributions have equal variances and is tested using the Levene's test (DeCarlo, 1997; Levene, 1960). For the current study, the outcome of the Levene's test was significant $F(1, 341) = 1.56$, $p = .212$. Thus, this assumption was satisfied.

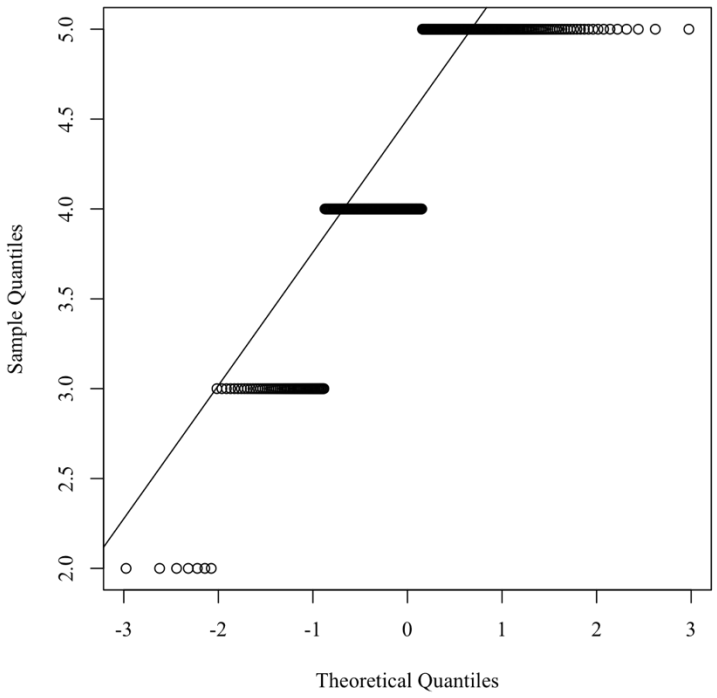

Figure A48. Q-Q scatterplot for normality for NSME Competency 4.

The researcher ran an ANOVA with the aim of identifying substantial differences between NSME Competency 5 by Area of Concentration. The researcher addressed the assumption of normality and the assumption of homogeneity of variance. The first assumes that the participant distributions are normal, and is tested by examining the Q-Q scatterplot (Figure A49) created in the statistical analysis (DeCarlo, 1997). The latter assumes that the participant distributions have equal variances and is tested using the Levene's test (DeCarlo, 1997; Levene, 1960). For the current study, the outcome of the Levene's test was significant $F(1, 341) = 11.58$, $p < .001$. Thus, this assumption was satisfied.

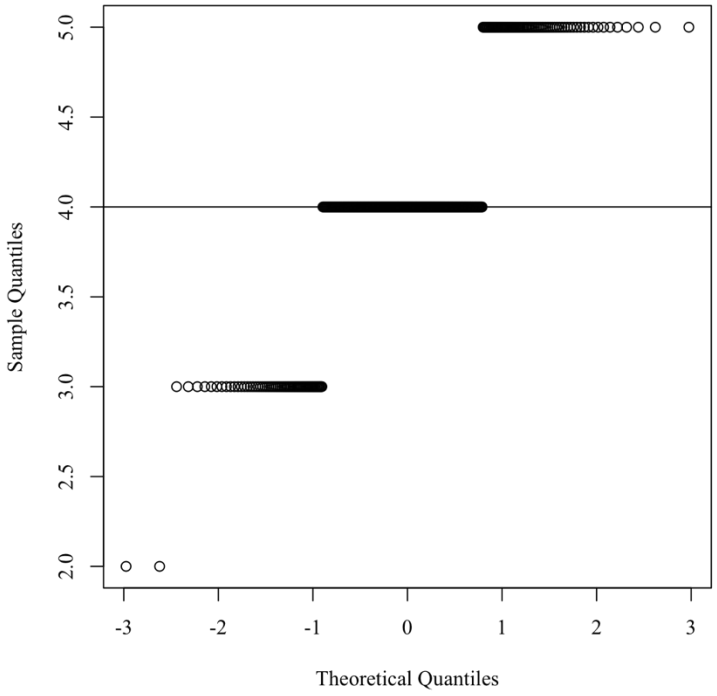

Figure A49. Q-Q scatterplot for normality for NSME Competency 5.

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