12-2016

Music Teachers' Perceptions of Efficacy: Student Learning Objectives and Data Driven Indicators

Geno Heiter
Sacred Heart University

Music Teachers' Perceptions of Efficacy: Student Learning Objectives and Data Driven Indicators

Geno Heiter

Sacred Heart University

Advisors: Michael K. Barbour & Charles Britton

Abstract

Previous research explains that twenty-first century education has moved passed pedagogical ideologies that focus solely on student tasks that require the recall of facts or rote application of simple procedures. Unfortunately, the literature on music education has ignored the importance of measuring intrinsic attributes of music learning and fundamental musicianship. Measuring 'valid' higher-order and critical thinking skills as they relate to music learning is significant because states are now measuring student learning and teacher effectiveness by evaluating multiple data driven indicators. Determining 'what' valid higher-order learning 'looks like,' and the data that can be generated by this learning in a music classroom, is essentially what is at stake for the twenty-first century music classroom. However, to date, no systematic investigation has been considered regarding music teachers and their process for developing higher-order and 'valid' music learning indicators. The purpose of this thesis was to examine perceptions of music teachers in Connecticut regarding the efficacy of the *Connecticut Guidelines for Educator Evaluation.* Data was collected through a comprehensive survey consisting of open- and close-ended questions. The results of the quantitative and qualitative data collected revealed that music teachers do not perceive the current use of Student Learning Objectives (SLOs) and Indicators of Academic Growth and Achievement (IAGDs) as efficacious or as a useful way to measure and evaluate critical thinking or inform music instruction. The data collected revealed that music teachers continue to create SLOs and collect IAGD data to fulfill a state mandate or district policy. As such, if the purpose and outcomes of SLOs and IAGDs continue to be worthless to music educators, meaningful and authentic music instruction and student learning will not progress until a better model that assesses teacher effectiveness and student progress emerges.

Table of Contents

Abstract……..i

Table of Contents…….…….ii

Chapter 1: Introduction……....1

Background 1

Statement of the Problem 2

Thesis Study 3

Summary 4

Definition of Terms 5

Chapter 2: Literature Review……..7

Introduction 7

Giftedness and Talent 9

Music Aptitude and Music Achievement 12

Ability-Grouping 14

Differentiation 21

Engagement and Motivation 25

Aspects of Learning 26

Taxonomies in Education 29

Summary 33

Chapter 3: Methodology……35

Description of Characteristics of Inquiry 35

Purpose 37

Research Design 37

The Case 38

Data collection Methods 39

Surveys 40

Data Analysis Methods 41

Quantitative Data 42

Qualitative Data 43

Reliability and Validity 46

Pilot Testing 46

Member Checking 47

Subjectivity Statement 48

Summary 51

Chapter 4: Results and Discussion ……52

Introduction 52

Research Question 52

Music teachers perceive that SLOs and IAGDs are intended to improve teaching, student learning, and measure teacher effectiveness. 53

Music teachers do not perceive that SLOs or IAGDs as efficacious. 59

Summary 77

Chapter 5: Conclusions and Implications ……79

Summary 79

Limitations of the Study 82

Implications for Practice 83

Suggestions for Future Research 85

References 88

Appendices 104

A. Music Teacher Survey 104

B. Bloom's Revised Taxonomy Table/Musicianship Skills 110

Chapter 1: Introduction

Background

Student engagement, motivation and achievement are three over-arching initiatives that influence the success of education across the United States (Asmus & Harrison, 1990; Azzam, 2014; Marzano, Pickering, & Pollock, 2001; Price, 2011; Sundberg, 2013). Equally important are the impact of authentic assessments that generate useful, reliable and valid metrics that guide teaching and evaluate instruction (Fox, 2013; James-Ward, Fisher, & Frey, 2013; Steele & Boudett, 2008a). As a result, generating data that proves instruction is effectively impacting student growth and achievement has become an essential part of measuring successful teaching (Connecticut State Department of Education, 2011a).

Connecticut's strategy for ensuring teachers are successful at meeting educational initiatives is to link teacher performance with teacher 'effectiveness.' As part of the new teacher evaluation process, teachers are required to anchor the skills and knowledge learned by students in data. Consequently, according to the state of Connecticut, how well students perform on multiple data indicators determines a teacher's effectiveness (Connecticut State Department of Education, 2011a).

Currently, there is no 'one' teacher evaluation and support system adopted by all school districts in Connecticut. To assist districts with their educator evaluations and support plans the Connecticut State Department of Education published the Connecticut Guidelines for Educator Evaluation and the Connecticut System for Educator Evaluation and Development (SEED). The Connecticut State Department of Education explained their purpose for creating SEED was as follows:

> The purpose of SEED was to provide districts in Connecticut a model for the evaluation and support of teachers in Connecticut [that] is based on the Connecticut Guidelines for Educator Evaluation (Core Requirements), developed by a diverse group of educators as part of PEAC (Performance Evaluation Advisory Council) in June 2012 and based upon best practice research from around the country. (p. 6)

Although all districts do not use SEED, a state-approved, district-developed teacher evaluation and support plan is required by all districts in Connecticut (Connecticut State Department of Education, 2015c). According to the Connecticut Guidelines for Educator Evaluation, teacher evaluation and support plans are driven by Student Learning Objectives (SLOs) and the results generated by multiple student data indicators. These indicators are often referred to as an Indicators of Academic Growth and Development (IAGDs) or Common Formative Assessments

Statement of the Problem

Many subjects have objective metrics that are used to measure and evaluate student learning, while others do not. For instance, math, reading, writing, science, language, and social studies are taught and assessed as objective, cognitive domain activities (Hanna, 2007). In contrast, objective assessment of subjects taught, such as music, are particularly difficult to objectively assess because their learning outcomes are often measured and evaluated using language that involves subjective assessment of specific artistic processes (Hanna, 2007; Krathwohl, Bloom, & Masia, 1964; Robinson, 2015; Vada, 2013). Presently, the Connecticut State Department of Education requires that music teachers follow the same goal-setting process as teachers of academic subjects. The *Connecticut Guidelines for Educator Evaluation* dictates that data generated by IAGDs accounts for 22.5% of a teacher's evaluation for all tested and non-tested subjects. In fact, the *Connecticut Guidelines for Educator Evaluation* points to

specific objective assessments for teachers of standardized tested grades and subjects. However, the *Connecticut Guidelines for Educator Evaluation* does not suggest objective assessments for non-tested grades and subjects (i.e., kindergarten, first-grade and second-grade teachers; special education, music and art teachers; and physical education, career, and technical teachers). Consequently, Connecticut music teachers and teachers in non-tested disciplines are left to measure student growth and achievement with SLOs whose success is determined by an array of non-standardized IAGDs.

Thesis Study

The purpose of this study is to gather, examine and discuss perceptions of music teachers in Connecticut regarding the efficacy of *Connecticut Guidelines for Educator Evaluation,* SEED and other district-developed guidelines for music teacher evaluation and support. This purpose led to the following research question:

1. How do music teachers perceive the efficacy of the Connecticut State Department of Education's policies and guidelines for music teacher evaluation and support?

This purpose led to an examination of perceptions of alignment between practice and policy, as well as a way to uncover and discuss the efficacy of SLOs and IAGDs. Further, this research will aim to uncover and evaluate the data driven collection tools used to evaluate music teacher effectiveness and student learning. A case study mixed methods design was used for this research because the drive behind this study was to collect and evaluate perspectives of music teachers in Connecticut so that a better understanding of this topic would be realized (Stake, 1995).

Summary

Chapter One provided an introduction, statement of the problem and the purpose for conducting this study. A research question was introduced that laid the groundwork for examining the alignment between policy, practice and music teacher perceptions of efficacy. In addition, the reader gained insight into Connecticut's new guidelines for teacher evaluation and support plans and how Connecticut links teacher performance with teacher effectiveness. Lastly, chapter one provided detailed definitions for SLOs and IAGDs for clarity.

Chapter Two will present a literature review that will highlight and distil the most relevant historical and current substantive findings related to my research purpose. This literature review will also provide the reader with a foundation of the fundamental underpinnings and relationships between themes found in literature. Additionally, Chapter Two will aim to explore the theoretical and pedagogical contributions related to music teaching, student learning, measurement and evaluation of instruction. Lastly, this literature review will identify gaps in the research and offer recommendations for future study.

Chapter Three will describe the structure and methodology that will be used and aim to explain why a case study best supports my research purpose. In addition, this chapter will show how the sample, measures, and methods used during the research process fit together and address the research question presented. Also, a detailed outline of how the data will be collected and analyzed will be presented in order to provide clarity of the research design. This process will provide a knowledgeable investigator enough information to replicate the study. Further, information that provides appropriate context of the research (i.e., setting, data collection and analysis methods) will be included. In all, this chapter will aim to provide the reader an

understanding of the methods used, as well as the appropriateness of the actions chosen given the nature of the study.

Chapter Four will present results of the data analysis. I will do this by incorporating illustrations such as tables, charts, pictures or drawings that summarize statistical information, figures, and variables. I will discuss relationships in the data and objectively provide potential explanations for statistical results. There were two specific themes that will be discussed, including: (1) music teachers do perceive that the intent of SLOs and IAGDs are to improve teaching and student learning, (2) music teachers do not perceive that SLOs or IAGDs as efficacious.

Chapter Five provides an overview of this research. First, it discusses conclusions that are drawn. Next, limitations were noted including the lack of prior research, prior sample size recommendations, available instruments and the amount of time allotted to complete this study. Following, implications of practice were stated suggesting that perhaps music teachers need more professional learning opportunities that would aid in the development of more meaningful and authentic SLOs and IAGDs. Lastly, suggestions were made for future research.

Definition of Terms

Indicators of Academic Growth and Development (IAGDs): An IAGD is the evidence that supports the learning target set forth by the SLO. These indicators are clear and relay what evidence will be examined, what level of performance is targeted and what proportion of students is projected to achieve the targeted performance level. Indicators should address student subgroups and strive to reach as many students as possible. IAGD should be fair, reliable, valid and useful to the greatest extent possible (Connecticut's System for Educator Evaluation and

Development, n.d.; Connecticut State Department of Education, 2015b; Illinois State Board of Education, 2016; Lachlan-Hache et al., 2012; Lacireno-Paquet et al., 2014).

Student Learning Objectives (SLOs): SLOs are an alternative to the more generally used value-added modeling with standardized test scores, which may not be available or appropriate for all teachers and subjects. SLO's are a way to measure teacher impact, which in turn, are a way to measure educator effectiveness (Connecticut State Department of Education, 2011a, 2015a, 2015b; Illinois State Board of Education, 2016; Lachlan-Hache, Cushing, & Bivona, 2012; Lacireno-Paquet, Morgan, & Mello, 2014).

Chapter 2: Literature Review

Introduction

Similar to successful kindergarten-12 (K-12) math, language arts or science programs, an efficacious music program is characterized by a curriculum whose units of study embed formative assessments that reliably measure valid music skills and awareness as a way to guide and improve all aspects of instruction (Ainsworth, 2011). Given the apparent benefits of a music education and the legal mandates to provide a free and appropriate music education in public schools throughout the United States, it seems prudent to continually explore, develop, implement and determine the highest quality assessment tools that measure students' musical potential and musical achievements. More importantly, considering the value of implementing a pedagogy that is driven by reliable and valid formative assessments is no longer an option in education, but a requirement (Connecticut State Department of Education, 2011a; Fox, 2013; James-Ward et al., 2013; Steele & Boudett, 2008a, 2008b).

Music and authentic music education offers people the opportunity to experience and learn a fine art that is uniquely a 'human' experience. As a point of interest, developing music skills and awareness is a discipline that 'all' people can learn to some degree of success when music instruction is targeted and accounts for individual differences (Gordon, 2012; McPherson, 1997; Seashore, 1919; Seashore, Lewis, & Saetveit, 1960). This literature review will aim to research, identify and examine (a) factors that influence learning (b), how learning occurs, and (c) how learning principles apply and correlate to 'music education.'

I began to review the literature in the field/topic of measurement and evaluation of music aptitude and music achievement in 2002. From 2002 to 2015, I established a professional practitioner knowledge base about the themes that existed in music education, and put into

practice many of the research based instructional strategies as they relate to music and learning. These experiences provided me with a foundation from which I organized, structured and designed my current research in 2016. My current review of the literature began primarily reflecting on the current state of music education. The following keywords were used (separately and in combination) when searching electronic databases that included *Google Scholar*, *Education Resources Information Center, Journal Storage* and *ProQuest*: music, education, aptitude, achievement, engagement, motivation, learning, theories, paradigms, constructivism, classroom, behaviorism, cognition, surveys, self-efficacy, Edwin Gordon, pedagogy, Seashore, testing, assessment, measurement and evaluation. I began with a broad search and then incorporated Boolean logic by adding 'and,' 'not' and 'or' to refine my search. To ensure high-quality research, searches were limited to pieces published in international peer-reviewed journals. For each piece, specific information was noted, including: (a) authors, (b) year of publication, (c) journal, (d) objectives of the study, (e) important findings and conclusions, (f) keywords and (g) times cited. Lastly, articles were reviewed for their reliable information and relevance to the topic presented in this literature review.

In this literature review, an overview of research pertaining to seven teaching and learning themes are presented, explored, examined and discussed as they relate to music instruction and education. These areas include giftedness and talent, music aptitude and achievement, ability-grouping, differentiation, engagement and motivation, aspects of learning and finally, taxonomies in education. For each theme, research pertaining to the topic are expressed with relevance to the importance of this topic and research study. A summary concludes the review of literature, where important research is restated and interpreted, with recommendations for future study.

Giftedness and Talent

For over a half a century, the word 'gifted,' has become a term with multiple meanings and much nuance (Gagné, 1985; National Association for Gifted Children, n.d.-b). For example, students who demonstrate success in music are typically described as gifted or talented (Heavner, 2005; McPherson, 1997; Seashore, 1919; Seashore et al., 1960). In a similar fashion, K-12 schools also use the terms giftedness and talent to describe students who demonstrate a high degree of success in general performance areas that include core subjects such as mathematics, visual arts, and language arts (Betts & Neihart, 1988; Gagné, 1985). Regardless of context, there are varying views on the nature of how the terms giftedness and talent are used to identify and measure student giftedness and talent (Gagné, 1985; Gordon, 1969; Heavner, 2005; Seashore, 1915, 1919; Seashore et al., 1960).

Consequently, due to the colloquial evolution of these two words (i.e., gifted and talented), they are often used together to describe a single behavior or attribute (Betts & Neihart, 1988; Davis & Rimm, 1989; Gordon, 2008). Through a comprehensive review of the literature (McPherson, 1997), noted that the competing definitions used in various sectors of education for giftedness and talent have made understanding these words problematic. Comparatively, according to the National Association for Gifted Children (2016), giftedness and talent were fluid concepts that might look different in schools across the United States. Albeit, since multiple meanings, nuance and competing definitions exist, nearly every U.S. state has its own definition of giftedness and talent. However, despite the multiple unique interpretations that the terms 'giftedness' and 'talent' elicit, individuals continue to use them interchangeably and the general public has grown accustomed to hearing them used synonymously (Gordon, 2012).

Music teachers often describe talented and gifted students as having the ability to "master various musical skills and concepts at a fast pace" (Heavner, 2005, p. 171). Similarly, McPherson (1997) noted, "music is one of the most easily identified fields of human activity in which talent can be demonstrated… the young violinist that can perform a violin concerto is obviously talented" (p. 71). As these statement may be true, students who master various skills at a slower pace, or not perform a violin concerto, but a catchy guitar riff without the aid of notation 'may also' have equally notable musical gifts or talents (Betts & Neihart, 1988; Gordon, 1990; McPherson, 1997; Richardson, 1990). By the same token, McPherson (1997) reflected that technique and recreation of existing music literature were the most popular indicators of giftedness and talent, but perhaps not comprehensive, reliable or valid indicators of giftedness or talent. Comparatively, Richardson (1990) stated:

> the terms "musically gifted" and "musically talented" can mean many things to many people, as can the term "musically gifted and talented." …Does your state's definition focus on the student's present, demonstrable performance talent? If so, it might seem relatively easy [or not, depending on the measurement tool] to pick the top twenty performers from among your student's by means of an audition… If, however, your state's definition also encompasses such factors as student's potential performance, …can you spot potential… [or are you] overlooking a potentially gifted music student who is *not* a star performer? (p. 41, emphasis in original)

In a similar fashion, McPherson (1997) summarized Richardson's points by stating, "…a child may be gifted without displaying any specific talent… the identification of gifted children is essentially a task of trying to predict an individual's potential to succeed musically prior to any formal musical training" (p. 69). Like Richardson (1990) and McPherson (1997), Schmidt (1980)

suggested three different skill areas that needed to be considered in determining musical giftedness: performance skills, creative ability (such as composition) and verbal and musical-perceptual skills. As a way to identify these musically gifted students, Schmidt suggested three procedures: a performance audition, analysis of student composition and evaluation of student writing. Similarly, McPherson (1997) added that for music, there were domains of ability (i.e., gifts) and fields of performance (i.e., talents).

Given these points, the writings of Heavner (2005), Richardson (1990), McPherson (1997) and Schmidt (1980) all represented samples in the literature that offered descriptions of giftedness and talent. On the negative side, these writings only emphasized observations and teacher experience. As a matter of fact, although few case studies and seminal understandings were referenced by these researchers (Heavner, 2005; McPherson, 1997; Richardson, 1990; Schmidt, 1980), no empirical experiments or statistical evidence that reliably or objectively measured musical giftedness or talent or that speak to the validity of measurement were evident in their research. More importantly, these researchers provided minimal recommendations for future research that helped to distinguish between giftedness or talent. Alternatively, their writings focused on pedagogical recommendations or music teaching methods or techniques.

All instruction, including music instruction, should be guided by reliable and valid measures that provide objective data to assist in subjective evaluation (Fox, 2013; James-Ward et al., 2013). Identifying musical giftedness and talent positively influences teaching and student learning (Ainsworth, 2011; Gordon, 1967, 2004; Seashore, 1915, 1919; Seashore et al., 1960). When the terminology used to describe and identify behavioral attributes becomes confusing and cumbersome, and valid and reliable data are not embedded into curriculum, authentic teaching and student learning is the result of a fortuitous accident.

Music Aptitude and Music Achievement

Accurate historical and diagnostic student data can positively transform curriculum and instruction (James-Ward et al., 2013). By in large, music education is no different than any other subject taught. Identifying and understanding the differences between music aptitudes and music achievement is essential to positively impacting teaching and student learning (Gordon, 1969, 2001b; Seashore, 1915; Seashore et al., 1960; Seashore, 1919). Individuals have come to recognize that intelligence is the ability to learn, reason and problem solve (National Association of Gifted Children n.d.-a). Additionally, in 1982, Howard Gardner's theory of multiple intelligences expressed the importance of recognizing musical intelligence as an important dimension of intellect (Woolfolk, Winne, & Perry, 2015).

According to Seashore (1915), "musical talent, like all other talent, is a gift of nature-inherited, not acquired; in so far as a musician has natural ability in music, he has been born with it" (p. 129). Further, in the *Psychology of Music*, Seashore (1919) stated musical intelligence was like "…philosophical, mathematical, or scientific intelligence" (p. 7). Seashore explained that the degree of a person's intelligence might characterize or set limits for musical achievement. A matter of continued confusion and debate among teaching professionals and researchers has been basing the measurement of musical giftedness and talent solely on intellectual tasks that involve muscle memory, technique and the recalling of facts (Harrison, 1990; Krathwohl et al., 1964; Woodford, 1996), and not based on the types and stages of *audiation* (Azzara, 1993; Dalby, 1999; Garner, 2009; Gordon, 2008, 2010; O'Donnell, 2011; Salvador, 2011).

For forty years after the *Psychology of Music* was published, most psychologists had built upon Seashore's principles that music talent was an innate human characteristic (Gordon, 1961). Further, attempts to help clarify the distinctions between these mental attributes, were provided

by McPherson (1997), who cited Gagné's definition of aptitude as, natural 'abilities' that have 'genetic' origins and appear to develop spontaneously in every individual. Alternatively, as early as 1972, and until his death in 2015, Gordon avoided words such as 'ability,' 'talented,' 'gifted,' and 'musical' from his research when evaluating and describing students, since by nature, the nuances of these terms have historically confused the issue by obscuring the important distinction between music aptitude and music achievement (Gordon, 2012). Richardson (1990) acknowledged the importance of identifying and measuring aptitude when she explained:

> teachers who routinely administer musical aptitude tests often discover that students who seem to be uninterested in music have advanced skills in [pitch discrimination, tonal memory, rhythmic memory, chord analysis, and music sensitivity and are] …the very students who need to be identified as having potential and whom special programs need to be devised. Musical aptitude tests are an invaluable source of information about the student that may otherwise be obscured by the student's classroom behavior [or performance]. (p. 42)

Gordon (2012) explained, "music aptitude as well as general intelligence is based on how well a person can draw generalizations from specific information and experience. To generalize enables one to make inferences and judgments that foretell and possibly influence future events" (p. 46). As a matter of fact, Seashore's (1919) 'degree of intelligence,' and Gordon's (2012) 'explanation of musical aptitude' provided a description of a mental attribute that moves beyond the skills of Bloom's memory and recall stages (Harrison, 1990; Krathwohl et al., 1964; Shulman, 1986, 1987; Vada, 2013). Moreover, Gordon (2012) further detailed the distinctions between music achievement and music aptitude when he stated, "music achievement is intellectual and primarily in the brain whereas music aptitude is spontaneous and occurs primarily in all cells and genes"

(p. 45). Measuring music aptitude and measuring music achievement are two distinct attributes. When performed with fidelity, both measures provide additional critical data for evaluating students and guiding authentic and meaningful music instruction.

"Music aptitude is a measure of what a student *can* learn. Music achievement is measuring what a student *has* learned" (Gordon, 1990, p. 1, emphasis added). In depth reflections of the relevant terminology provide additional clarity and rich discussion points for researchers when correlations and distinctions between giftedness, talent, aptitude and achievement are the topic of interest (Richardson, 1990; Rinn & Bishop, 2015; Slavin, 1990). When these measures are understood and used as diagnostic tools, they are essential components that inform comprehensive units of study (Fox, 2013; Steele & Boudett, 2008a, 2008b), and have the ability to transform music curriculum and music instruction (Ainsworth, 2011; James-Ward et al., 2013). Williams (2009) stated, "an ethical teacher is always using hard data and action research to improve his or her practice (p. 31). Furthermore, through a comprehensive understanding of how to accurately measure and evaluate music aptitude and music achievement, music curriculum and instruction can benefit from such data and provide more targeted and engaging units of study that positively impact teaching and student learning regardless of how students are 'grouped' (Fox, 2013; Standerfer, 2011; Taylor, 1908; Tomlinson & Strickland, 2005).

Ability-Grouping

There is a lack of research regarding the grouping of K-12 music students. K-12 music student grouping in the United States are typically influenced by the following circumstances: (a) chronological age, (b) student enrollment, (c) years of study, (e) instrument, (f) music teacher

observations and (g) parent recommendations. Further, researchers Hallam, Rogers, and Ireson (2008) wrote:

> art, music and drama have tended to be grouped together as 'the arts'… In schools, these subjects are rarely grouped by ability and where they are taught in ability groups those groups are usually based on classifications derived from more 'academic' subject groupings. While previous research has tended to suggest that teachers of the arts favored mixed-ability groupings, a weakness has been that their attitudes have been assessed collectively not taking account of possible differences. (p. 172)

Conversely, an important fact to recognize is that for more than 70 years, ability grouping and student tracking (AGST) has been a controversial issue for all K-12 subjects (Allan, 1991; Ireson & Hallam, 2001; Kulik, 1992, 1993; Slavin, 1990).

AGST opponents do not believe that homogeneous groupings benefit teachers and students (Allan, 1991; Ireson & Hallam, 2001; Kulik, 1992, 1993; Slavin, 1990). Further, Slavin and Kulik (1992; 1990) explained that persons opposed to AGST reason that students of lower aptitude and achievement levels benefit from the presence that higher aptitude and achieving students bring to learning. For example, typically, in a grades five to 12 music ensemble class, instrumental parts are distributed based on student ability to decode musical notation. These parts typically require skills of higher levels of motor skill dexterity of more intricate fingerings, extended ranges or rhythmically acrobatic content. Whether a student may or may not be able to give contextual meaning (i.e., tonality, meter or keyality) to the pitches and durations he or she is reading is often not considered (Gordon, 2001a, 2012). Students with lesser ability are ordinarily assigned easier parts that require lesser of the aforementioned skills. Whether they can identify the contextual nature of the task is also often not considered. According to Allan (1991), "while

there is nothing inherently wrong with [higher ability and achieving students] serving as a positive role model on occasion, it is morally questionable for adults to view any student's primary function as that of role model to others" (p. 64). Further, individuals opposed to AGST challenge that teaching high or low aptitude students in the same class requires the special skill and creativity of a highly qualified veteran teacher (Martin & Pickett, 2013; Salvador, 2011; Standerfer, 2011; Tomlinson, 2014; Tomlinson & Strickland, 2005). To put it another way, researchers Hallam et al. (2008) reported:

> they [teachers] perceived the advantages of mixed-ability teaching largely in social terms, while the disadvantage was perceived to be *the difficulty of providing appropriate work for pupils of high and low ability in the same class*. Those critical of mixed-ability teaching suggested that *it failed to motivate and increase the achievement of the highly able*, although the less able were perceived to benefit. The research also found differences in teachers' attitudes towards mixed-ability teaching depending on the subject that they taught. …teachers of mathematics and modern foreign languages tended to hold the most positive attitudes, while those teaching English, the humanities and the arts held the most negative. (p. 182)

With all this in mind, music teachers that are considered to be highly qualified are more likely to choose teaching positions that implement curriculums that are more rigorous and engaging and that by nature are designed to teach students with higher music aptitudes or levels of achievement (Slavin, 1990).

Additionally, Slavin explained, "…homogeneous [groups] harms many students, especially middle and lower aptitude students, who may suffer a loss in self-esteem, academic motivation, and overall accomplishment when placed [labeled] in the slower groups…" and

would benefit from those creative and experience teachers (p. 22). Labels that identify or certify a student's overall ability supports an epistemology that a student is either 'able' or 'unable.' Burris and Garrity (2008) stated:

> do students differ in talents and achievement? They do. But when those observed differences are reinforced by track placement and grouping practices, and children then internalize those differences, learning opportunities become limited for all but the elite student. The talents of late bloomers go undiscovered, and the rewards of hard work and diligent study are never realized. (p. 3)

Further, Slavin (1990) reported that those who oppose of AGST believe that the stigma of labels is discriminatory in nature towards minority and lower-class students and have an overall negative impact on teaching and learning. Alternatively, Allan (1991) stated:

> it is unclear whether grouping has any effect on the self-esteem of students in the general school population… [and] effects on self-esteem are small but positive for low-ability children and slightly negative for average and high-ability children. There is limited evidence that remedial programs have a positive effect on the self-esteem of slow learners. (p. 65)

However, Kulic (1993) did report that student achievement fell dramatically for high aptitude and ambitious students who attended schools that eliminated enriched or accelerated classes for the sake of eliminating AGST.

For many schools, AGST labels begin around kindergarten with intelligence quotient or early achievement tests designed to measure aptitude that determine an educational road map for students for the next twelve years (Burris & Garrity, 2008). Alternatively, in most music programs, students simply sign up in different ensembles for reasons that may be arbitrary or

inspired by a host extrinsic motivating factors (i.e., peer, social, parent or teacher influence). As a point of interest, reliable or valid music aptitude or achievement tests are often not administered to determine music group placement. With this in mind, Buldoc (n.d.) wrote, "standards [for rating and placement] are adjusted to suit the abilities of the performers… This is also a common classroom technique" (p. 5). Additionally, Buldoc added:

> the major difference between tests of ability and tests of attainment [for music grouping] is in the way the scores from both types of test are used. A test of attainment cannot be directly correlated to ability [music aptitude or music achievement]. Auditions [for placement in groups] are one example of measures of achievement or attainment, and while we might draw some conclusions about an individual's ability [music aptitude or music achievement] on the basis of the results, we would not use them as a direct measure of their ability [aptitude]. A less talented student [or a student with a current lower level of music achievement] may work harder than a more able [higher music aptitude] student to produce a higher score. This isn't a bad thing, and in fact bears out one of the developmental positive… Hard work and planning can offset talent [music aptitude]. The concern is the ability of evaluators to recognize high achievement [music aptitude and/or music achievement] based on the criteria in front of them. The results may be different if given criteria where the wording and weighting are different (technique over musicality). (p. 6)

Conversely, it is clear to recognize the impact of understanding the differences that exist between measurement and evaluation of music aptitude and music achievement when implementing various systems to group music students.

A point often overlooked is, unlike music classes, after elementary grades, AGST continues in middle or junior high school for core subjects where students are 'block scheduled' and spend most of the day in one homogenous group (Slavin, 1990). As a point of interest, Burris and Garrity (2008) argued that, "…tracking [such as this] is a meritocracy that relies on teacher recommendations, grades, and student motivation to determine placement… [and in many cases] students and their parents are allowed to choose a track, with certain conditions attached to the placement" (p. 1). Further, opposition to AGST suggested that student maturity, motivation, test-taking skill, absence of a reliable and valid measure and parent influence contributed to the lack of reliability and validity of AGST placement (Allan, 1991; Ireson & Hallam, 2001; Slavin, 1990). Slavin's (1990) meta-synthesis' of AGST involved 21 case studies and provided data on the effect size of ability grouping on students of different ability levels that drew the following conclusions.

1. Comprehensive between-class ability grouping plans have little or no effect on the achievement of secondary students. This conclusion is most strongly supported in grades 7-9, but the more limited evidence that does exist from studies in grades 10-12 also fails to support any effect of ability grouping.
2. Different forms of ability grouping are equally ineffective.
3. Ability grouping is equally ineffective in all subjects, except that there may be a negative effect of ability grouping in social studies.
4. Assigning students to different levels of the same course has no consistent positive or negative effects on students of high, average, or low ability. (p. 17)

Although Slavin's meta-synthesis provided a comprehensive list of conclusions based on research, none of his studies featured music class groupings.

Regardless of subject, what applies to 'all' teaching and student learning is how Allan (1991) cautioned and insisted that all educators (i.e., including music teachers) become critical consumers of the research to determine what the research supports, and then decide what can be reasonably applied to school programming. Comparatively, music programming should be no different than other academic school programming. At the top of Allan's list, he explained that no matter whether persons supported or opposed AGST, the data collected from meta-analytic reviews revealed effective grouping programs depended on their 'features' or AGST 'types.' Consequently, Burris and Garrity (2008) reported that AGST had been largely undone across the United States and replaced with somewhat less rigid systems characterized by curriculum differentiation to include 'features' that defined specific AGST types. The question that remains for music education is whether the movement has yet influenced music programs to implement a curriculum that are characterized by a systematic, research based and differentiated process (Bolduc, n.d.; New York State Education Dept., 2002).

Individuals in favor of AGST believe that such groupings benefit both teachers and students (Allan, 1991; Ireson & Hallam, 2001; Kulik, 1992, 1993; Slavin, 1990). Advocates for AGST believe that homogeneous instruction carries the benefits of student progress commensurate to abilities and provides instruction that focuses on the needs of a specific group. AGST supporters believe that teaching, without differentiation is easier (Slavin, 1990). Conversely, advocates embrace AGST paradigms since ability grouped classrooms do not require additional teacher planning or professional development to learn how to integrate differentiation into units of study (Kulik, 1992). As this may be true to some degree, differentiation does not exclusively mean scaffolding instruction. Differentiation of instruction includes the process of providing tasks that involve variety and diversity that are more likely to

facilitate an interest in learning (Ames, 1992). In a music class differentiation may include varied musical repertoire, groupings or different music skill development (i.e., improvisation and composition). Although select research suggest the need to differentiate instruction is not needed in a AGST classroom, Allan (1991) explained that, "one question *not* asked in the Slavin research [i.e., a meta-synthesis] was whether programs designed to provide differentiated education for gifted or special education students were effective" (p. 61, emphasis in original). Another key point to recognize was Allan's review of the literature revealed that in some cases, dramatic achievement gains were found for students that were regrouped and provided ability appropriate, differentiated materials.

Regardless of AGST opposition or support, all students, whether ability grouped or not, should be experiencing a differentiated curriculum, with comprehensive units of study that provides creative options (Bender, 2012; Salvador, 2011; Standerfer, 2011; Tomlinson, 2014; Tomlinson & Strickland, 2005). Differentiation should include tiered interventions when needed and systematic enrichment or acceleration opportunities geared to student learning styles, modalities and ability levels for core academic as well as music courses offered (Ainsworth, 2011). All things considered, the importance of distinguishing the difference between music aptitude and music achievement and how music students are grouped in any music class is paramount when evaluating music curriculum, units of study and for preparing to differentiate music instruction.

Differentiation

Differentiation of instruction can positively transform curriculum and instruction (Ainsworth, 2011; Bender, 2012; Perks & Middleton, 2014; Price, 2011; Tomlinson & Strickland, 2005). In a similar fashion, embedding differentiation into a music curriculum should

be no different than any other subject taught (Garnett, 2013; Gordon & Woods, 2001; Martin & Pickett, 2013; Niland, 2009; Salvador, 2011; Standerfer, 2011; Tobias, Campbell, & Greco, 2015). According to Connecticut State Department of Education (CSDE) (2011b) differentiation is "a proactive decision-making process that considers critical student learning differences and the curriculum. Differentiated instruction decisions are made by teachers and are based on: (1) formative assessment data, (2) research-based instructional strategies, and (3) a positive learning environment" (¶ 11). The CSDE's (2016) *Connecticut Common Core of Teaching (CCT) Rubric for Effective Service Delivery* identified that proficient or exemplary teaching was evidenced by "teachers who incorporate 'differentiated' strategies, tasks, and questions to actively engage the majority of learners in constructing new and meaningful learning through integrated discipline-specific tools that promote problem-solving, critical and creative thinking, purposeful discourse or inquiry" (p. 13). In addition, teachers strive to provide instruction that includes scientific research-based interventions (SRBI) that align with the common core of teaching and learning.

How effective differentiated instruction looks in a music classroom has been the topic of research (Martin & Pickett, 2013; Salvador, 2011; Standerfer, 2011). Teachers who differentiate, in any classroom, arts or academic, "…provide specific alternatives for individuals to learn as deeply as possible and as quickly as possible, without assuming one student's road map for learning is identical to anyone else's" (Tomlinson, 2014, p. 4). Researchers at the National Center on Accessing the General Curriculum (2009) defined differentiated instruction as:

> a process to approach teaching and learning for students of differing abilities in the same class. The intent is to maximize each student's growth and individual success by meeting each student where he or she is... rather than expecting students to modify themselves for the curriculum. (¶ 2)

In other words, attending to the individual differences of every student equally is a reality for all educators, music teachers included.

As an illustration, Tomlinson and Strickland explained (2005), teachers typically differentiate instruction by modifying either the content (i.e., what students learn), the process (i.e., how students learn), or the product (i.e., how students demonstrate their mastery of the knowledge or skills). With this in mind, the process will look different depending on the music classroom, prior knowledge, interests, and abilities students bring to a learning scenario. In music, prior knowledge and ability would be determined by a person's music aptitude and level of music achievement. Gordon (2012) explained:

> process, …relates to method of learning whereas product relates to goals accomplished as a result of process. The process of how and the product of what is learned are different only in theory. In actual teaching they are not mutually exclusive. (p. 15)

At the present time, adapting instruction to meet the individual differences is an obvious requirement to ensure teaching and student learning success in the classroom. What is less obvious is the process of implementing specific and targeted differentiating instruction (Ainsworth, 2011; Green, 2008; Standerfer, 2011; Tomlinson & Strickland, 2005; Vada, 2013) for different courses of study (i.e., language arts, math, science, and in particular music). Further, Salvador (2011) wrote that "conceptual clarity about instruction that is guided by clear and accurate evaluation of student skill and awareness provides authentic modifications to teaching methods and instructional materials that address the differences of all learners …" (p. 44), and not solely targeted to those who have exceptional ability to reason and learn (National Association for Gifted Children, 2010).

Currently, evidenced-based process (i.e., measuring music aptitude and music achievement), specific 'differentiated' instruction, and SRBI are mandated for core subjects 'are not' mandated for music education. "In music education, teaching practices are often implemented without any evidence to support enhancement in teaching or learning outcomes" (Bugos, 2015, p. 8). Bugos added, music "educators spend little time evaluating outcomes of specific [research-based] pedagogies, approaches, or methods" compared to teachers of math, science and language arts (p. 8). Bugos continued to explain, "there is a considerable need for schools to get involved in conducting research in music education that can translate to practical application in the general music classroom" (p. 8). This lack of reflection and systematic investigation of current practice contributes to the inadequate diagnosing and fostering of students' music aptitude and music achievement. Inadequate diagnoses prevent authentic and dynamic instruction that meets the needs of all music learners (Fox, 2013; James-Ward et al., 2013; S. Taylor, 1908).

Ironically, although an abundance of music learning research does exist, much has been done with questionable purpose and the results themselves have accomplished little (Bugos, 2015; Cogdill, 2015; Gordon, 2005). Many music teachers, district music supervisors, directors and school administrators are unaware of the complex framework that contributes to shaping a student's needs that contribute to their motivation to continue learning music. Understanding of these complex frameworks is necessary to effectively and efficiently address the individual needs of all students regardless of music aptitude and level of achievement. Through purposeful differentiation and modifying of instruction, no matter what the subject, students become better prepared and engaged and motivated for the next phase of learning (Ainsworth, 2011; Standerfer, 2011; Tomlinson, 2014; Tomlinson & Strickland, 2005).

Engagement & Motivation

Researchers have noted that engagement and motivation can positively transform students and the learning climate of a school and classroom (Azzam, 2014; Burak, 2014; Cogdill, 2015; Harrison, Asmus, & Serpe, 1994; Larmer, 2014; Martin & Pickett, 2013; Quate & McDermott, 2014; Sundberg, 2013; Wormeli, 2014). Comparatively, embedding lessons that are engaging and motivating students in a music classroom is no different than any other subject (O'Donnell, 2011; Salvador, 2011). A search on *Google Scholar* yielded about 3,620,000 results for articles related to 'engagement' and about 3,150,000 articles related to 'motivation.' Two schools of thought that exist in the literature are that motivation is a fixed quality that drives a student or motivation is the result of environmental influences (Perks & Middleton, 2014). For example, Schunk (2012) discussed that regardless of diverse behavioral or cognitive learning theories, common instructional principles include, 'motivation' as part of the mental construct for learning. "Educators have described [engagement and] motivation in many ways – and how they view it influences both their beliefs about their students and their approach to teaching" (Perks & Middleton, 2014, p. 48). Consequently, the process of effectively engaging students in a music classroom is a teacher's ability to skillfully navigate content, instruction, and attend to students' individual differences in ways that direct or redirect student thinking to a state of motivation that inspires authentic and meaningful learning (Jackson & Zmuda, 2014).

Engaged music learners pursue and focus on their own thoughts. Engaged music students share their ideas and understandings about topics of study and take risks. Engaged music learners are not compliant or passive participants. Ironically, alternative thought by research suggested, engagement is not a requirement for all types of learning (Jensen, 1998). However, under most circumstances, "for typical… classroom learning… more focused and engaged attention is better

than less of it" (p. 34). All things considered, successful teachers work to managing stimuli and maintain engaged and motivated behavior especially when teaching and student learning requires effort and purpose when rigor is a factor.

Although engagement and motivation are both unique behavioral attributes, teaching professionals often link them together when discussing and analyzing their role during the learning process (Azzam, 2014; Jensen, 1998, Quate & McDermott, 2014; Richardson, 1990; Southern Regional Education Board, 2011). 'Engaged' students are typically 'motivated' to learn by some stimuli. 'Motivated' students are typically the result of cognitively 'engaged' students. As Asmus & Harrison (1990) explained, identifying and understanding characteristics of motivation and engagement, and their relationship to aptitude, contribute significantly to one's propensity to succeed during learning episodes. Further, Gordon (2012) explained that students who lacked motivation and engagement were the result of poor teaching practices that ignored students' music aptitude, prior knowledge and level of achievement. Music teachers that understand how to interpret reliable and valid music aptitude and music achievement results are better equipped to provide instruction that intrinsically motivates and engage students in all aspects of music learning.

Aspects of Learning – Categorizing

Teachers and learning theorist generally agree on the importance of concept learning, problem solving, transfer, and metacognition during the learning process (Gordon, 2012; Isbell, 2012; Meumann, 1913; Schunk, 2012). Comparatively, embedding lessons that incorporate higher-order skills that require students to extend their thinking in a music classroom is no different than any other subject (Bender, 2012; Keast, 2009; O'Donnell, 2011; Salvador, 2011). Notably, educational psychologists have discussed that learning tasks such as, "fluent reading—

reading with comprehension—is an outgrowth of viewing words through a semantic feature-analytic approach or [process]" (Gordon, 1974, p. 39). In a similar fashion, for music teachers, this cognitive process requires embedding modifications that account for measuring and evaluating prior knowledge. Moreover, part of this process requires students, music students alike, to develop the skill and ability to categorize. Smith (2012) stressed that categories were an essential component of cognition and developing information systems. "To categorize means to treat some objects or events as the same yet as different from other objects or events" (p. 16). Notably, during general skill development, each type of skill learning is unique (Schunk, 2012), and comprehension occurs through learning difference and sameness and the ability to discriminate between categories and distinctions within categories for 'music' as well as with other subjects in K-12 education (Gordon, 1981, 2012; Vada, 2013).

In a like manner, Bruner (1985) compared learning a musical instrument, mathematics, how to play chess or reading rhymes as similar learning tasks since all involve cognitive processing that require balancing attention, memory, persistence and mental categorizing. Smith (2012) explained:

> this process of learning to establish categories involves hypothesizing what are the significant differences—the only reason to establish a new category is to make a new differentiation in our experience, and the learning problem is to find the significant differences that should define the category. (p. 200)

The process of acquiring reading and comprehension skills when developing music literacy (i.e., the ability to listen, read and write music with comprehension) parallels that of reading and comprehending language. "It should be recognized that 'words' and 'patterns' function

synonymously in language reading as they do in developing music literacy" (Gordon, 1974, p. 40). An important distinction that Gordon (2001a) made in over 50 years of research was that:

> music is not a language. It has no grammar or parts of speech. Music is a literature. Nevertheless, processes of learning language are highly similar. Most adults are familiar with children's linguistic development. Thus, …analogies of language development and musical development [help] make the musical development process more easily comprehensible. (p. 1)

Individuals develop their understanding of word meaning through various experiences that acculturate and guide their learning. The vocabularies of language include – and in order of developmental sequence are – listening, speaking, thinking, reading and writing (Gordon, 2011, 2012; Smith, 2012; Vygotsky, 1978). Developing competence categorizing represents a process of skill acquisition for the complex types of learning that occur in school subjects such as reading, writing, mathematics, science and music (Gordon, 2012; Isbell, 2012; Schunk, 2012). As the rules of syntax and word choice evolve in our cognitive structures and meaning is established, persons group and categorize phonemes that individual letters or groups of letters create contextually (Smith, 2012).

In light of current educational policy, many music educators are often searching for ways to connect the discipline of teaching music with Common Core State Standards (CCSS) and the influences state mandates have on teaching and student learning have on all teachers, including music teachers (National Association for Music Education, n.d.; State Education Agency Directors of Arts Education, 2016). Conversely, the New York State Education Department (2002) published *Music – A Resource Guide for Standard-Based Instruction (MRGSBI)*, which was designed to provide, "guidance to New York state school districts and teachers to help

students achieve the music standards" (p. 1). Consequently, this 164-page document provides a meta-compilation of pre-K-12 'field tested' lessons in all areas of music instruction including band, chorus, orchestra, and general music. As a point of interest, the *MRGSBI* was not intended to be a curriculum. It was intended assist music teachers with aligning the current national standards for music education with the state's. Further, the *MRGSBI* provided comprehensive, sequential pre-K-12 units of study that would be dynamic and considered to be continuously developed. Conversely, footnoted on page 131 of the *MRGSBI*'s Appendix B titled: *Types of Assessment Tools and Tasks*, numbered 16 of 17 of 'recommended' *assessment tools and materials* was listed: *Standardized Music Achievement Tests* (i.e., Iowa Tests of Music Literacy) (Gordon, 1971, 1991): Music Achievement Tests (Colwell 1969, 1986); Silver Burdett Music Competency Test (Colwell 1979); Watkins-Farnum Performance Scale (Walkins & Farnum, 1954, 1969). An additional point of interest was that no mention of a music aptitude test was listed. With this in mind, for the purpose of state and national alignment, associating aspects of learning to units of music study and observing the 'taxonomies in education' regarding how all these elements apply to a music and learning, has unlimited positive potential to guide research based instruction, engage and motivate and differentiate learning in the music classroom.

Taxonomies in Education

Researchers and music teaching professionals have used the word taxonomy to describe various areas of teaching and learning (Gordon, 1974; Krathwohl et al., 1964; Mayer, 2002; Vada, 2013; Veal & MaKinster, 1999). Travers (1980) offered that classification is the taxonomic process by which groups of categories or attributes are established in a logical order. Krathwohl, Bloom, and Masia, (1964) described a true taxonomy in the context of educational objectives as:

> …a set of classifications which is ordered and arranged on the basis of a single principle or on the basis of a consistent set of principles. Such a true taxonomy may be tested by determining whether it is in agreement with empirical evidence and whether the way in which the classifications are ordered corresponds to a real order among the relevant phenomena. The taxonomy must also be consistent with sound theoretical views available in the field... finally, a true taxonomy should be of value in pointing to phenomena yet to be discovered. (p. 11)

In a similar fashion, taxonomy can describe the logical order of research-based pedagogical strategies for music educators. As an illustration, pedagogical strategies in a music classroom include, for example: planning, teaching methods, evaluation, group work, questioning, wait time, feedback, individual instruction, lecture, demonstration, and reinforcement. Marzano, Pickering, and Pollock (2001) wrote "it may come as a surprise to some readers that up until 30 years ago, teaching had not been systematically studied in a scientific manner (p. 1). Another compelling surprise is that a uniformed systematic approach to music instruction that horizontally and vertically aligns K-12 comprehensive learning objectives has not been mandated (National Association for Music Education, n.d.; State Education Agency Directors of Arts Education, 2016).

The CCT outlined a taxonomy of children's linguistic development and stressed that all students must learn to listen, speak, understand, read, write, and use language effectively in a variety of content areas (National Governors Association and Council of Chief State School Officers, 2016c). In similar fashion, sequential music learning observers the same sequence of music literacy acquisition, with two substitutions in terminology to account for the music learning differences, they are: listen, *perform*, *audiate*, read and write (Gordon, 2001a, 2010).

Additionally, taxonomies in education were apparent in the CCSS literacy skills by which they aligned with the sequential development of comprehension related to varied text complexities throughout K-12 education that prepared students for college and career readiness in multiple disciplines (National Governors Association and Council of Chief State School Officers, 2016b). Similarly, the CCSS provided a taxonomy for math and "…beginning in grade 6, the literacy standards allow teachers of ELA, history/social studies, science" (¶ 3). Consequently, students are expected 'and' required to meet the particular challenges of listening, speaking, understanding, reading, and writing, the language that pertains to in their respective fields.

Music programs on the school and district level may all have similar learning objectives and goals for teaching and student learning. Consequently, without alignment with respect to the taxonomies and content and pedagogy that reflects agreement among all teachers, essential or transformative education will not be realized (Benedict, 2012; Mayer, 2002). Researchers have suggested that three areas of focus to better align teaching and learning to meet educational goals for teaching for 'all' subjects included: (a) subject matter content knowledge, (b) pedagogical content knowledge, and (c) curricular knowledge (Shulman, 1986). Shulman clarified:

> when there exist competing claims regarding a given phenomenon, the syntax of a discipline provides the rules for determining which claim has greater warrant. A syntax is like a grammar. It is the set of rules for determining what is legitimate to say in a disciplinary domain and what "breaks" the rules. (p. 9)

In a similar fashion, effective communication of learning objectives, goals and outcomes that align with an acceptable level of capability for defining accepted truths in a domain and an understanding to explain and defend logically why a particular proposition or purpose for a lesson is warranted, why it is worth knowing, and how the content relates to other propositions,

both in theory and in practice is essential for positively impacting student engagement, motivation, teaching and learning in 'all' subject areas (Benedict, 2012; Mayer, 2002; Shulman, 1986, 1987).

In contrast, with music education, a crucial factor which contributes to misaligned state or national standards is the lack of consensus of pedagogical taxonomy (Mayer, 2002), and what is a valid test of music aptitude and music achievement (National Association for Music Education, n.d.; State Education Agency Directors of Arts Education, 2016). Music psychologists and research suggested the importance of tonal and rhythm patterns in the development of music literacy (Azzara, 1993; Gordon, 2012; Holahan, Saunders, & Goldberg, 2000; Seashore, 1919). As a matter of fact, tonal and rhythm patterns have been researched extensively and seminally organized (i.e., a taxonomy exists) according to their musical structure in *The Psychology of Music Teaching* (Gordon, 1971), and more recently in *Learning Sequences in Music: A Contemporary Music Learning Theory* (Gordon, 2012). Additionally the role of 'audiation' helps to distinguish the unique nature of musicianship from other intelligences that may appear to be similar in nature due to 'like' intelligence attributes expressed by various researchers (Brualdi, 1996; Gordon, 2012; Harrison, 1990; Jensen, 1998; Woodford, 1996; Woolfolk et al., 2015).

Consequently, much of this research and many K-12 music teachers and music teaching universities have ignored the distinct attributes that are unique to music learning (Gordon, 1969, 2012; Seashore, 1915, 1919; Seashore et al., 1960). Regardless of the tonal and rhythm pattern research that has been performed and the extensive efforts that have been made to justify their importance, these taxonomies are not part of any CCSS or national music and arts initiative (Gordon, 1974; National Association for Music Education, n.d.; State Education Agency

Directors of Arts Education, 2016), and consequently remain topics of research rather than guiding principals that can be embedded nationally to transform future music curriculums (Beall, 1991; Garner, 2009; Gordon, 1974; O'Donnell, 2011; Sang, 1998; Vada, 2013; Woodford, 1996).

Summary

The purpose of this literature review was to research, identify and examine (a) factors that influence learning (b), how learning occurs, and (c) how learning principles apply and correlate to 'music education. Conversely, the key themes in the literature that were most relevant with regards to music teaching and student learning and their relationship to music aptitude and music achievement were: giftedness and talent, music aptitude and achievement, ability-grouping, differentiation, engagement and motivation, aspects of learning and finally, taxonomies in education.

The literature revealed a limited amount of research that explored, examined or discussed the impact of how music teachers could use objective measurement and how these measures could or would influence subjective evaluation of music instruction and music students. The literature did not reveal substantial empirical evidence regarding the use of teacher created rating systems that addressed various quantitative or qualitative measurement of student performance that focused on music goals and objectives for teaching and student learning (i.e., teacher created continuous, additive or numerical rating scales). Additionally, there was very little research that discussed the logistics, practicality and benefits for administering a standardized reliable and valid music aptitude or music achievement test and how these measures may or may not impact music instruction. Equally important was the absence of how students of different aptitudes responded to different music pedagogical approaches and music programs and if correlations

existed between music pedagogy, music aptitude and music achievement. Additionally, the literature did not reveal research that collected, examined, and discusses cohort samples of students that attended the same school but different music classes, teachers, music pedagogical approaches, music aptitude, and music achievement. Further, surveys regarding student and teacher attitudes and perception of various music pedagogies were not apparent in the literature.

Chapter 3: Methodology

Description of Characteristics of Inquiry

At our core, we all are nothing but the sum of our experiences. Creswell (2013) stated, "whether we are aware of it or not, we always bring certain beliefs and philosophical assumptions to our research" (p. 15). With this in mind, Creswell also posited:

> sometimes these [experiences] are deeply ingrained views about the types of problems that we need to study, what research questions to ask, or how we go about gathering data. These beliefs are instilled in us during our educational training through reading journal articles and books, through advice dispensed by our advisors, and through the scholarly communities we engage at our conferences and scholarly meetings. (p. 15)

My epistemological beliefs are based on life-long experiences and dedication to music learning and teaching. Epistemological assumptions are those beliefs that knowledge is known and the longer researchers stay in the 'field' or get to know the participants, the more they 'know what they know' from firsthand information.

Teacher evaluation systems in Connecticut public schools vary. In 2015, the Connecticut State Department of Education issued new teacher evaluation guidelines. The Connecticut State Department of Education established, "educator evaluator guidelines [that] provide direction to school districts as they develop and adopt new systems of educator evaluation and support" (p. 2). To assist districts in the development and implementation of new educator evaluations systems, the Connecticut State Department of Education published the *Connecticut System for Educator Evaluation and Development (SEED)*. The Connecticut State Department of Education (2015a) further stated, "in electing to implement the SEED model, your district is expected to implement the four components of evaluation and support, …with fidelity…" (p. 43). The

Connecticut State Department of Education explained that, "any variation from the components of teacher evaluation and support as written within this document is no longer the SEED model and would be considered a 'district-developed' evaluation and support plan" (p. 43). The Connecticut State Department of Education offered districts the option of adopting SEED, or using the Connecticut Guidelines for Educator Evaluation and SEED to develop their own teacher evaluation and support plans. The Connecticut State Department of Education required districts that opted to use the SEED guidelines and develop their own plans to submit their educator evaluation and support plans annually to the Connecticut State Department of Education for approval.

Working within a pragmatist interpretive framework (Creswell, 2012), this research will serve to explore the rigorous attributes of the Connecticut State Department of Education guidelines for teacher evaluation. I believe that with progressive, timely and scaffold professional learning, the Connecticut State Department of Education's guidelines for teacher evaluation has the potential to evolve in such a way that it can indeed "fairly and accurately evaluate [music] teacher and school leader performance in order to help strengthen practice to improve student learning" (SEED, n.d.). Creswell (2012) stated, "individuals holding an interpretive framework based on *pragmatism* focus on the outcomes of the research—the actions, situations, and consequences of inquiry" (p. 28, emphasis in original). My pragmatic framework of inquiry has sculpted my current philosophy and driven me to believe that all music teachers and music teacher evaluators can employ the use of objective data to better measure and evaluate teacher effectiveness and student learning. Moreover, through the implementation of professional learning, it is my pragmatic belief that music teachers can learn better ways to generate objective

data that can positively impact their practice while in turn be used to dictate professional development opportunities and improve the validity and consistency of music teacher evaluation.

Purpose

The purpose of this study was to gather, examine, evaluate and discuss perceptions of music teachers in Connecticut regarding the efficacy of the *Connecticut Guidelines for Educator Evaluation*, *SEED* and district-developed guidelines for music teacher evaluation and support. This purpose led to the following research questions:

1. How do music teachers perceive the efficacy of the Connecticut State Department of Education's policies and guidelines for music teacher evaluation and support?

This purpose led to an examination of perceptions of alignment between practice and policy, as well as a way to uncover and discuss the efficacy of Student Learning Objectives (SLOs) and Indicators of Academic Growth and Development (IAGDs). Further, this research aimed to uncover and evaluate the data driven collection tools used to evaluate music teacher effectiveness and student learning.

Equally important, this study aimed to address the research question and 'tease' out data that revealed information that could be used to examine the alignment between music teacher perceptions with actual practice and policy. With this in mind, this research sought to explore the perceived impact that the Connecticut State Department of Education's policies and guidelines for teacher evaluation have on teaching, student learning, twenty-first century skill development, core art standards and advancing K-12 music curriculums.

Research Design

Yin (2009) described case study methodology as, "the preferred strategy when 'how' or 'why' questions are being posed, when the investigator has little control over events, and when

the focus is on a contemporary phenomenon within some real-life context" (p. 1). This research explored and examined music teacher perceptions of the teacher evaluation and teacher support process using a case study methodology. Creswell (2012) defined a case study as, "an in-depth exploration of a bounded system (e.g., activity, event, process, or individuals based on extensive data collection)" (p. 465). Further, a case study methodology allowed for multiple forms of data collection. This mixed methodology approach allowed for a systematic collection of Connecticut public school music teacher perceptions that related to my research questions (Yin, 2009)

A case study design and mixed methods data collection and analysis allowed for the most effective and in-depth examination of the issues (Yin, 2009). This research employed a mixed method design where both quantitative and qualitative data were collected. This mixed method design provided concrete procedures for collecting, analyzing, and mixing both quantitative and qualitative data into a single study to best understand the results generated by the data collected (Creswell, 2012).

The Case

This research integrated findings and compared themes generated by music teacher's perceptions across multiple Connecticut public schools located in different District Regional Groups (DRGs). According to the Connecticut State Department of Education's Division of Teaching, Learning and Assessment (2006) a DRG is "a classification system in which districts that have public school students with similar socioeconomic status and need are grouped together." (p. 1). This data yielded data that allowed for a more comprehensive and accurate assessment of the perceptions and practices for all demographics in Connecticut public schools (Yin, 2009).

Participants in this study were music teachers who held an 049 teaching certificate in

music education. Participants included teachers who taught general music, band, chorus, orchestra, guitar/ukulele ensembles and music technology. In fact, the sample consisted of forty-six certified Connecticut public school music teachers from different DRGs, whose experience ranged from two to over twenty-one years. Lastly, participants were music teachers who used SLO(s) and IAGD(s) or Common Formative Assessments as part of their teacher evaluation and support plans within the last two years. In all, this case study sought to capture a broad sample of music teachers throughout Connecticut.

Data Collection Methods

Quantitative and qualitative data collection methods were used to collect data for this mixed methods case study design to answer a research question. The research question and corresponding data collection methods utilized for this study can be found in Table 1 below.

Table 1.

Research Questions and Methods

Research Question	Methods
(1) How do music teachers perceive the efficacy of Connecticut State Department of Education's policies and guidelines for music teacher evaluation?	• Close-ended Survey Questions • Open-ended Survey Question

As previously stated, the research question described in the table above was answered through the use of both qualitative and quantitative data. In the next section, the method of collecting these two types of data is described in detail.

Surveys

According to Creswell (2012) surveys are administered to a population in order to help describe the attitudes, opinions or trends of that population. As a point of interest, surveys provide useful information to evaluate programs in schools. This research implemented a cross-sectional survey design. This means that survey data were collected from one point in time (Creswell, 2012; Fink, 2013; Mertens, 2014). Specifically, for this research, survey data was collected for three weeks during the month of October of 2016.

Close-ended questions keep the boundaries of answering each question strict (Stevens, 1993), and multiple choice options, scalar questions, and checklists assist participants in answering questions and keeping responses focused while teasing out common perceptions (Mertens, 2014). Further, quantitative approaches use more closed-ended approaches in which the researcher identifies set response categories (Creswell, 2012). For this research, a majority of the survey questions were close-ended and used a four level Likert scale to specify participants level of agreement or disagreement on a symmetric disagree-agree scale for a series of statements.

Alternatively, open-ended survey questions allow participants to elaborate more on their opinions and write specific details regarding the questions asked. Creswell (2012) discussed that open-ended questions are an opportunity to probe deeper. Further, open-ended questions allowed for the researcher to "…explore the reasons for the closed-ended responses and identify any comments people might have had that were beyond the responses of the closed-ended questions" (p. 220). Finally, open-ended questions allowed for respondents to clarify their answers and helped relay their true feelings on an issue.

Quantitative and qualitative data were collected through electronic surveys completed by

K-12 music teachers who held an 049 teaching certificate in music education (see Appendix A for a copy of this survey). The survey was emailed to approximately 400 music teachers throughout the state of Connecticut using *Google Forms.* This web-based survey provided an efficient method for collecting a large amount of raw data that was organized and analyzed (Creswell, 2012; Fink, 2013). The electronic survey administered had both open and close-ended questions. Open-ended questions did not provide any response options so that the participant could provide his or her own short answers to the questions presented (Creswell, 2012). A majority of the survey questions were close-ended and used a four level Likert scale to specify participants' level of agreement or disagreement on a symmetric disagree-agree scale for a series of statements. For this research, the open-ended questions allowed for respondents to write exactly what they were doing for SLOs and IAGDs.

Data Analysis Methods

Quantitative and qualitative data were rigorously analyzed in order to understand the perceptions of music teachers regarding Connecticut State Department of Education's guidelines for teacher evaluation. Further, this research sought to investigate and evaluate what the impact these State guidelines have on teaching and student learning. Descriptive statistics were used to analyze the quantitative data obtained from close-ended survey questions. The constant comparative method was used to meticulously analyze, evaluate and codify the qualitative data obtained from open-ended survey questions. As a result of both these data analysis methods, a rigorous analysis of the data was completed. Consequently, robust and comprehensive insight about the perceptions of efficacy held by Connecticut public school music teachers regarding teacher evaluation, SLOs, IAGDs and student learning emerged for discussion.

Quantitative Data

Descriptive statistics were used to analyze quantitative data and describe data trends and establish general tendencies in the data (i.e., mean, median and mode). In addition, descriptive statistics helped to determine the variation of scores (i.e., variance, standard deviation and range), and were used to compare where one score stands in relation to others (i.e., means, modes and standard deviations) (Creswell, 2012). With regards to quantittative data generated by the surveys, Ary, Jacob, and Sorensen (2010) stated that Likert-type survey items classified as ordinal measures were best defined using the mode when analyzing data. Therefore, in addition to calcultaing and interpreting the mean and variance for the responses, calculating the mode when analyzing the Likert scale responses was done. Consequently, these methods helped to explain the characteristics of the quantitative data collected from the sample (Mertens, 2014). Further, Creswell (2012) remarked that problems best suited for quantitative research and analysis were those in which trends or explanations to research questions need to be made.

I downloaded and organized the quantitative data collected from the electronic survey database. The data were entered into the *Statistical Package for the Social Science* (*SPSS*). *SPSS* provided the descriptive statistic calculations aforementioned which yielded visual aids such as pie charts, bar graphs and histograms as an additional way to better understand the statistics generated. Further, the output generated by *SPSS* suggested and revealed trends from the data collected (Creswell, 2012; Mertens, 2014). To summarize, I steeped myself in the numbers generated by my surveys and used *SPSS* to uncover descriptive statistics. I created visual representations of the data collected and gained deeper insight to what the data informed. In fact, through these rigorous methods of analysis, I better understood the characteristics of the samples collected as they related to my research questions (Mertens, 2014).

Qualitative Data

The constant comparative method is characterized by the compilation and analysis of data collected continuously and simultaneously. This method is a process in which any newly collected data is compared with previous data that was collected in one or more earlier studies. Creswell (2012) stated that this process includes "gathering data, sorting it into categories, and comparing information with categories" (p. 434). The constant comparative method facilitates the rigorous process of qualitative data analysis because the comparative analytical method can be applied to social units of any size and because theories are formed, enhanced, confirmed, or even discounted as a result of any new data that emerges from the study (Creswell, 2012).

I used the constant comparative method to analyze themes found in the qualitative text-based data generated by the open-ended survey questions. The open-ended survey questions asked participants to describe in writing information about their SLOs and IAGDs. I began by organizing and coding participant responses as they related to both a two-dimensional Blooms revised taxonomy table (see Table 1 below) and music learning activities that demonstrated the related knowledge type and cognitive process attribute indicated (see Appendix B).

Table 2.

Two-Dimensional Blooms Revised Taxonomy Table

	Cognitive Process					
Types of Knowledge	**1** *Remember Recognize Recall*	**2** *Understand Interpret Infer Explain*	**3** *Apply Execute Implement*	**4** *Analyze Differentiate Organize Attribute*	**5** *Evaluate Check Critique*	**6** *Create Generate Plan Produce*
1.) Factual • Terminology • Basic Elements						
2.) Conceptual *Interrelationships among the basic elements* ***within a larger structure*** • Classifications and category • Principals and generalization • Theories, model and structure						
3.) Procedural Skills • Techniques and methods • Performance Criteria						
4.) Metacognitive • *Knowledge of self and personal cognition of music* • Strategic knowledge • Knowledge of cognitive demands • Self-knowledge						

Using Blooms revised taxonomy as an instrument to explain music learning results into objective criteria helps to define higher-order, critical thinking that embeds procedural and metacognitive knowledge that is characteristic of twenty-first century learning (Hanna, 2007).

As a point of interest, a common goal for all teaching professionals is grounded in the ideology that teachers of all subjects move student thinking forward through types/depths of knowledge and the cognitive process (i.e., Bloom's revised taxonomy and Webb's depth of knowledge) (Hanna, 2007; Jensen, 1998; Krathwohl et al., 1964; Shulman, 1986, 1987; Vada, 2013; Webb, 2002). Another key point to my coding of the respondent's words was that prior to

beginning the coding of the qualitative data, I created a template of key music learning action words and phrases that correlated to Bloom's knowledge types and cognitive processes. I coded all the responses twice and gave questionable responses the benefit of the doubt (i.e., I rounded up when I interpreted a response as a borderline knowledge type or cognitive process). I repeated the process several times. I drew initial comparisons between data points that lead organizing and classifying my responses into categories. I used *Microsoft Excel*® to organize the data and generate proportions for analysis. Simultaneously, I repeatedly compared music teacher responses to the SLO definition set forth by the United States Department of Education. Here, Connecticut defined SLOs as:

> …broad statements about the knowledge and skills a teacher wants students to demonstrate as a result of instruction, address the central purpose of a teacher's assignment, take into account baseline data on student performance, pertain to a large proportion of a teacher's students, reflect content mastery or skill development, and reflect ambitious but attainable goals for student learning. (Lacireno-Paquet, N., Morgan, C., & Mello, D., 2014, p. 2)

After organizing responses, identifying themes, assigning codes, determining proportions and making comparisons, the data was ready to be interpreted. To summarize, I used the constant comparative method to tease out overarching themes that emerged in the qualitative data. I rigorously compared that data to types/depths of knowledge or attributes related music teaching, student learning and the cognitive process.

Reliability and Validity

Reliability and validity of the data collected were determined by following a robust, rigorous and methodical approach (Creswell, 2012, 2013; Mertens, 2014; Yin, 2009). Creswell (2012) discussed reliability meaning:

> …that scores from an instrument are stable and consistent. Scores should be nearly the same when researchers administer the instrument multiple times at different times. Also, scores need to be consistent. When an individual answers certain questions one way, the individual should consistently answer closely related questions in the same way. (p. 159)

Creswell stated, "scores need to be stable and consistent first before they can be meaningful" (p. 159). Equally important, when discussing reliability is the perception of validity. Creswell summarized, "validity is the degree to which all of the evidence points to the intended interpretation of test scores for the proposed purpose" (p. 159). Comparatively, the validity of a study will be tested in order to determine whether or not the research is credible. To summarize, reliability and validity are how individuals judge the quality of the data that is collected in a study. To insure reliability and validity, I will use two methods: pilot testing and member checking.

Pilot Testing

Pilot testing provides a deeper perspective regarding survey instruments. Further, pilot testing provides critical feedback with regards to the general trustworthiness and construction of the questions created (Creswell, 2012; Creswell & Miller, 2000; Mertens, 2014; Schade, 2015). According to Schade, (2015) pilot testing is beneficial and allows researchers to test survey and interview questions to ensure the questions are not misleading or confusing.

Since a survey was the sole manner in which data would be collected, I made certain that my survey instrument would be reliable and valid. The review of the literature revealed a lack of research regarding perceptions of music teacher evaluation and support systems. As a result, there were no existing survey instruments that would adequately address my research questions. Consequently, I developed my own survey instrument following the model set forth by Fink (2013) and Creswell (2012). In order to collect both the quantitative and qualitative research for my mixed method case study design, the survey included both open-ended and close-ended questions. During the survey development process, I went through multiple drafts and iterations that were the result of rigorous testing and response to feedback provided by two twenty plus year veteran music educators. In addition, I had two non-music teachers, who taught subjects similar to music (i.e., where learning outcomes are often measured and evaluated using language that involves subjective assessment) provide critical feedback to help refine question clarity. Finally, one of my thesis advisors provided feedback to help improve my survey instrument's reliability and validity.

Member Checking

As a way to increase the integrity and fidelity of this study, I employed the validation procedure known as member checking. Creswell (2012) specifically referred to member checking as:

> a process in which the researcher asks one or more participants in the study to check the accuracy of the account. This check involves taking the findings back to participants and asking them (in writing or in an interview) about the accuracy of the report. You ask participants about many aspects of the study, such as whether the description is complete

> and realistic, if the themes are accurate to include, and if the interpretations are fair and representative (p. 259)

As a point of interest, member checking can take place near the end of the research project (Creswell, 2012; Lincoln & Guba, 1985). This process involves participants checking to see whether an authentic representation was communicated during an interview or from a survey. To put it differently, member checking that occurs towards the end of the research process involves sharing all of the findings with the participants and allows them to critically analyze findings and provide feedback regarding their responses so that the researcher can better interpret the data collected (Creswell, 2012). To summarize, member checked during and after all data was collected to increase validity and reliability of all responses.

At the end of my data collection process, to insure that the findings were reliable and valid, I interviewed three music teachers and one first grade teacher that completed the survey and asked them to validate their responses and elaborate on the make-up of the survey and questions. All four responded positively and confirmed that their responses were accurate. One mentioned having to recall and do 'a little' research in order to provide answers that accurately reflected 'his' perceptions.

Subjectivity Statement

I am a 25-year veteran educator in the area of music education for pre-kindergarten through 12 (preK-12) and hold an 049 Connecticut music education certificate. I have an undergraduate degree in commercial arranging and a degree of Master's of Science/Education. In addition, I hold an 092 Intermediate Administrative Certificate and I completed a Certificate of Advanced Study (CAS) in Administration in December of 2016. Further, I bring a wealth of

practical experience through my service in a wide variety of public and private school districts in Connecticut.

Coupled with my teaching experience as a preK-12 music educator, I also have mentored new and veteran music teachers and provided professional development in the area of understanding by design concepts related to music instruction that embed authentic and objective measurement and evaluation tools into curriculum that inform instruction and evaluate teaching methods. In addition, I teach college, graduate and post graduate students how to develop authentic and meaningful musicianship by developing the ability to audiate, infer, discriminate and improvise. I am also a working musician who has performed for general business engagements with various ensembles for over 30 years. My experience as a music teacher and performer, in addition to my graduate coursework in leadership and research have equipped me with the skills, knowledge and disposition necessary to conduct a study that explores the efficacy of music teacher evaluation.

As a veteran Connecticut educator, I experienced the transition from traditional teacher evaluation systems to the new state required system. Although I earned exemplary ratings year after year, the sum outcomes of my experiences with current professional development and teacher evaluation plans provided me very little support for improving teaching and student learning. Also, progressive efforts to use data results generated by SLO(s) and IAGD(s) generated by music teachers in my district were not used to influence collaborations between K-12 music teachers to generate positive and unified change to improve music teaching, student learning and twenty-first century skill development. As a matter of fact, fostering objective and valid expectations for closing the gaps between music aptitude and student music achievement were for the most part, ignored.

In addition to considering myself a music teacher and musician, I am a professional educator. As a professional educator, I abide by a code of conduct established by *the Connecticut State Leadership Standards* (CSLS). One CSLS (2012) standard established an expectation that, "leaders understand and expect faculty to plan, implement, and evaluate standards-based curriculum and challenging instruction aligned with Connecticut and national standards" (p. 1). An additional CSLS standard stated that, "leaders use assessments, data systems, and accountability strategies to improve achievement, monitor and evaluate progress, and close achievement gaps" (p. 2). I strive to incorporate these strategies into every aspect of my practice to help me move teaching and learning forward.

Lastly, I care deeply about the quality of education of 'all' programs offered to public school students in Connecticut and possess a deep responsibility for the *Connecticut Code of Professional Responsibility for Teachers.* The Connecticut State Department of Education's (2003) *Code of Professional Responsibility* for teachers stated that, "…teacher accepts both the public trust and the responsibilities to practice the profession according to the highest possible degree of ethical conduct and standards. Such responsibilities include the commitment to the students, the teaching profession, and the community" (p. 1). I am inspired and motivated by CSLS, Connecticut State Department of Education's *Code of Professional Responsibility* and my professional practitioner knowledge base to openly explore and discuss the circumstances surrounding music teacher support and professional growth plans. Further, I am committed to examining the implications of music teacher evaluation guidelines, and the influence they have on the integrity of the music teaching profession.

Summary

This study gathered, examined, evaluated and discussed perceptions of music teachers in Connecticut regarding the efficacy of *Connecticut Guidelines for Educator Evaluation,* SEED and other district-developed guidelines for music teacher evaluation and support. The research 'teased' out data that offered information regarding the alignment between music teacher perceptions with actual practice and policy. The participants of the study included music educators throughout the state of Connecticut that hold a current Connecticut 049 music educator's certificate. To collect data on music teacher perceptions, this study used a survey with both open and close-ended questions. The data was analyzed using both descriptive statistics and the constant comparative method. To ensure the reliability and validity of the data collected, rigorous pilot testing of my survey instrument were performed. Finally, member checking procedures were initiated to guarantee the validity and reliability of all data collected.

Chapter 4 – Results and Discussions

Introduction

The purpose of this study was to gather, examine and discuss perceptions of music teachers in Connecticut regarding the efficacy of the *Connecticut Guidelines for Educator Evaluation*. More specifically, this research aimed to uncover and evaluate the data driven plans and collection tools music teachers use to measure student learning and music teacher effectiveness.

After the data collection and analysis process, two themes were identified:

(1) music teachers perceive that SLOs and IAGDs are intended to improve teaching, student learning, and measure teacher effectiveness, and

(2) music teachers do not perceive that SLOs or IAGDs as efficacious.

These themes were the result of patterns identified from the data sets and describe phenomenon that are associated to my research question.

Research Question: How Do Music Teachers Perceive The Efficacy Of Connecticut State Department of Education's Policies And Guidelines For Music Teacher Evaluation And Support?

As stated in Chapter One, a state-approved, district-developed teacher evaluation and support plan 'is required' by all districts in Connecticut (Connecticut State Department of Education, 2015c). According to the *Connecticut Guidelines for Educator Evaluation,* teacher evaluation and support plans were driven by SLOs and the results generated by multiple student IAGDs. Presently, the Connecticut State Department of Education requires that 'music' teachers follow the same goal-setting process as teachers of 'academic' subjects. Further, the *Connecticut*

Guidelines for Educator Evaluation dictated that data generated by IAGDs accounts for 22.5% of a teacher's evaluation for all tested and non-tested subjects.

Music Teachers Perceive That SLOs And IAGDs Are Intended To Improve Teaching, Student Learning, And Measure Teacher Effectiveness.

Survey question four directly asked music teachers for their perceptions regarding the 'intent' of SLOs and IAGDs. As a result, a combination of 67% of music teachers surveyed either agreed or strongly agreed. It was interesting to note that in comparison, a combination of 33% of music teachers selected either disagreed or strongly disagreed when asked to respond to the same question (see Figure 1).

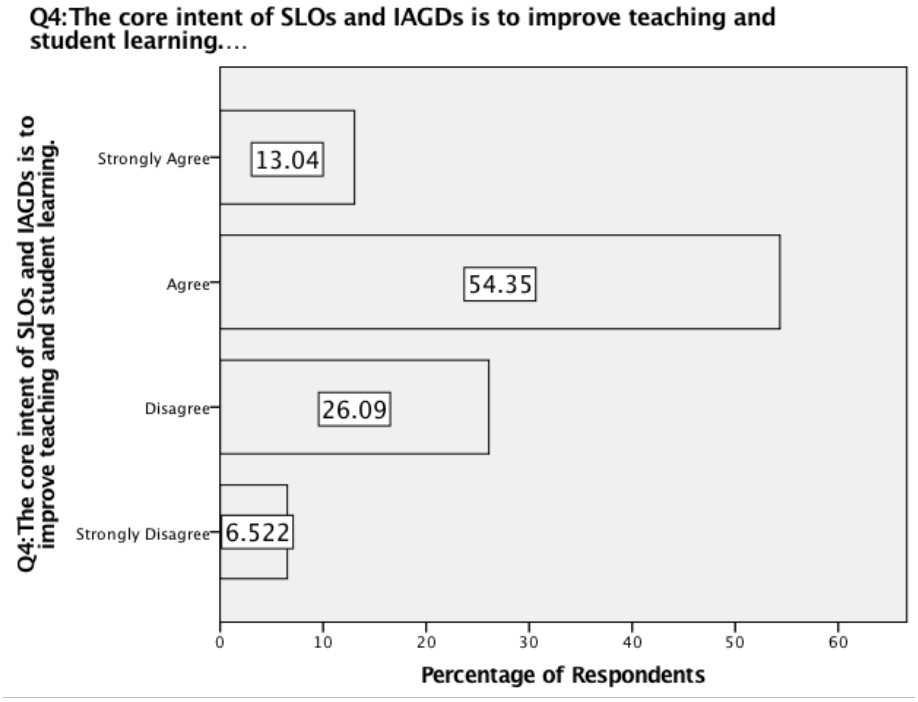

Figure 1. The core intent of SLOs and IAGDs is to improve teaching and student learning.

Figure 1 illustrates that a majority of music teachers surveyed, were aligned with the notion that SLOs and IAGDs were intended to positively impact teaching and student learning. Further, these results were consistent with the existing literature where music teachers understand that

implementing a pedagogy that was driven by reliable and valid formative assessments was no longer an option in education, but a requirement (Connecticut State Department of Education, 2011a; Fox, 2013; James-Ward et al., 2013; Steele & Boudett, 2008a, 2008b).

In response to question five, a combination of 72% of teachers either agreed or strongly agreed that the core intent of SLOs and IAGDs was to measure teacher effectiveness. These results aligned with the state of Connecticut in that teacher effectiveness is determined by data driven indicators (Connecticut State Department of Education, 2011a). Alternatively, 28% of these music teachers either disagreed or strongly disagreed (see Figure 2).

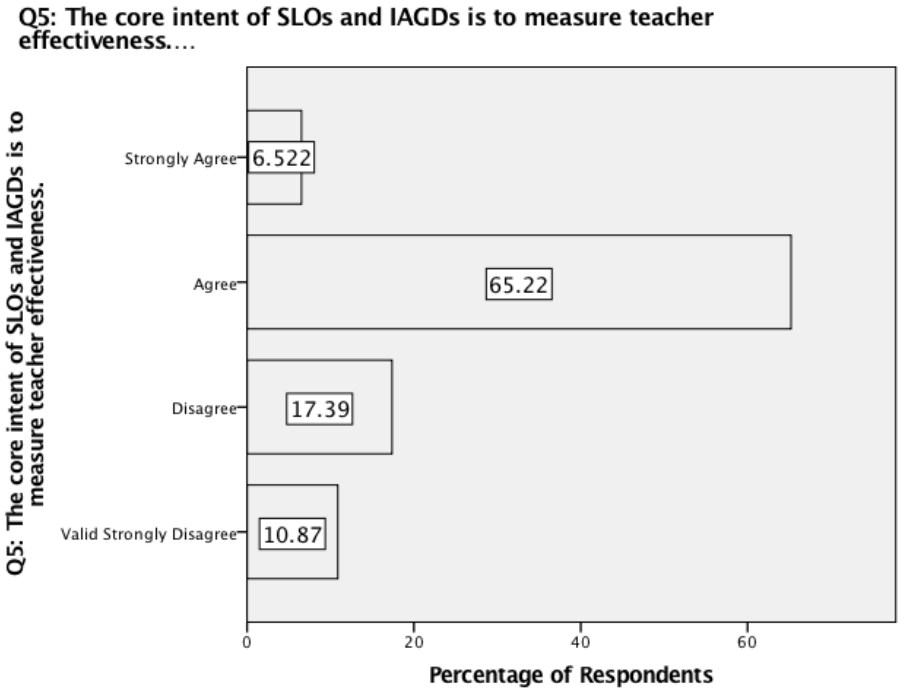

Figure 2. The core intent of SLOs and IAGDs is to measure teacher effectiveness.

The take-way here was that the data revealed that music teachers did perceive that SLOs and IAGDs were linked to measuring and evaluating teacher's performance.

A closer percentage relationship occurred when music teachers were asked to respond to question 15. Here, a total of 41% disagreed or strongly disagreed that the data generated by their

IAGDs was actually being used to evaluate music teacher effectiveness. Comparatively, 59% of the music teachers either agreed or strongly agreed with the same inquiry (see Figure 3).

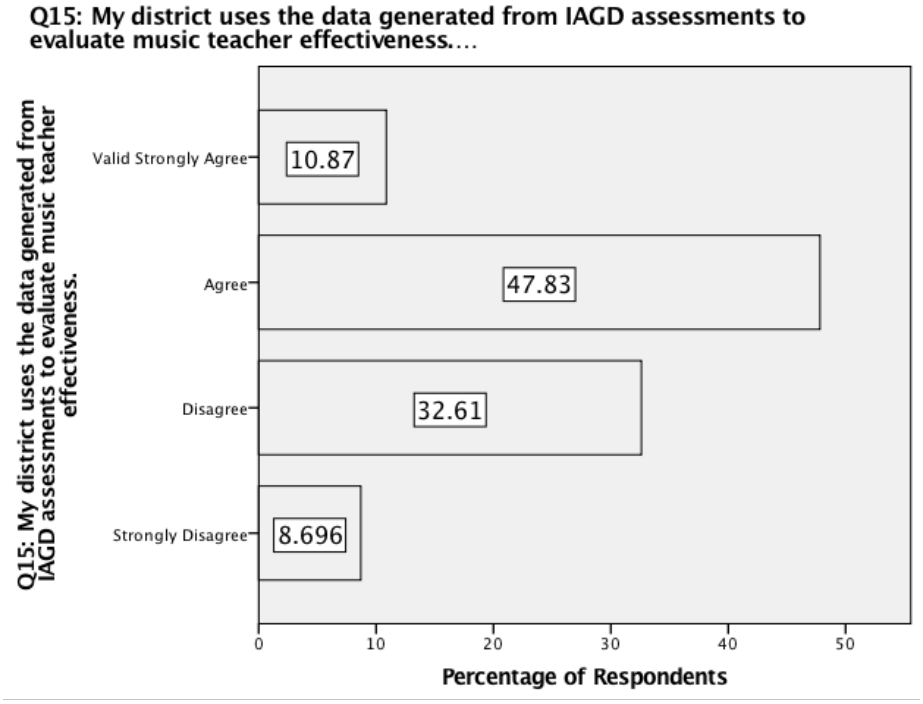

Figure 3. My district uses the data generated from my IAGDs to evaluate and measure teacher effectiveness.

Further investigation of the data generated by question 15 revealed that although the frequency distribution revealed a near to even split (i.e., 9% difference), descriptive statistics revealed a mean of 2.6 and a low standard deviation of 0.80. This suggested that music teachers were genuinely split between agreeing or disagreeing that their district used IAGD data to evaluate music teacher effectiveness.

Equally important, descriptive statistics revealed a mode of 3.0 for both question five and 15 illustrating that teachers agreed more times than disagreed that the core intent and use of SLOs and IAGDs was to measure teacher effectiveness (see Figure 4).

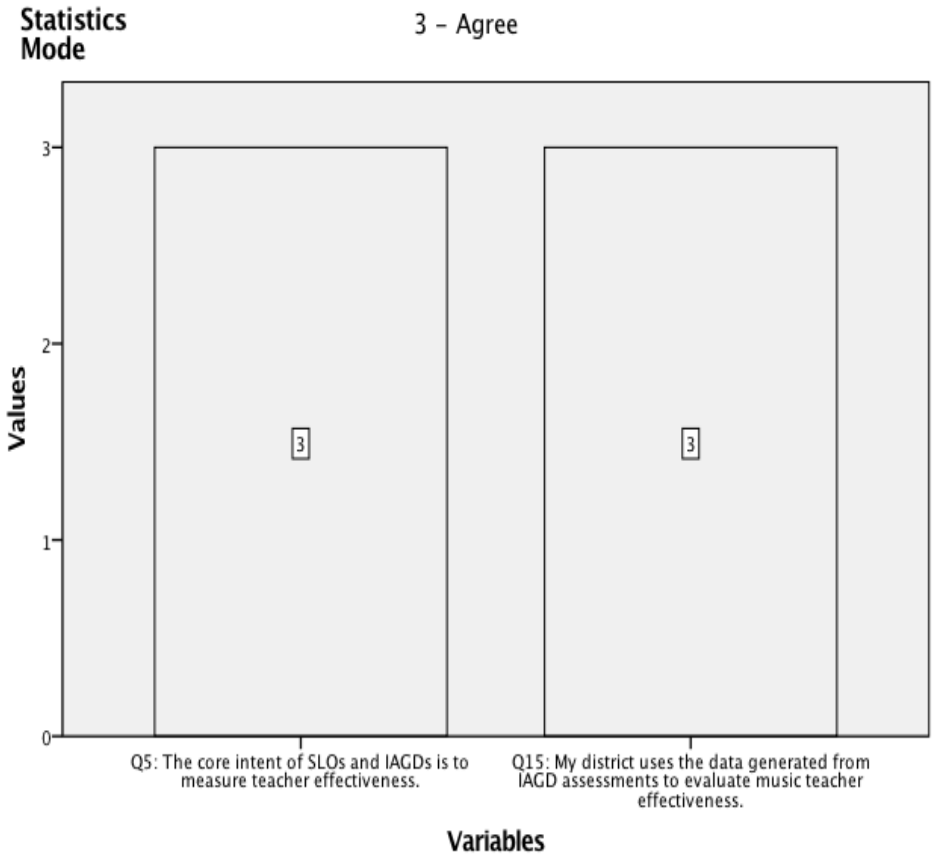

Figure 4. Mode comparison between question five and question 15

Finally, the data indicated that music teachers agreed that the data generated by their IAGDs were used by their district to evaluate their effectiveness. This finding were consistent with state guidelines in that data from IAGDs were an essential part of measuring successful teaching (Connecticut State Department of Education, 2011a).

When music teachers were asked to write down an example of an SLO they used in the past, 72% of the music teachers responded with a valid response (see Figure 5).

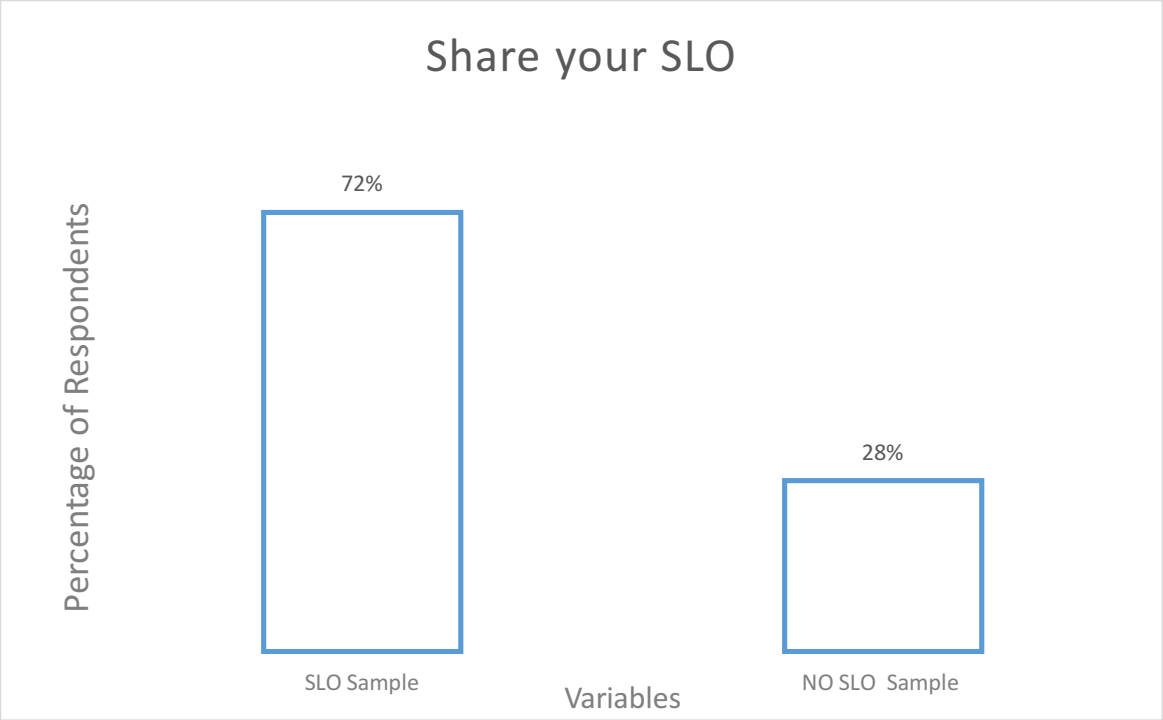

Figure 5. Share your SLO

Alternatively, 28% of the teachers surveyed did not share a valid SLO and responded as follows:

(1) "Skip"

(2) "No Time – planning period"

(3) "(We were required to use a school wide SLO focused on reading). My students will show improvement in reading comprehension and shown in the I-Ready performance end of the year assessment."

(4) "We have a district plan, so do not use SLO's"

(5) "Varies"

(6) "No. Examples of SLOs can be obtained through the district."

Equally important, when music teachers were asked to write down an example of a valid IAGD, 83% of the music teachers responded (see Figure 6).

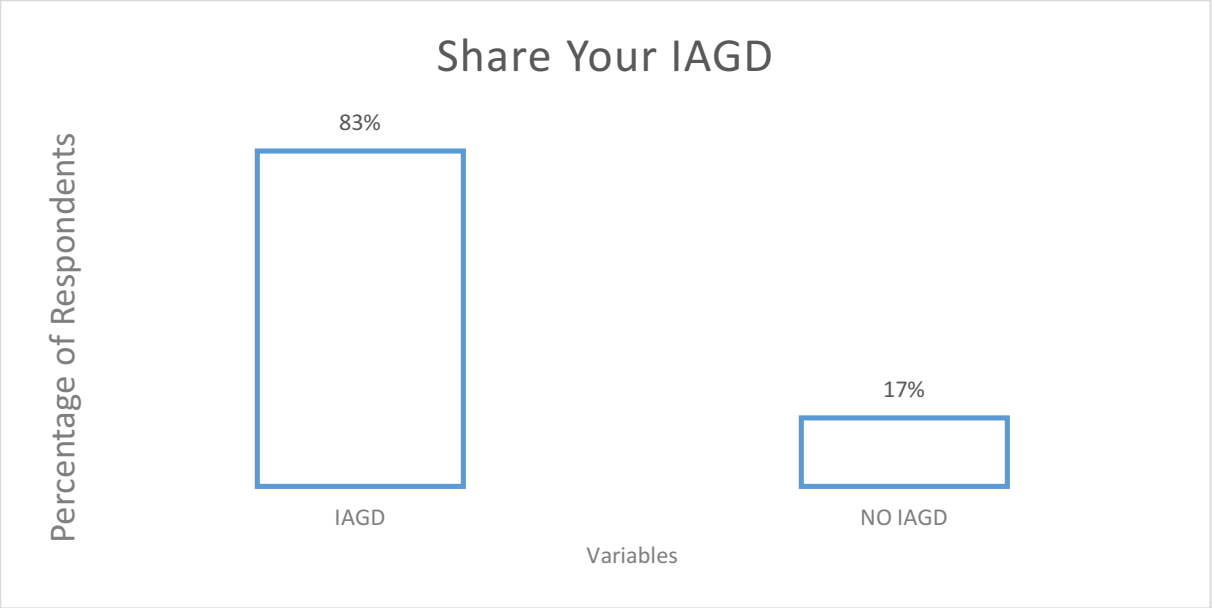

Figure 6. Share your IAGD

Alternatively, 17% of the teachers surveyed did not share a valid IAGD. Examples of how they responded were as follows:

(1) "Skip"

(2) "No Time – planning period"

(3) "N/A"

(4) "Not used"

(5) "I am not required to execute IAGDs this year."

(6) "Varies"

(7) "-"

(8) "Again, you are asking a question that is best answered by administrators/supervisors. That is the proper place for sifting through data."

Although definitive conclusions regarding music teacher perceptions of SLOs or IAGDs could not be deduced from this specific frequency data, the high rate of valid written responses as opposed to non-valid 'neutral' responses reflected a positive attitude towards SLOs and IAGDs

(Creswell, 2012). The content of these responses will be discussed in greater detail later in this chapter

Music Teachers Do Not Perceive That SLOs Or IAGDs As Efficacious.

When teachers were asked to respond to question six, they were asked to respond to the ideology of 'fairness and accurateness' of how they perceived SLOs and IAGDs were being used by their school district. A combined total of 61% of music teachers disagreed or strongly disagreed that SLOs and IAGDs accurately measured all music teachers' effectiveness, fairly and accurately (see Figure 7).

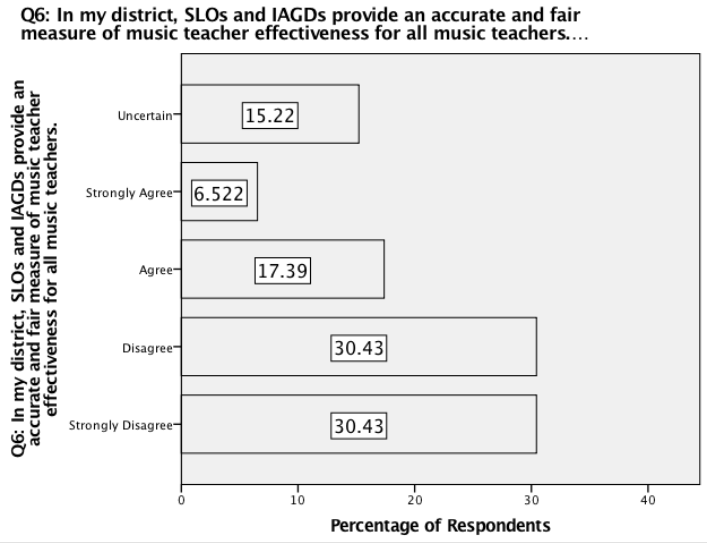

Figure 7. In my district, SLOs and IAGDs provide an accurate and fair measure of music teacher effectiveness for all music teachers.

In comparison, a combination of 24% of teachers either agreed or strongly agreed. Further, an interesting point the data revealed was that 15% of music teachers indicated that they were uncertain if SLOs and IAGDs provided an accurate and fair measure of music teacher effectiveness for all teachers. All these results contradicted state guidelines that data driven indicators were the proof that instruction was effectively impacting student growth and

achievement and an essential part of measuring successful teaching (Connecticut State Department of Education, 2011a). As a matter of fact, these results suggested that SLOs and IAGDs did not prove what the state was asking them to prove.

Survey question seven asked music teachers to respond to the benefits or positive impact their SLOs had with respect to aligning curriculum, relevant music learning, core art standards, critical thinking, problem solving, creativity and their day-to-day teaching assignments. A combination of 67% either disagreed or strongly disagreed (see Figure 8).

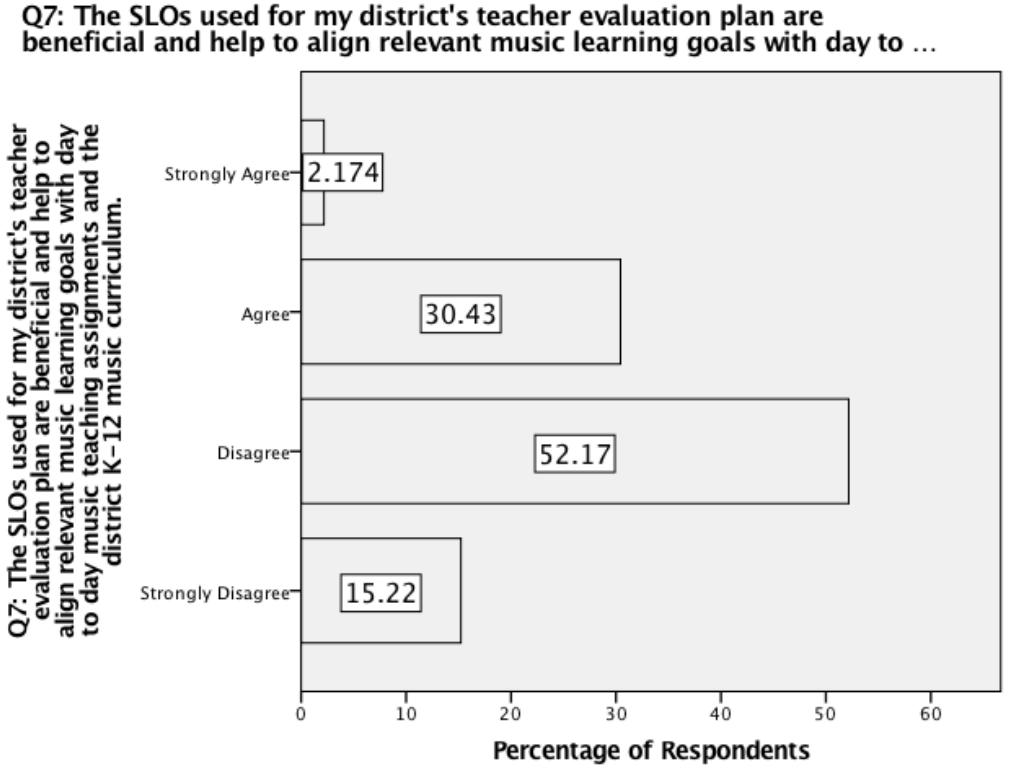

Figure 8. The SLOs used for my district's teacher evaluation plan are beneficial and help to align relevant music learning goals with day to day music teaching assignments and the district K-12 music curriculum.

Interestingly, a low 33% of music teaches either agreed or strongly agreed to the benefits their SLOs and IAGDs provided with regards to the practical day-to-day relevance of 'actually' improving teaching and student learning. These findings contradicted the literature where all instruction, including music instruction, should be guided by reliable and valid measures that provide objective data to assist in subjective evaluation (Fox, 2013; James-Ward, Fisher, & Frey, 2013). Further, these results suggested that SLOs and IAGDs do not identify musical giftedness in order to inform music instruction (Ainsworth, 2011; Gordon, 1967, 2004; Seashore, 1915, 1919; Seashore, C., Lewis, D., & Saetveit, J. G., 1960).

Similarly, in response to question eight, a total of 61% either disagreed or strongly disagreed that SLO's helped to align curriculum with core art standards and twenty-first century skills (Figure 9).

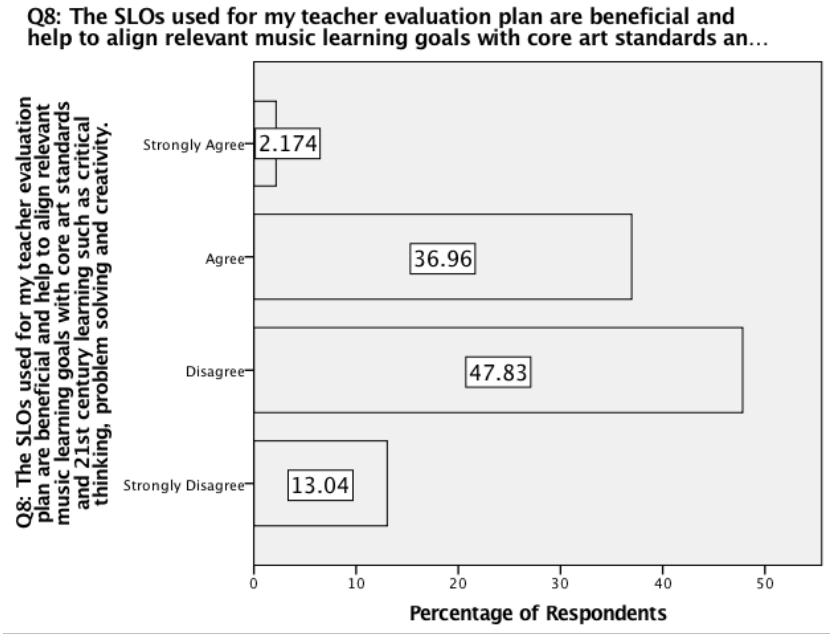

Figure 9. The SLOs used for my teacher evaluation plan are beneficial and help align relevant music learning goals with core art standards, twenty-first century learning such as critical thinking, problem solving and creativity.

Equally interesting, a total of 39% of the music teachers either agreed or strongly agreed that their SLOs and IAGDs were beneficial and help align music learning. These results actually illustrated that a uniformed systematic approach to music instruction that horizontally and vertically aligns K-12 comprehensive learning objectives 'had not' been mandated (National Association for Music Education, n.d.; State Education Agency Directors of Arts Education, 2016).

When teachers were asked to respond to survey question seventeen, a total of 85% either disagreed or strongly disagreed that data generated by SLOs and IAGDs positively impacted collaboration and unified change that improved teaching, student learning and twenty-first century skill development. Comparatively, 15% of all music teachers agreed or strongly agreed to the same statement regarding the positive impact of their SLOs and IAGDs (see Figure 10).

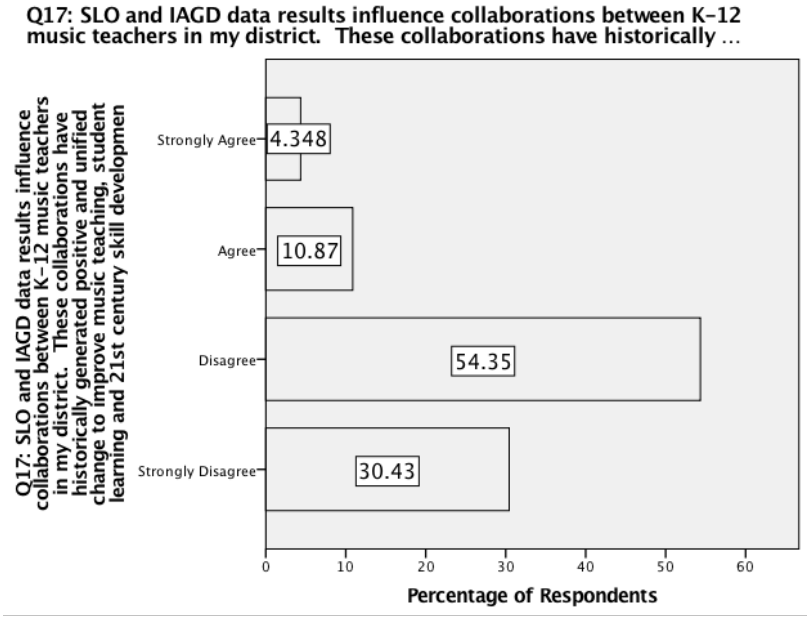

Figure 10. SLO and IAGD data results influence collaborations between K-12 music teachers in my district. These collaborations have historically generated positive and unified change to improve music teaching, student learning and twenty-first century skill development.

As an additional point of interest, descriptive statistics indicated that the mean response for question seventeen was 1.9 with a standard deviation of 0.77 suggesting that 'disagreement' was the average response.

Survey questions nine, 10, 11, 14 and 15 probed deeper into music teacher's perceptions of the data generated by their IAGDs. For example, when music teachers were asked to respond to survey question nine, a total of 61% of music teachers either disagreed or strongly disagreed that the data generated for their district's teacher evaluation plan was useful. Comparatively, a combination of 39% of the respondents felt otherwise by choosing to agree or strongly agree (see Figure 11).

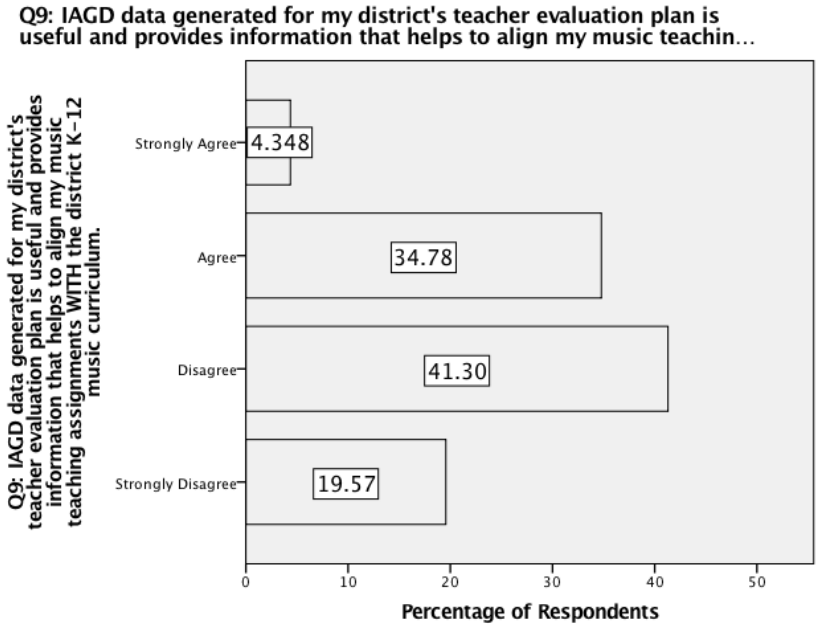

Figure: 11: IAGD data generated for my district's teacher evaluation plan is useful and provides information that helps to align my music curriculum assignments 'with' the district K-12 music curriculum.

Although almost 40% of the teachers surveyed did find the data generated by their IAGD to be useful, descriptive statistics revealed the mean score for survey question nine to be 2.2 with a

low standard deviation of 0.82, which suggested that on average, music teachers disagreed that IAGD data they collected were useful. Here, music teachers failed to either recognize or have the means to accurately collect or reflect on historical and diagnostic student data that could positively transform curriculum and instruction (James-Ward et al., 2013).

In response to question 10 (see Figure 12), a combined total of 72% of the music teachers surveyed either disagreed or strongly disagreed that IAGD data generated for their district's teacher evaluation plan was an accurate reflection of the day-to-day teaching of relevant music skills and that the data generated did not align learning goals with core art standards and twenty-first century learning such as critical thinking, problem solving and creativity.

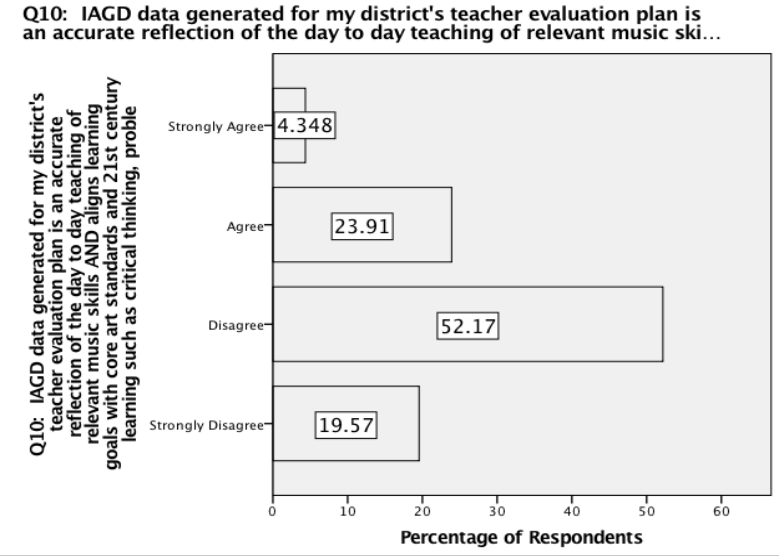

Figure 12. IAGD data generated for my district's teacher evaluation plan is an accurate reflection of the day to day teaching of relevant music skills and aligns learning goals with core art standards and twenty-first century learning such as critical thinking, problem solving and creativity.

Comparatively, 28% of the music teachers surveyed either agreed or strongly agreed. Descriptive statistics revealed that the mean score for survey question nine to be 2.2 and a low standard

deviation of 0.8, which illustrates that on average, music teachers perceived that the IAGD data they collected were not an accurate reflection of day to day learning.

Survey question eleven revealed that a total of 72% of the music teachers surveyed either disagreed or strongly disagreed that the IAGD data they collected for their district teacher evaluation plan provided information that was used to improve their district K-12 music curriculum (see Figure 13).

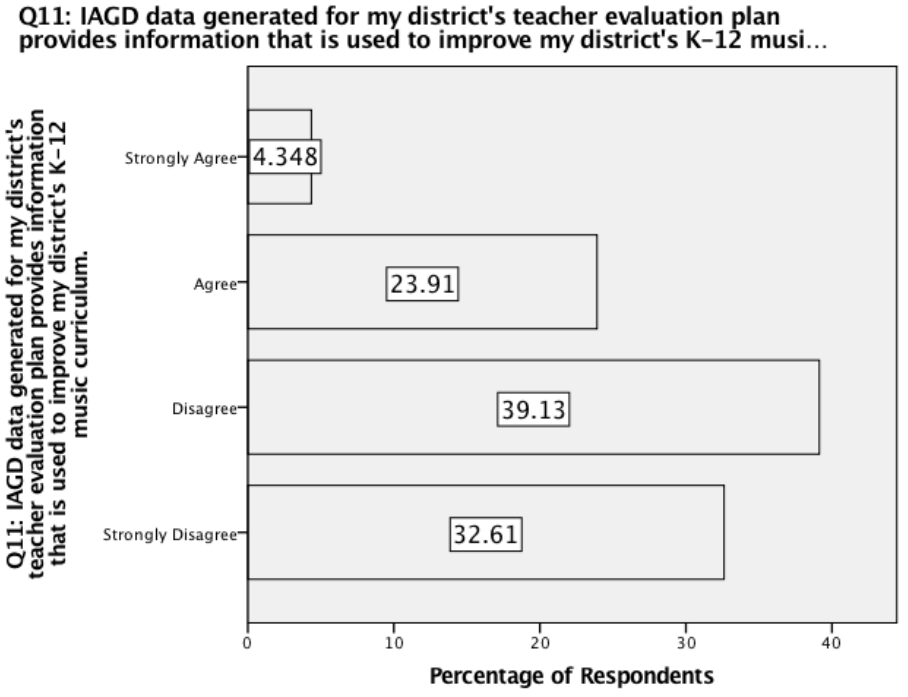

Figure 13. IAGD data they collected for my district teacher evaluation plan provides information that was used to improve their district K-12 music curriculum.

Comparatively, 28% of all music teachers either agreed or strongly agreed. Descriptive statistics revealed a mean of 2.0 and a low standard deviation of 0.87, which suggested that on average, most music teachers perceived the IAGD data collected as 'not' generating data they used to improve their district's K-12 music curriculum

When music teachers were asked to respond to question 14, a total of 91% either disagreed or strongly disagreed that the data generated by their IAGDs was used to evaluate K-12 music programming or used to initiate conversations aimed to improve music course offerings in their district (see Figure 14).

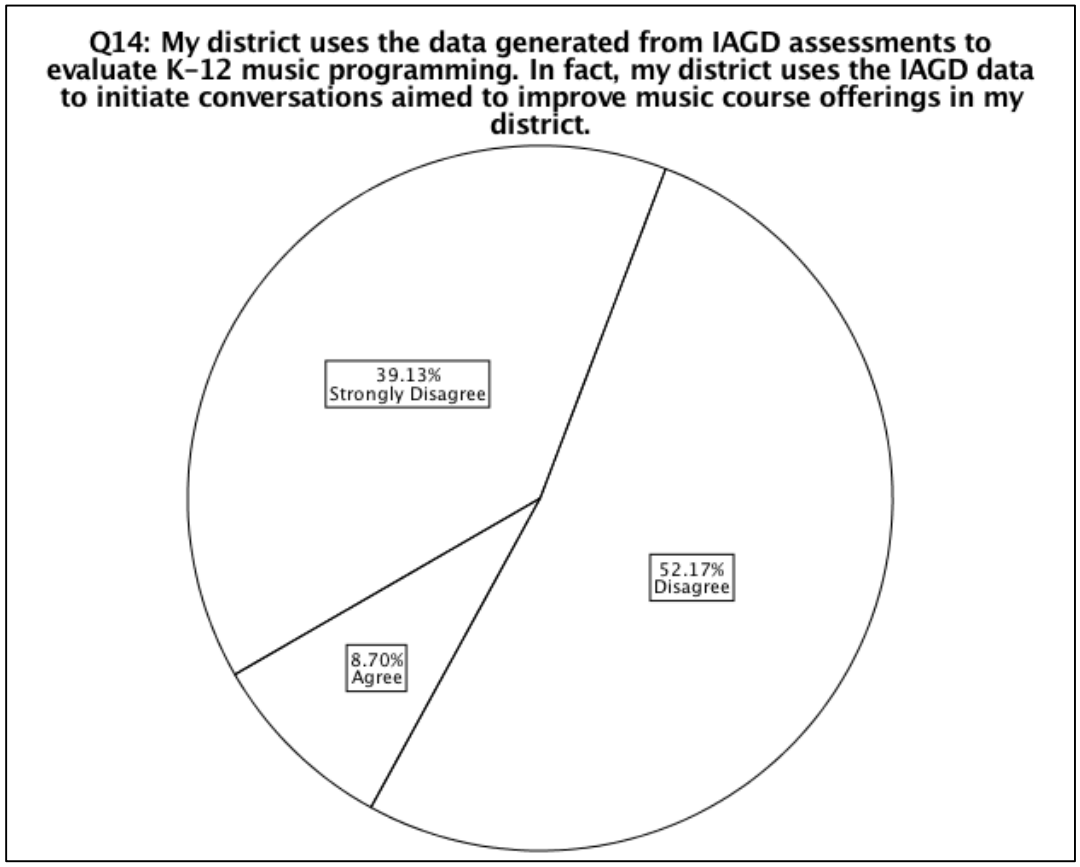

Figure 14. My district uses the data generated from IAGD assessments to evaluate K-12 music programming. In fact, my district uses the IAGD data to initiate conversations aimed to improve music course offerings in my district.

Conversely, 9% of the music teachers surveyed either agreed or strongly agreed. Descriptive statistics revealed a mean of 1.6 and a low standard deviation of 0.63, which suggested that on average, music teachers perceived the IAGD data they collected as 'not' being used to evaluate K-12 programming or used to improve course offerings for their respective districts.

Calculating the mode for Likert scale responses and comparing those responses to each other provided a profound presentation of the data collected (see Figure 15).

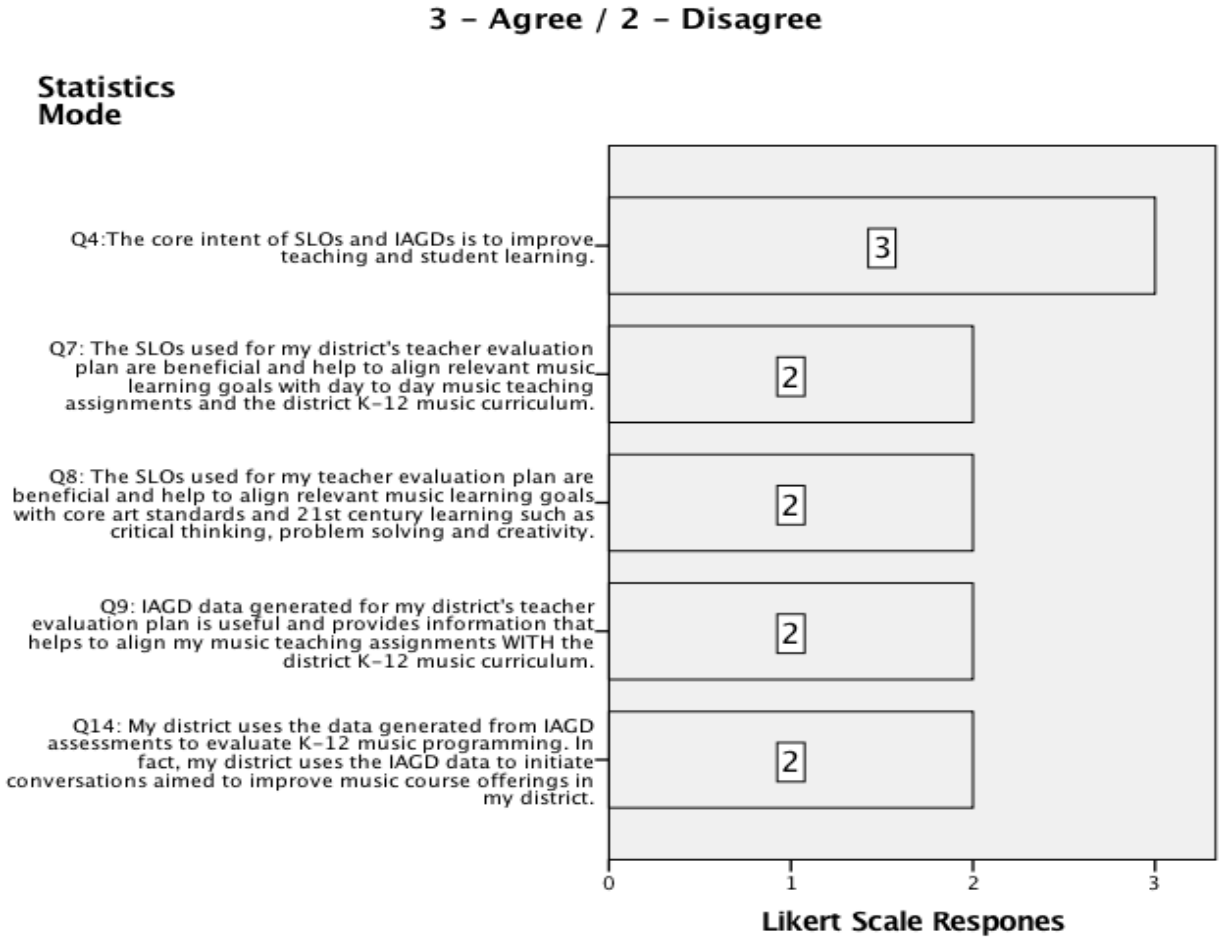

Figure 15. Comparing Modes – question four with questions seven, eight, nine, and 14

In Figure 15 question four was compared to question seven, eight, nine, and 14, and illustrated that although music teachers might have perceived the intent of SLOs and IAGDs to be positive, they did not perceive them as efficacious.

Another compelling comparison was the relationship between the modes of question five, with question seven, eight, nine, 10, 11 and 14 (see Figure 16).

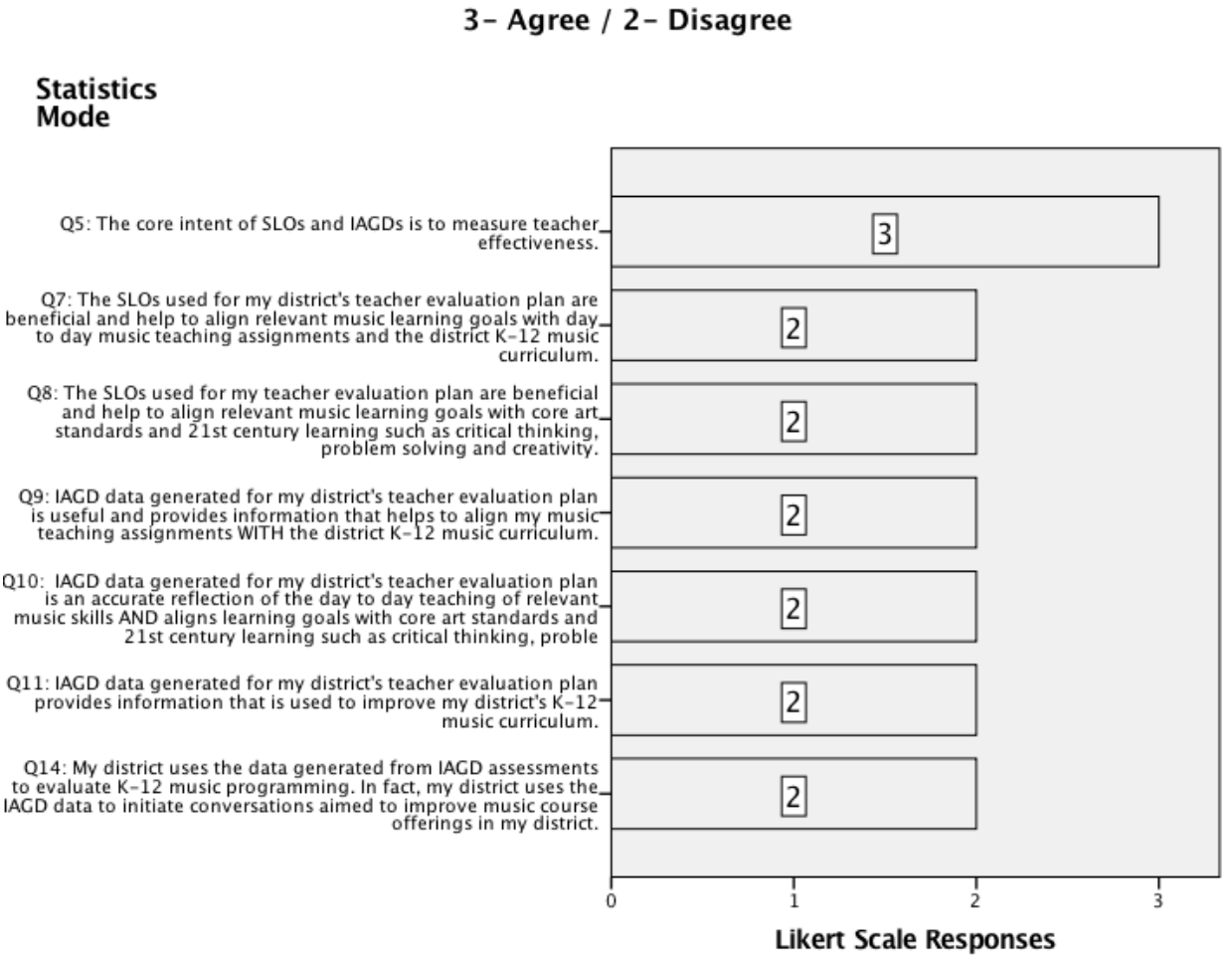

Figure 16. Comparing Modes – question five with question seven, eight, nine, 10, 11 and 14

The data in Figure 16 clearly illustrated that although music teachers perceived the intent of SLOs and IAGDs was to measure teacher effectiveness, teachers perceived that these data driven indicators did not.

Finally, comparing the modes of question four and five with question 17 revealed possibly one of the most telling facts about the relationships between music teacher perceptions, regarding policy and practice (see Figures 17 and 18).

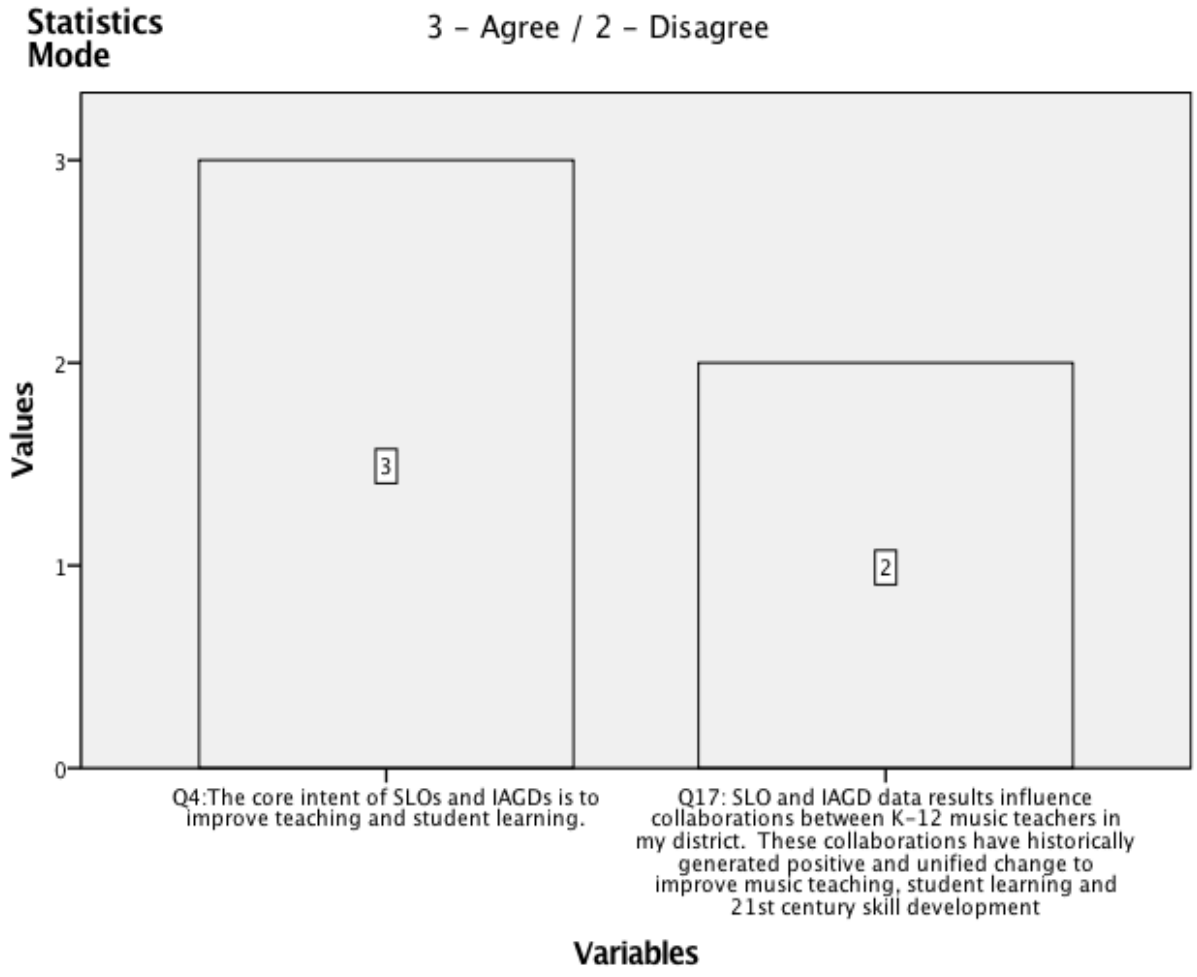

Figure 17. Comparing Modes – questions four and 17

Question 17 was carefully designed to 'tease' out perceptions regarding the ideology of collaboration influenced by the successful teaching frameworks of Danielson (2011) and Marzano, Pickering, and Pollock (2001). As a point of interest, Connecticut State Department of Education's rubric for effective teaching embraced the collaborative attributes of Marzano et al. (Connecticut State Department of Education, 2016).

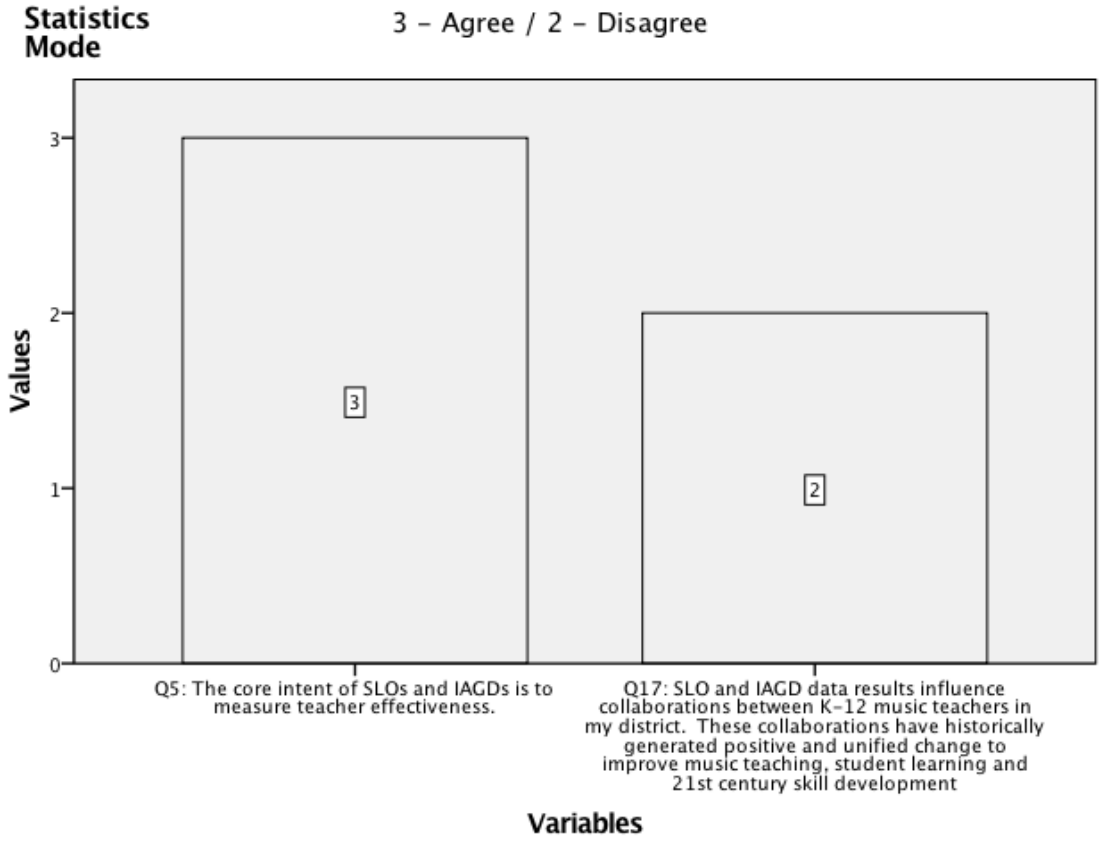

Figure 18. Comparing Modes – question five and question 17

Question 17 drew out perceptions of music teachers and the effects of SLOs and IAGDs. The results of this survey question illustrated the lack of the positive effect SLOs and IAGDs had on collaboration or the encouragement of productive and meaningful conversations between colleagues. Prior research confirmed that for schools to survive in the twenty-first century and beyond (Connecticut State Department of Education, 2011a, 2015a, 2015b; Illinois State Board of Education, 2016; Lachlan-Hache, Cushing, & Bivona, 2012; Lacireno-Paquet, Morgan, & Mello, 2014), collaboration is a necessary component that helps develop and sustain a professional learning environment that supports teaching and that positively impacts student learning (Danielson, 2011; Marzano et al., 2001).

Music teachers' perceptions of standardized and non-standardized assessments were revealed by the data collected from survey questions nineteen and twenty. According to the data collected, 39% of music teachers reported that they used standardized assessments as a way to collect IAGD data (see Figure 19). In contrast, 52% of music teachers reported that they did not use standardized assessments to collect IAGD data.

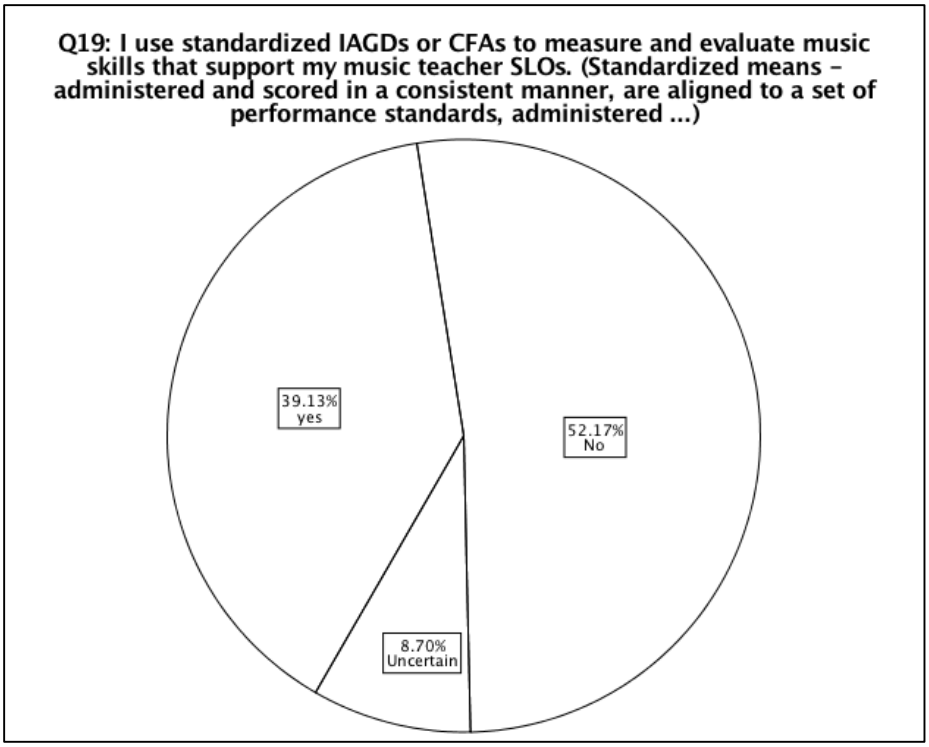

Figure 19. Question 19: I use standardized IAGDs or CFAs to measure and evaluate music skills that support my music teacher SLOs (Standardized means – administered and scored in a consistent manner, are aligned to a set of performance standards, administered nation or state-wide, commercially produced, and are often administered one or two times a year)

As a point of interest, 9% of the music teachers reported that they were uncertain if the assessments they were using were standardized or non-standardized. Taking this line of questioning further, question 20 revealed that 83% of the music teachers surveyed used non-

standardized assessments, 13% did not use non-standardized assessments and 4% were uncertain (see Figure 20).

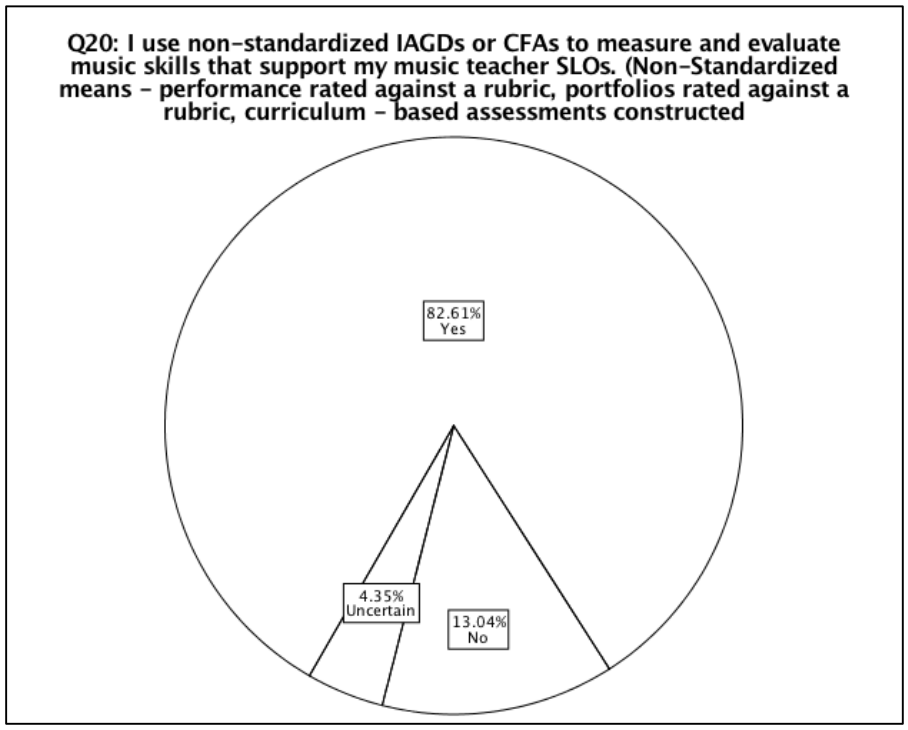

Figure 20. Question 20: I use non-standardized IAGDs or CFAs to measure and evaluate music skills that support my music teacher SLOs (n.b., Non-Standardized means – performance rated against a rubric, portfolios rated against a rubric, curriculum – based assessments constructed by a teacher or a team of teachers, teacher developed tests, formative assessments, and or diagnostic assessments)

These survey questions revealed an interesting collection of data. To help clarify respondents' answers, I provided open-ended questions for music teachers to write in examples of their IAGDs. I followed that question up with an additional open-ended question for music teachers to provide the procedures they followed for administering and collecting IAGD data. I analyzed and coded their responses as either an 'S' for standardized with an 'N' for non-standardized based on the Connecticut State Department of Education definition of standardized and non-standardized

indicators (Connecticut State Department of Education, 2011a). The following are samples of the responses collected that were consistent with state guidelines for standardized and non-standardized:

(1) "Seventy percent of students will meet/exceed expectations on school-wide assessment" (N)

(2) "Twenty-five percent of my students will move from "Approaching Effective" to "Effective" in pitch accuracy" (N)

(3) "The other orchestra teacher at my school and I have collaboratively designed a formative assessment for performances and auditions" (N)

(4) "Students will score a three or better in rhythm" (N)

(5) "Of all the first grade students, 6% who scored one out of four on the pre-assessment will score two or better, 30% of students who scored two out of four on the pre-assessment will score a three or better, and 60% of students who scored three out of four on the pre-assessment will score a four by June, 2017" (N)

(6) "All eighth grade band students will increase their score in music literacy to 60% or better on Eternal Peaks. This is administered with the use of Smart Music" (N)

(7) "Sixty to seventy percent of students who play wind instruments will score at least a three on tone quality 70-80%% of students will score at least a three on steady beat 80%-90% of students will score at least a three on rhythm accuracy 80%-90% of students will score at least a three on pitch/fingering accuracy" (N)

(8) "All eighth grade students will advance from Iowa Tests of Music Literacy Three to Iowa Tests of Music Literacy Four. The 65% of 8th grade students will score within one standard deviation of the mean on Iowa Tests of Music Literacy Four.

> The Iowa Tests of Music Literacy is a standardized measure. Also Non-standardized assessments are used that have not been calibrated for reliability or validity... but are more formative in nature in that they help inform instruction" (S and N)

These samples were representative to the type of responses received. Of all these responses, only one was a standardized measure. As a point of interest, the one standardized IAGD identified was the Iowa Tests of Music Literacy discussed in Chapter Two (Gordon, 1971, 1991). This test is administered and scored in a standard manner. As aforementioned, the Iowa Tests of Music Literacy were designed to provide a diagnostic profile for individual students and are used to inform instruction (Boyle, 1973). An interesting fact to point out is the survey results for question 19 revealed that 39% of music teachers used standardized measures. This percentage did not correlate to the written responses provided by music teachers surveyed and Connecticut guidelines (Connecticut State Department of Education, 2011a). Perhaps the music teachers surveyed were unclear with regards to the difference between a standardized test or non-standardized test and require professional learning (James-Ward et al., 2013).

Finally, I probed deeper into the analysis of the written response data to uncover reasons 'why' music teachers perceived SLOs and IAGD as 'not being efficacious'. I began by organizing and coding participant open-ended responses as they related to both a two-dimensional Blooms revised taxonomy table and music learning activities that demonstrated a corresponding knowledge type and cognitive process attribute. The following five open-ended responses were examples of music teacher SLOs:

(1) Students will be able to play four scales.

(2) Students enrolled in sixth grade piano class will improve their knowledge of musical notation by 80%, same for terminology

(3) All violin students will demonstrate growth in their range and fingerings. Eight-five percent of strings players will demonstrate ability to read and play first position notes including F# and C#.

(4) Students will develop rhythmic awareness and literacy through the learning of guitar accompaniment skills.

(5) All middle school music students will demonstrate positive growth and increased understanding of content in relation to context with regards to tonality and meter through listening, reading, writing and performing with and without an instrument with enjoyment and good musicianship.

As a point of interest, Richardson (1990) and McPherson (1997), Schmidt (1980) all suggested three different skill areas that needed to be considered in determining musical giftedness: performance skills, creative ability (such as composition) and verbal and musical-perceptual skills. As a way to identify these musically gifted students, Schmidt suggested three procedures: a performance audition, analysis of student composition and evaluation of student writing. For the most part, responses one, two and three ignore these guidelines. Further, as they were written, responses one, two and three were examples of Blooms revised level one and possibly level three. Cognitive processes suggested – recall and execute/apply. In all three of these samples it was obvious that students were recalling exercises and or techniques that had been rehearsed or memorized and not initiating skill areas highlighted by Richardson (1990) and McPherson (1997), or Schmidt (1980). Further, they did not necessarily align with the Connecticut State Department of Education's definition of SLOs in that they were not broad statements about the

knowledge and skills or reflect content mastery, skill development, and reflect ambitious but attainable goals for student learning (Connecticut State Department of Education, 2015c).

Sample responses four and five suggested Blooms revised level one, two, three and four. Cognitive processes suggested – recall, inference, application, classify, evaluate and generate. In both these samples it was more obvious that students were moving past simple recall of facts or pre-rehearsed training and muscle memory. After evaluating and coding all the responses, the following bar graph was generated (see Figure 21).

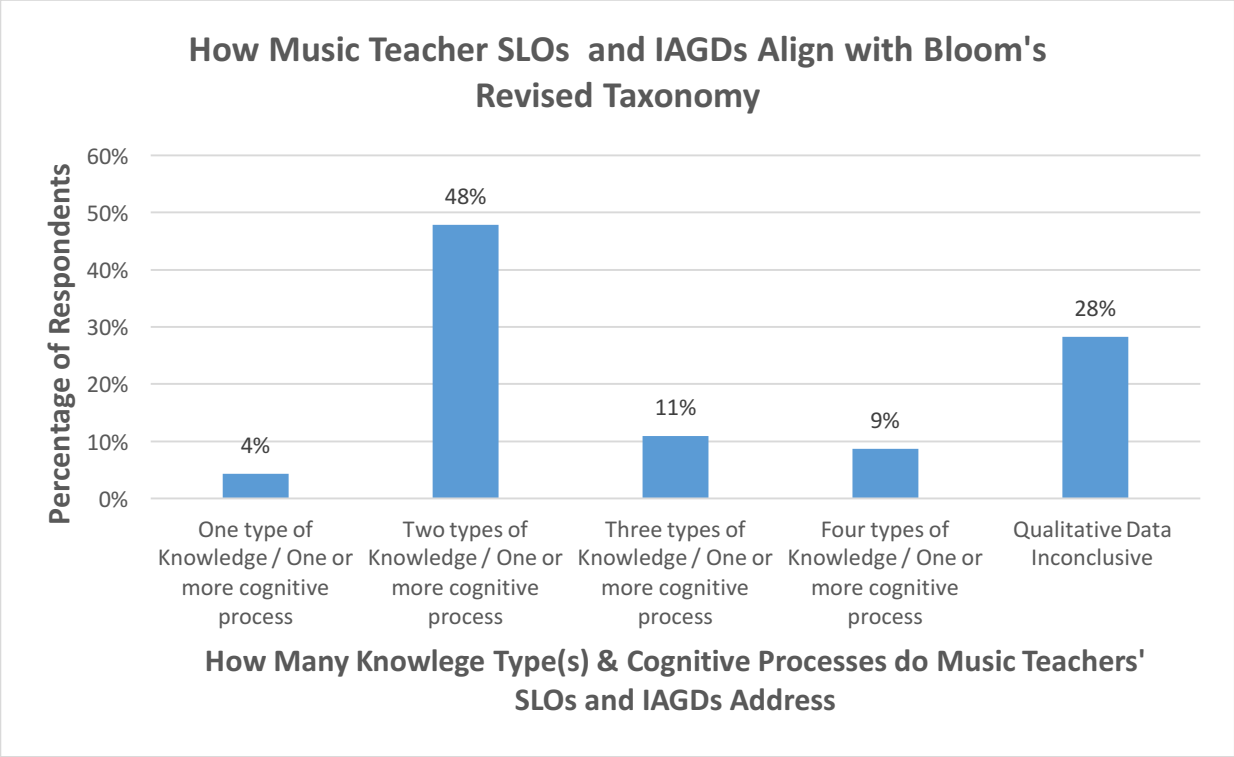

Figure 21. How Music Teacher SLOs and IAGDs Align with Bloom's Revised Taxonomy

As a point of interest, Figure 21 displayed a lack of SLOs and IAGD that addressed more than two knowledge/depth types. As a matter of fact, 80% of the music teacher surveyed provided either inconclusive information on open-ended survey questions and either addressed one or two types or depths of knowledge that aligned with Bloom's revised taxonomy or Webb's depth of knowledge in their SLOs and IAGDs (Hanna, 2007; Hess et al., 2009; Webb, 2002).

Comparatively, 20% of the respondents addressed three or four types of knowledge that aligned with Bloom's revised taxonomy and Webb's depth of knowledge with their SLOs and IAGDs. As I coded the data, I found that many of the cognitive processes related to low level skills of memory, recognition, recall and execution. Few SLOs and IAGDs represented higher order thinking skills (such as discrimination, inference, content in relation to context, analyze, generate, create, critique, and evaluate are a handful that come to mind).

Summary

In this chapter, the results for the research collected were presented in themes while discussion was provided. For my research question, how do music teachers perceive the efficacy of Connecticut State Department of Education's policies and guidelines for music teacher evaluation, the first theme to emerge was (1) music teachers perceive that SLOs and IAGDs 'are intended' to improve teaching, student learning, and measure teacher effectiveness. My quantitative and qualitative findings showed that a majority of the music teachers surveyed perceived that the intent of SLOs and IAGDs were positive and theoretically used to improve teaching and student learning. In addition, descriptive statistics and comparing modes of similar questions confirmed that that majority of participants also perceived that SLOs and IAGDs measure teacher effectiveness 'and' are used to evaluate teachers.

As for the second theme, that music teachers 'do not' perceive that SLOs or IAGDs as efficacious, the data collected revealed that music teachers' perception of SLOs and IAGDs – in their present state – were 'not efficacious.' As the research data revealed, in most cases, an overwhelming majority of music teachers disagree with all statements that ask if their SLOs and IAGDs provided useful data for improving teaching and student learning, inspire robust

collaboration for positive change, or provided data that is used to improve K-12 curriculum and evaluate music programs.

Finally, qualitative data was analyzed and coded by how well SLOs aligned with Bloom's revised taxonomy. This was done to help answer 'why' music teachers perceived the intent of SLOs and IAGDs to be beneficial, but in actuality, were seen as 'not' being useful or beneficial. The results from this process illustrated that the majority of SLOs provided, focused on lower levels of Bloom's revised taxonomy and perhaps a large population of music teachers lack the training and resources required to write and implement the desired type of SLO and related IAGD that would make the process more authentic, meaningful and 'efficacious'.

Chapter 5: Conclusions and Implications

Summary

This case study was driven by my concern for music education. This concern has been motivated by my perceptions surrounding the ideology of musical 'training' vs. music 'educating,' and how the differences between these two dogmas can be better understood for improving genuine teaching and student learning. Authentic life-long creators and appreciators of music are the result of a robust music education fueled by a dynamic music curriculum that embraces sequential units of study that are based on research based pedagogy. Consequently, reliable and valid measurement and evaluation of musical awareness and skill are critical to informing instruction so teachers are better equipped with the data needed to move student thinking forward. The process of measuring and evaluating higher-order thinking skills that correlate to music learning led me to explore more thoroughly the issues surrounding music assessment. This process provoked me to discuss the challenges surrounding objective assessments for subjects taught, such as music, that are particularly difficult to objectively assess because their learning outcomes are often measured and evaluated using language that involves subjective assessment of specific artistic processes.

Although I am optimistic that a plan to uncover ways to determine teacher effectiveness and authentic student learning is possible, I am also all too familiar with the facts and the culture of music teaching today. In order for SLOs and IAGDs to exemplify higher-order and critical thinking in music classrooms throughout Connecticut to take place, a paradigm shift that is driven by ambitious teachers and school leaders will need to occur. Until then, in their current state, Student Learning Objectives (SLOs) and Indicators of Academic Growth and Development

(IAGDs) will continue to ignore the limits imposed by the dead end results that many 'music training paradigms' produce in music classrooms today.

Chapter One discussed the state of Connecticut's motivation for linking teacher evaluation with teacher *effectiveness*. In addition, Chapter One provided a clear statement of the problems associated with the current state of SLOs and IAGD. With this in mind, the purpose of this research was to gather, examine and discuss the perceptions of music teachers in Connecticut regarding the efficacy of the *Connecticut Guidelines for Educator Evaluation*, Connecticut's System for Educator Evaluation and Development (SEED) and other district-developed guidelines for music teacher evaluation and support. This purpose drove the research to examine the alignment between perceptions, practice and policy. Also, this study sought to explore and uncover the relationship between the data collection tools used to evaluate music teacher effectiveness and their impact on teaching and student learning. Chapter One also included one research question and concluded by providing a definition of terms and a summary of all chapters.

Chapter Two presented a comprehensive review of the literature that highlighted the most relevant historical and current substantive findings related to my research purpose. The literature review provided a foundation of the fundamental underpinnings and relationships between themes found in literature. Additionally, chapter two explored the theoretical and pedagogical contributions related to music teaching, student learning, measurement and evaluation of instruction. To summarize, the literature review, identified and examined (a) factors that influence learning (b), how learning occurs, and (c) how learning principles apply and correlate to 'music education. Lastly, the literature review identified gaps in the research and offered recommendations for future study.

Chapter Three provided a description of characteristics of inquiry that revealed researcher bias. Chapter Three also specified the rationale for actions taken given the purpose and nature of the study. Further, Chapter Three described in explicit detail the structure, methodology and design used and explained why a mixed method case study best supported the research purpose. In addition, Chapter Three described the sample, the type of data that would be collected and the methods by which the data would be analyzed. In all, Chapter Three described how all the procedures of the research process fit together so that if proposed, a knowledgeable researcher could confidently replicate this study.

Chapter Four reported research findings and revealed the themes that emerged from the data. Descriptive statistics such as frequency distributions, means, modes, standard deviations and variances provided information that was used to interpret data meaningfully. Consequently, the themes generated by the data collected were (1) music teachers perceive that SLOs and IAGDs 'are intended' to improve teaching, student learning, and measure teacher effectiveness and (2) music teachers 'do not' perceive that SLOs or IAGDs as efficacious, the data collected revealed that music teachers' perception of SLOs and IAGDs, in their present state, are 'not efficacious'. Chapter Four systematically presented the results of the data collected in a scholarly fashion so that a robust analysis of the findings could be related to the research questions and interpretations of the data could be generated. Further, Chapter Four provided visual illustrations such as pie charts and bar graphs to offer additional perspectives of proportion as they related to all the data and variables. In all, Chapter Four answered the research questions presented.

In Chapter Five I will discuss the limitations of this study by addressing influences that I could not control and highlight the shortcomings I faced that may have affected outcomes of my research. Second, based on my analysis, I will discuss implication for practice by providing what

can or is being done to improve the process and outcomes of SLOs and IAGDs. Finally, I will make suggestions for future research that may in turn strengthen the literature and provide points that will inspire future researchers to explore.

Limitations of the Study

There were three main limitations of the study: the lack of prior research for the topic, the sample size, and the time allotted to complete the research. The first two limitations were related to each another. Since there were no pilot studies done before this research, deciding on what the sample size should be was not possible. The sample size in this study is relatively small. Creswell (2012) suggested that a small sample size could limit the generalizability of the results of a study. Albeit, larger sample sizes do increase the chance of finding a significant difference, a sample size of forty-six respondents did yield data that revealed clear trends and themes that answered the research questions.

In addition, since there was no prior research for this topic, no instruments such as surveys or interview questions were available that related to the research questions. Although on the surface these factors appeared to be a limitation, the absence of such instruments encouraged a robust and rigorous instrument creation exercise that in the end was tailored to efficiently and effectively address the research questions for this study (Fink, 2013).

Finally, the allotment of time allowed to complete this study was a significant limitation (Creswell, 2012; Mertens, 2014; Yin, 2009). Although I was able to create, pilot test and member check my survey, the process took over a month to complete. Albeit the surveys were electronically emailed to music teachers in Connecticut on, before and after October 15, creating, collecting, pilot testing and member checking the survey data within the two-month time period

allotted by course guidelines caused a methodological limitation that prevented a more robust data collection process and triangulation of the data.

Implications for Practice

The results of the quantitative data collected implicated that a majority of the music teachers surveyed perceived SLOs and IAGDs as not useful or *efficacious*. The comprehensive data collected suggest that although music teachers continue to create SLOs and collect data and use IAGD data, they are doing so to fulfill a mandate or district policy. Alternatively, although the qualitative data collected did not reveal perceptions of efficacy for either Connecticut State Department of Education's policies and guidelines, the data did uncover information that implicated a lack of quality SLOs and IAGDs. To clarify, an overwhelming number of the SLOs and IAGDs listed by the survey respondents did not address learning objectives that 'moved past' primary types/depths of knowledge and 'low level' cognitive processes (i.e., facts and recall/procedures and specific skill execution) (Hanna, 2007; Hess et al., 2009; Webb, 2002). As a matter of fact, the absence of SLOs integrating conceptual, metacognitive skills of inference, discrimination, analysis, collaboration, creation and self-evaluation contradicted research-based components for successful teaching and learning set forth by the frameworks of Danielson (2011) and Marzano, Pickering, and Pollock (2001) that identified accomplished and exemplary teaching. In addition, the qualitative responses collected implicated that music teachers and building leaders are either unaware of what a quality music SLO and IAGD looks like or simply do not consider their purpose a valid one. In all, implications to integrate higher levels of Bloom's revised taxonomy concepts or embed multi-layered understanding by design attributes into music SLOs and IAGDs is in most cases were non-existent in the data collected for this study.

Perhaps data generated by this research implicates a lack of quality professional development, lack of meaningful planning time, resources and lack of musically informed leaders and primary evaluators. Perhaps the research data collected implicates that there is a problem with the choice of data being collected that faithfully measures and evaluates authentic music learning. Further, perhaps targeted professional learning would help encourage more authentic requirements for demonstrating music learning as opposed to low-order training exercises (i.e., recalling a group of scales, a specific fingering, the isolated task of identifying letter names of pitches on a staff or the length of a duration expressed in numbers while ignoring musical context). Perhaps professional development that guides music teachers by assisting in the execution of music pedagogy that embeds more sequential learning progressions of logical cognitive skills similar to those embedded in Blooms revised taxonomy or Webb's depth of knowledge principles that illuminate understanding by design attributes will fill the gaps in music teaching and student learning.

Implications made by the data collected provoke the following: Are students being trained? Are students simply able to recall? According to the Connecticut State Department of Education, SLOs are to 'reflect ambitious but attainable goals'. Overall, if IAGD data is not reliable or valid, or it only measures low-level skills of recall, muscle memory and basic execution, data does little to inform instruction, move student thinking forward and answer the aforementioned questions. At this point, music learning becomes a game of 'hit or miss' and the struggle between all stakeholders to validate learning pervades. Further, what persists are a collection of either frustrated feelings or an unhealthy compliance between teachers, students and parents. These feelings typically contribute to stagnant or motionless music education rather than a vibrant, robust and engaging opportunity critical thinking, problem solving and life-long

authentic appreciation for music through understanding. Too often, a regurgitation of historical facts and theoretical musings that have nothing to do with higher order metacognition of musical content as it relates to musical context have become the measure by which musicianship is evaluated.

Suggestions for Future Research

On October 5, 2016, the new Connecticut Art Standards were unanimously adopted by the Connecticut State Department of Education after a fourteen-month stakeholder review and engagement process (State Education Agency Directors of Arts Education, 2016). According to the National Core Art Standards Coalition (2016), the conceptual learning of music will be guided by eleven carefully crafted common anchor standards that align to the core standards: creating performing, presenting, producing, responding and connecting. In addition, the same arts coalition has informed that the National Core Arts Standards have been written using understanding by design principles. With this in mind, future research regarding the implications that the newly adopted core and anchor standards will have on music education and the quality of music teacher SLOs and IAGDs is recommended. This may uncover whether SLOs and IAGDs will become more meaningful and efficacious to music teachers in Connecticut in light of these newly adopted standards and related procedures.

In addition, collecting perceptions of Connecticut State Department of Education's guidelines for teacher evaluation from other teachers that teach subjects where it is particularly difficult to objectively assess students because their learning outcomes are often measured and evaluated using language that involves subjective assessment of specific artistic processes would provide additional perspective to the research question that drove this study. Further, comparing teachers that are required to use standardized IAGDs with those who exercise the option to only

use non-standardized IAGDs would provide valuable insight related to current best practice models for music teacher evaluation.

Investigating music teacher perceptions about nationally recognized and commercially produced standardized music aptitude and achievement tests would contribute significantly to the literature. More research is needed regarding teacher and student perceptions of music aptitude testing and standardized music achievement tests that measure students' ability to discriminate and infer between different tonalities and meters are recommended. Also, research regarding perceptions of the ways music teachers measure and evaluate a student's ability to generate, develop, refine and share in all the artistic processes is greatly needed.

Gathering perceptions of stakeholders regarding the efficacy of introducing ways objectively measure teaching and student learning for subjects that evaluate learning outcomes most often evaluated using language that involves subjective assessment of specific artistic processes may provide answer to many 'why', 'how' and 'what' questions that remain unanswered by this study. Research regarding music teacher perceptions of research based music learning, authentic data collection and their effect on pedagogy would be a valuable contribution to the existing literature.

The development and research of continuous and additive rating scales that accurately measure music performance and accounts for tonal, rhythmic, expressive and technical dimensions would also provide a valuable contribution to the literature. Also, more research is needed regarding the perception of administrators more or less familiar with how the depths/types of knowledge and the cognitive process correlate with authentic music teaching and music learning. Finally, more research on student perceptions of music learning as a whole and what they consider to be 'meaningful measurement and evaluation' of their musicianship would

contribute significantly and perhaps provide data that will move all stakeholder thinking forward and improve teaching and student 'music' learning forward.

References

Ainsworth, L. (2011). *Rigorous curriculum design: How to create curricular units of study that align standards, instruction, and assessment*. Englewood, CO: Lead+ Learn Press.

Allan, S. D. (1991). Ability grouping research reviews: What do they say about grouping and the gifted. *Educational Leadership*, *48*(6), 60–65. Retrieved from http://www.donet.com/~eprice/sdallan.htm

Ames, C. (1992). Classrooms: Goals, structures, and student motivation. *Journal of Educational Psychology*, *84*(3), 261. Retrieved from http://psycnet.apa.org/journals/edu/84/3/261/

Ary, D., Jacobs, L. C., Sorensen, C., & Razavieh, A. (2010). *Introduction to research in education.* Belmont, CA: Wadsworth Cengage Learning.

Asmus, E. P., & Harrison, C. S. (1990). Characteristics of motivation for music and musical aptitude of undergraduate non music majors. *Journal of Research in Music Education*, *38*(4), 258- 268. Retrieved from http://jrm.sagepub.com/cgi/doi/10.2307/3345223

Azzam, A. M. (2014). Motivated to learn: A conversation with Daniel Pink. *Educational Leadership*, *72*(1), 12–17. Retrieved from http://www.steveclarkprincipal.com/uploads/1/6/5/2/16527520/motivated_to_learn.pdf

Azzara, C. D. (1993). Audiation-based improvisation techniques and elementary instrumental students' music achievement. *Journal of Research in Music Education*, *41*(4), 328 - 342. Retrieved from http://jrm.sagepub.com/cgi/doi/10.2307/3345508

Beall, G. (1991). Learning sequences and music learning. *The Quarterly Journal of Music teaching and Learning II, 1,* 87-96

Bender, W. N. (2012). *Project-based learning: Differentiating instruction for the 21st century*. Thousand Oaks, CA: Corwin Press.

Benedict, C. L. (2012). Critical and transformative literacies: Music and general education. *Theory into Practice*, *51*(3), 152–158. Retrieved from http://www.tandfonline.com

Betts, G. T., & Neihart, M. (1988). Profiles of the gifted and talented. *Gifted Child Quarterly*, *32*(2), 248–253. Retrieved from http://gcq.sagepub.com/content/32/2/248.short

Bolduc, J. (n.d.). *How can we objectively rank and rate musicianship*. Boston, MA: The Massachusetts Judges Association. Retrieved from http://www.massjudge.org/app/download/7117466472/Assessing+Musicianship.pdf

Boyle, J.D. (1973). Iowa Tests of Music Literacy. *Journal of Research in Music Education, 21*(3), 281-283

Brualdi, A. (1996). Multiple intelligences: Gardner's theory. *Practical Assessment, Research & Evaluation*, *5*(10), 1-6. Retrieved from Retrieved from http://PAREonline.net/getvn.asp?v=5&n=10

Bruner, J. (1985). Models of the learner. *Educational Researcher*, *14*(6), 5–8. Retrieved from http://www.jstor.org/stable/1174162

Bugos, J. A. (2015). Greasing the skids of the musical mind: Connecting music learning to mind brain education. *General Music Today*, *29*(1), 5–11.

Burak, S. (2014). Motivation for instrument education: A study from the perspective of expectancy-value and flow theories. *Eurasian Journal of Educational Research, 55,* 123–136. Retrieved from http://www.ejer.com.tr/index.php?git=22&kategori=104&makale=933

Burris, C. C., & Garrity, D. T. (2008). *Detracking for excellence and equity*. Alexandria, VA: Association for Supervision and Curriculum Development.

Cogdill, S. H. (2015). Applying research in motivation and learning to music education: What the experts say. *Update: Applications of Research in Music Education*, *33*(2), 49–57.

Connecticut's System for Educator Evaluation and Development (SEED). (n.d.). *[Connecticut guidelines for educator evaluation.* Hartford, CT: Author. Retrieved from http://www.connecticutseed.org/?page_id=449

Connecticut State Department of Education. (2003). *Code of professional responsibility for teachers*. Hartford, CT: Author. Retrieved from https://eregulations.ct.gov/eRegsPortal/Browse/RCSA/%7BB288982B-3ECF-4223-A9E6-45C5A2CFECE6%7D

Connecticut State Department of Education. (2006). *District reference groups, 2006*. Hartford, CT: Author. Retrieved from http://www.sde.ct.gov/sde/LIB/sde/PDF/dgm/report1/cpse2006/appndxa.pdf

Connecticut State Department of Education. (2011a). *CALI: Connecticut accountability for learning initiative*. Hartford, CT: Author. Retrieved from http://www.sde.ct.gov

Connecticut State Department of Education. (2011b). *CSDE: Using Differentiated Instruction to Implement the Common Core State Standards*. Hartford, CT: Author. Retrieved from http://www.sde.ct.gov/sde/cwp/view.asp?a=2618&q=333594

Connecticut State Department of Education. (2012). *Connecticut school leadership standards*. Hartford, CT: Author. Retrieved from http://www.sde.ct.gov/sde/lib/sde/pdf/educatorstandards/ccl-csls.pdf

Connecticut State Department of Education. (2015a). *2015 SEED Handbook Connecticut's system for educator evaluation and development*. Hartford, CT: Author. Retrieved from

http://www.sde.ct.gov/sde/lib/sde/pdf/talent_office/plans_2015_2016/education_connection_evaluation_plan.pdf

Connecticut State Department of Education. (2015b). *Connecticut guidelines for educator evaluation*. Hartford, CT: Author. Retrieved from http://www.connecticutseed.org/wp-content/uploads/2015/09/CT_Guidelines_for_Educator_Evaluation_Updated_2015.pdf

Connecticut State Department of Education. (2015c). *Educator effectiveness and professional learning, guidelines for educator evaluation 2015*. Hartford, CT: Author. Retrieved from http://www.connecticutseed.org/wp-content/uploads/2015/09/CT_Guidelines_for_Educator_Evaluation_Updated_2015.pdf

Connecticut State Department of Education. (2016). *Rubric and Effective Service Delivery 2015*. Hartford, CT: Author. Retrieved from http://www.connecticutseed.org/wp-content/uploads/2015/07/CCT_Rubric_for_Effective_Service_Delivery_2015.pdf

Connecticut State Department of Education. (n.d.). *Day One Powerpoint Presentation: Differentiation*. Hartford, CT: Author. Retrieved from http://www.sde.ct.gov/sde/cwp/view.asp?a=2618&q=333594

Creswell, J. W. (2012). *Educational research: planning, conducting, and evaluating quantitative and qualitative research* (4th ed). Upper Saddle River, NJ: Pearson Education, Inc.

Creswell, J. W. (2013). *Qualitative inquiry and research design: Choosing among five approaches*. Boston, MA: SAGE Publications, Inc.

Creswell, J. W., & Miller, D. L. (2000). Determining validity in qualitative inquiry. *Theory into Practice*, *39*(3), 124–130.

Dalby, B. (1999). Teaching audiation in instrumental classes. *Music Educators Journal*, *85*(6), 22-25.

Danielson, C. (2011). *Enhancing professional practice: A framework for teaching*. Alexandria, VA: Association for Supervision and Curriculum Development.

Davis, G. A., & Rimm, S. B. (1989). *Education of the gifted and talented*. Englewood Cliffs, NJ: Prentice-Hall, Inc. Retrieved from http://psycnet.apa.org/psycinfo/1989-97402-000

Fink, A. (2013). *How to conduct surveys: A step-by-step guide* (5th ed.). Los Angeles, CA: SAGE Publications, Inc.

Fox, D. (2013). The principal's mind-set for data. *Leadership*, *42*(3), 12–36. Retrieved from http://eric.ed.gov/?id=EJ1004500

Gagné, F. (1985). Giftedness and talent: Reexamining a reexamination of the definitions. *Gifted Child Quarterly*, *29*(3), 103–112. Retrieved from http://gcq.sagepub.com/content/29/3/103.short

Garner, A. M. (2009). Singing and moving: Teaching strategies for audiation in children. *Music Educators Journal*, *95*(4), 46–50.

Garnett, J. (2013). Beyond a constructivist curriculum: A critique of competing paradigms in music education. *British Journal of Music Education*, *30*(2), 161–175.

Gordon, E. (1961). A study to determine the effects of training and practice on drake musical aptitude test scores. *Journal of Research in Music Education*, *9*(1), 63-74. Retrieved from http://jrm.sagepub.com/cgi/doi/10.2307/3344396

Gordon, E. (1967). The musical aptitude profile. *Music Educators Journal*, *53*(6), 52-54. Retrieved from http://mej.sagepub.com/cgi/doi/10.2307/3390915

Gordon, E. (1969). Intercorrelations among musical aptitude profile and Seashore measures of musical talents subtests. *Journal of Research in Music Education*, *17*(3), 263- 271. Retrieved from http://jrm.sagepub.com/cgi/doi/10.2307/3343874

Gordon, E. (1971). *The psychology of music teaching*. Englewood Cliffs, NJ: Prentice Hall.

Gordon, E. (1974). Toward the development of a taxonomy of tonal patterns and rhythm patterns: Evidence of difficulty level and growth rate. *Experimental Research in the Psychology of Music: Studies in the Psychology of Music*, *9*, 39–232. Retrieved from http://library.sc.edu/music/gordon/331.pdf

Gordon, E. (1981). *The manifestation of developmental music aptitude in the audiation of "same" and "different" as sound in music*. Chicago, IL: GIA Publications.

Gordon, E. (1990). *Predictive validity of AMMA*. Chicago, IL: GIA Publications, Inc.

Gordon, E. (2001a). *Preparatory audiation, audiation, and music learning theory: A handbook of a comprehensive music learning sequence*. Chicago, IL: GIA Publications.

Gordon, E. (2001b). *Test validity and curriculum development: Three longitudinal studies in music*. Chicago, IL: GIA Publications.

Gordon, E. (2004). *Continuing studies in music aptitudes*. Chicago, IL: GIA Publications.

Gordon, E. (2005). *Music education research: Taking a panoptic measure of reality*. Chicago, IL: GIA Publications.

Gordon, E. (2008). *Clarity by comparison and relationship: A bedtime reader for music education*. Chicago, IL: GIA Publications.

Gordon, E. (2010). *Essential preparation for beginning instrumental music instruction*. Chicago, IL: GIA Publications.

Gordon, E. (2011). *Untying gordian knots*. Chicago, IL: GIA Publications, Incorporated.

Gordon, E. (2012). *Learning sequences in music: A contemporary music learning theory*. Chicago, IL: GIA Publications.

Gordon, E., & Woods, D. G. (2001). *Jump right in: The music curriculum*. Chicago, IL: GIA Publications, Inc.

Green, L. (2008). *Music, informal learning and the school: a new classroom pedagogy*. Hampshire, England: Aldershot/Burlington, VT: Ashgate.

Hallam, S., Rogers, L., & Ireson, J. (2008). Ability grouping in the secondary school: attitudes of teachers of practically based subjects. *International Journal of Research & Method in Education*, *31*(2), 181–192. Retrieved from http://www.tandfonline.com/doi/abs/10.1080/17437270802124657

Hall, T. (2009). *Differentiated instruction*. Wakefield, MA: National Center on Accessing the General Curriculum. Retrieved from https://web.archive.org/web/20100117230006/http://www.cast.org/publications/ncac/ncac_diffinstruc.html

Hanna, W. (2007). The new Bloom's taxonomy: Implications for music education. *Arts Education Policy Review*, *108*(4), 7–16. Retrieved from http://www.tandfonline.com/doi/abs/10.3200/AEPR.108.4.7-16

Harrison, C. S. (1990). Predicting music theory grades: The relative efficiency of academic ability, music experience, and musical aptitude. *Journal of Research in Music Education*, *38*(2), 124. Retrieved from http://jrm.sagepub.com/cgi/doi/10.2307/3344932

Harrison, C. S., Asmus, E. P., & Serpe, R. T. (1994). Effects of musical aptitude, academic ability, music experience, and motivation on aural skills. *Journal of Research in Music Education*, *42*(2), 131-144. Retrieved from http://jrm.sagepub.com/cgi/doi/10.2307/3345497

Heavner, T. (2005). The Applied Music Lesson: Teaching Gifted and Talented Students Utilizing Principles of Comprehensive Musicianship. *International Education Journal*, *6*(2), 170–174. Retrieved from http://eric.ed.gov/?id=EJ854967

Holahan, J. M., Saunders, T. C., & Goldberg, M. D. (2000). Tonal cognition in pattern discrimination: Evidence from three populations. *Journal of Research in Music Education*, *48*(2), 162- 177. Retrieved from http://jrm.sagepub.com/cgi/doi/10.2307/3345574

Illinois State Board of Education. (2016). *Guidebook on student learning objectives for type III assessments*. Chicago, IL: Author.

Ireson, J., & Hallam, S. (2001). *Ability grouping in education*. Newbury Park, CA: SAGE.

Isbell, D. (2012). Learning theories: Insights for music educators. *General Music Today*, *25*(2), 19–23.

Jackson, R., & Zmuda, A. (2014). 4 (secret) keys to student engagement. *Educational Leadership*, *72*(1), 18–24.

James-Ward, C., Fisher, D., & Frey, N. (2013). *Using data to focus instructional improvement*. Alexandria, VA: Association for Supervision and Curriculum Development.

Jensen, E. (1998). *Teaching with the brain in mind*. Alexandria, VA: Association for Supervision and Curriculum Development. Retrieved from http://eric.ed.gov/?id=ed434950

Keast, D. A. (2009). A constructivist application for online learning in music. *Research and Issues in Music Education*, *7*(1), 1-8.

Krathwohl, D. R., Bloom, B. S., & Masia, B. B. (1964). *Taxonomy of educational objectives: The classification of educational goals: Handbook II: Affective domain*. New York: David Mckay. Retrieved from http://library.wur.nl/WebQuery/clc/982120

Kulik, J. A. (1992). *An analysis of the research on ability grouping: Historical and contemporary perspectives (Research-based monograph No. 9204)*. Storrs, CT: National Research Center on the Gifted and Talented, University of Connecticut. Retrieved from http://eric.ed.gov/?id=ED350777

Kulik, J. A. (1993). An analysis of the research on ability grouping. *NRC/GT Newsletter*, *3*(1), 8–9. Retrieved from http://eric.ed.gov/?id=ED367095

Lachlan-Hache, L., Cushing, E., & Bivona, L. (2012). *Student learning objectives: Benefits, challenges, and solutions*. Washington, DC: American Institute for Research.

Lacireno-Paquet, N., Morgan, C., & Mello, D. (2014). *How states use student learning objectives in teacher evaluation systems: A review of state websites*. Washington, DC: US Department of Education. Retrieved from https://ies.ed.gov/ncee/edlabs/regions/northeast/pdf/REL_2014013.pdf

Larmer, J. (2014). Boosting the power of projects. *Educational Leadership*, *72*(1), 42–46.

Lincoln, Y., & Guba, E. (1985). *Naturalistic inquiry*. Newbury Park, CA: Sage Publications.

Martin, M. R., & Pickett, M. T. (2013, May). *The effects of differentiated instruction on motivation and engagement in fifth-grade gifted math and music students* (Unpublished doctoral dissertation). Saint Xavier University, Chicago, IL.

Marzano, R. J., Pickering, D., & Pollock, J. E. (2001). *Classroom instruction that works: Research-based strategies for increasing student achievement*. Alexandria, VA: Association for Supervision and Curriculum Development.

Mayer, R. E. (2002). *Designing a new taxonomy of educational objectives*. Washington, DC: American Psychological Association.

McPherson, G. E. (1997). Giftedness and talent in music. *Journal of Aesthetic Education*, *31*(4), 65–77. Retrieved from http://www.jstor.org/stable/3333144

Mertens, D. M. (2014). *Research and evaluation in education and psychology: Integrating diversity with quantitative, qualitative, and mixed methods*. Thousand Oaks, CA: SAGE Publications, Inc.

Meumann, E. (1913). *The psychology of learning: An experimental investigation of the economy and technique of memory*. New York: D. Appleton and Company.

National Association for Gifted Children. (2010). *Redefining giftedness for a new century: Shifting the paradigm*. Washington, DC: Author. Retrieved from http://www.nagc.org/sites/default/files/Position%20Statement/Redefining%20Giftedness%20for%20a%20New%20Century.pdf

National Association for Gifted Children. (2016). *State definitions of giftedness*. Washington, DC: Author. Retrieved from http://www.nagc.org/sites/default/files/Gifted-by-State/State%20definitions%20%281-13-16%29.pdf

National Association for Gifted Children. (n.d.-a). *Glossary of terms*. Washington, DC: Author. Retrieved from https://www.nagc.org/resources-publications/resources/glossary-terms

National Association for Gifted Children. (n.d.-b). *Who we are*. Washington, DC: Author. Retrieved from https://www.nagc.org/about-nagc/who-we-are

National Association for Music Education. (n.d.). *Want to incorporate the new music standards in your classroom?* Reston, VA: Author. Retrieved from http://www.nafme.org/want-to-incorporate-the-new-music-standards-in-your-classroom/

National Governors Association and Council of Chief State School Officers. (2016a). *English language arts standards*. Washington, DC: Author. Retrieved from http://www.corestandards.org/ELA-Literacy/

National Governors Association and Council of Chief State School Officers. (2016b). *Myths vs. facts*. Washington, DC: Author. Retrieved from http://www.corestandards.org/about-the-standards/myths-vs-facts/

National Governors Association and Council of Chief State School Officers. (2016c). *Standards in your state*. Washington, DC: Author. Retrieved from http://www.corestandards.org/standards-in-your-state/

New York State Education Dept. (2002). *Music-A resource guide for standards-based instruction*. Albany, NY: Author. Retrieved from http://files.eric.ed.gov/fulltext/ED477155.pdf

Niland, A. (2009). The power of musical play: The value of play-based, child-centered curriculum in early childhood music education. *General Music Today*, *23*(1), 17–21.

O'Donnell, C. (2011). *An investigation of the effect of instruction in Edwin Gordon's tonal and rhythm patterns on secondary students' advanced measures of music audiation scores* (Unpublished doctoral dissertation). University of Oklahoma, Norman, OK.

Perks, K., & Middleton, M. (2014). Navigating the classroom current. *Educational Leadership*, *72*(1), 48–52.

Price, D. (2011). Learning futures: Rebuilding curriculum and pedagogy around student engagement. *FORUM: For Promoting 3-19 Comprehensive Education*, *53*(2), 273–284.

Quate, S., & McDermott, J. (2014). The just-right challenge. *Educational Leadership*, *72*(1), 61–65.

Richardson, C. P. (1990). Measuring musical giftedness. *Music Educators Journal*, *76*(7), 40-45. Retrieved from http://mej.sagepub.com/cgi/doi/10.2307/3401036

Rinn, A. N., & Bishop, J. (2015). Gifted adults: A systematic review and analysis of the literature. *Gifted Child Quarterly*, *59*(4), 213–235.

Robinson, M. (2015). The inchworm and the nightingale: On the (mis)use of data in music teacher evaluation. *Arts Education Policy Review*, *116*(1), 9–21.

Salvador, K. (2011). *Individualizing elementary general music instruction: Case studies of assessment and differentiation.* (Unpublished doctoral dissertation). Michigan State University, East Lansing, MI.

Sang, R. (1998, May). *A four-year study of the predictive validity of the "advanced measures of music audiation"(AMMA).* A paper presentation at the Southeastern Music Education Symposium, Athens, GA.

Schade, A. (2015). *Pilot testing: Getting it right (before) the first time*. Fremont, CA: Nielsen Norman Group. Retrieved from https://www.nngroup.com/articles/pilot-testing/

Schmidt, L. (1980). Gifted programs in music: A nuclear model. *Roeper Review*, *3*(3), 31–34. Retrieved from http://www.tandfonline.com/doi/pdf/10.1080/02783198109552531

Schunk, D. H. (2012). *Learning theories: An educational perspective* (6th ed). Boston, MA: Pearson.

Seashore, C. (1915). The measurement of musical talent. *The Musical Quarterly*, *1*(1), 129–148. Retrieved from http://www.jstor.org/stable/738047

Seashore, C. (1919). *Psychology of music talent*. Boston, MA: Silver, Burdett and Company.

Seashore, C., Lewis, D., & Saetveit, J. G. (1960). *Seashore measures of musical talents*. New York: Psychological Corporation.

Shulman, L. (1986). Those who understand: Knowledge growth in teaching. *Educational Researcher*, *15*(2), 4-14. Retrieved from http://links.jstor.org/sici?sici=0013-189X%28198602%2915%3A2%3C4%3ATWUKGI%3E2.0.CO%3B2-X&origin=crossref

Shulman, L. (1987). Knowledge and teaching: Foundations of the new reform. *Harvard Educational Review*, *57*(1), 1–23. Retrieved from http://www.hepgjournals.org/doi/abs/10.17763/haer.57.1.j463w79r56455411

Slavin, R. E. (1990). Achievement effects of ability grouping in secondary schools: A best-evidence synthesis. *Review of Educational Research*, *60*(3), 471–499. Retrieved from http://rer.sagepub.com/content/60/3/471.short

Smith, F. (2012). *Understanding reading: A psycholinguistic analysis of reading and learning to read* (6th ed.). Mahwah, NJ: Routledge.

Southern Regional Education Board. (2011). *Research-proven instructional strategies engage, motivate and support students in meeting higher standards*. Louisville, KY: Southern Regional Education Board (SREB).

Stake, R. E. (1995). *The art of case study research*. Thousand Oaks, CA: SAGE Publications, Inc.

Standerfer, S. L. (2011). Differentiation in the music classroom. *Music Educators Journal*, *97*(4), 43–48.

State Education Agency Directors of Arts Education. (2016). *National core arts standards: A conceptual framework for arts learning*. Dover, DE: Author. Retrieved from http://www.corestandards.org/about-the-standards/myths-vs-facts/

Steele, J. L., & Boudett, K. P. (2008a). Leadership lessons from schools becoming "data wise." *Harvard Education Letter*, *24*(1), 1–3. Retrieved from http://hepg.org/HEPG/Media/Documents/hel_datawiseinaction.pdf

Stevens, F. (1993). *User-friendly handbook for project evaluation: Science, mathematics, engineering, and technology education.* Washington, DC: National Science Foundation. Retrieved from http://files.eric.ed.gov/fulltext/ED366511.pdf

Sundberg, M. L. (2013). Thirty points about motivation from Skinner's book verbal behavior. *The Analysis of Verbal Behavior*, *29*(1), 13–40. Retrieved from http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3659498/

Taylor, S. (1908). Becoming Data Wise. *Educational Leadership*, *12*, 15.

Tobias, E. S., Campbell, M. R., & Greco, P. (2015). Bringing curriculum to life. Enacting project-based learning in music programs. *Music Educators Journal*, *102*(2), 39–47.

Tomlinson, C. (2014). *Differentiated classroom: Responding to the needs of all learners* (2nd ed.). Alexandria, VA: Association for Supervision and Curriculum Development.

Tomlinson, C., & Strickland, C. (2005). *Differentiation in practice: a resource guide for differentiating curriculum, grades 9-12*. Alexandria, VA: Association for Supervision and Curriculum Development.

Travers, R. M. (1980). Taxonomies of educational objectives and theories of classification. *Educational Evaluation and Policy Analysis*, *2*(2), 5–23. Retrieved from http://www.jstor.org/stable/1163930

Vada, C. (2013). *National music education standards and adherence to Bloom's revised taxonomy.* (Unpublished doctoral dissertation). Walden University, Minneapolis, MN.

Veal, W., & MaKinster, J. (1999). Pedagogical content knowledge taxonomies. *Electronic Journal of Science Education*, *3*(4). Retrieved from http://ejse.southwestern.edu/article/view/7615/5382/

Vygotsky, L. (1978). *Readings on the development of children*. Cambridge, MA: Harvard University Press. Retrieved from http://www.faculty.mun.ca/cmattatall/Vygotsky_1978.pdf

Webb, N. L. (2002). Depth-of-knowledge levels for four content areas. *Language Arts*. Retrieved from http://www.hed.state.nm.us/uploads/files/ABE/Policies/depth_of_knowledge_guide_for_all_subject_areas.pdf

Williams, H. S. (2009). Leadership capacity-a key to sustaining lasting improvement. *Education*, *130*(1), 30-41. Retrieved from http://search.proquest.com/openview/d020cf9cce05c3408426725755875b40/1?pq-origsite=gscholar

Woodford, P. G. (1996). Evaluating Edwin Gordon's music learning theory from a critical thinking perspective. *Philosophy of Music Education Review*, 83–95. Retrieved from http://www.jstor.org/stable/40495420

Woolfolk, A., Winne, P. H., & Perry, N. E. (2015). *Educational psychology*. Don Mills, ON: Pearson Canada.

Wormeli, R. (2014). Motivating young adolescents. *Educational Leadership*, *72*(1), 26–31. Retrieved from http://www.duarteusd.org/cms/lib09/CA01900906/Centricity/Domain/344/Motivating%20Young%20Adults.pdf

Yin, R. K. (2009). *Case study research: Design and methods* (4th ed.). Los Angeles, CA: SAGE Publications, Inc.

Appendix A

A Survey on the Perceptions of Music Teachers Regarding the Efficacy of the Connecticut State Department of Education's Guidelines for Educator Evaluation

(1) Please select / fill in all that apply:

a. I hold a valid 049 Professional or Provisional Educator, Music, PreK - 12 Certificate

b. I have been teaching music in a Connecticut public school for a minimum of 2 years

c. Other _____

(2) Years of Experience as a Connecticut public school music teacher.

a. 2 – 5

b. 6 – 10

c. 11 - 15

d. 16 - 20

e. Over 21 years

(3) I currently teach in the one of the following District Regional Group (DRG).

a. A – C

b. D – F

c. G – I

d. Other _____

(4) The core intent of SLOs and IAGDs is to improve teaching and student learning.

a. Strongly Disagree

b. Disagree

c. Agree

d. Strongly Agree

(5) The core intent of SLOs and IAGDs is to measure teacher effectiveness.

a. Strongly Disagree

b. Disagree

c. Agree

d. Strongly Agree

(6) In my district, SLOs and IAGDs provide an accurate and fair measure of music teacher effectiveness for all music teachers.

a. Strongly Disagree

b. Disagree

c. Agree

d. Strongly Agree

(7) The SLOs used for my district's teacher evaluation plan are beneficial and help to align relevant music learning goals with day to day music teaching assignments and the district K-12 music curriculum.

a. Strongly Disagree

b. Disagree

c. Agree

d. Strongly Agree

(8) The SLOs used for my teacher evaluation plan are beneficial and help to align relevant music learning goals with core art standards and 21st century learning such as critical thinking, problem solving and creativity.

a. Strongly Disagree

b. Disagree

c. Agree

d. Strongly Agree

(9) IAGD data generated for my district's teacher evaluation plan is useful and provides information that helps to align my music teaching assignments WITH the district K-12 music curriculum.

a. Strongly Disagree

b. Disagree

c. Agree

d. Strongly Agree

(10) IAGD data generated for my district's teacher evaluation plan is an accurate reflection of the day to day teaching of relevant music skills AND aligns learning goals with core art standards and 21st century learning such as critical thinking, problem solving and creativity.

a. Strongly Disagree

b. Disagree

c. Agree

d. Strongly Agree

(11) IAGD data generated for my district's teacher evaluation plan provides information that is used to improve my district's K-12 music curriculum.

a. Strongly Disagree

b. Disagree

c. Agree

d. Strongly Agree

(12) In the space below, please write example(s) of your SLOs:

a. _____

b. _____

c. _____

(13) In the space below, please provide example(s) of Indicators of Academic Growth and Development (IAGDs) or Common Formative Assessments (CFAs) you have used AND please identify it (or them) as standardized or non-standardized:

a. _____

b. _____

c. _____

(14) My district uses the data generated from IAGD assessments to evaluate K-12 music programming. In fact, my district uses the IAGD data to initiate conversations aimed to improve music course offerings in my district.

a. Strongly Disagree

b. Disagree

c. Agree

d. Strongly Agree

(15) My district uses the data generated from IAGD assessments to evaluate K-12 music programming. In fact, my district uses the IAGD data to initiate conversations aimed to improve music course offerings in my district.

a. Strongly Disagree

b. Disagree

c. Agree

d. Strongly Agree

(16) In the space below describe how you collect IAGD data.

a. _____

b. _____

c. _____

(17) SLO and IAGD data results influence collaborations between K-12 music teachers in my district. These collaborations have historically generated positive and unified change to improve music teaching, student learning and 21st century skill development.

a. Strongly Disagree

b. Disagree

c. Agree

d. Strongly Agree

(18) Choose from the following: My district teacher evaluation plan is ...

a. SEED

b. District Developed

c. I am not sure

(19) I use standardized IAGDs or CFAs to measure and evaluate music skills that support my music teacher SLOs. (Standardized means - administered and scored in a consistent manner, are aligned to a set of performance standards, administered nation or state-wide, commercially produced, and are often administered 1 or 2 times a year)

a. Strongly Disagree
b. Disagree
c. Agree
d. Strongly Agree

(20) I use non-standardized IAGDs or CFAs to measure and evaluate music skills that support my music teacher SLOs. (Non-Standardized means - performance rated against a rubric, portfolios rated against a rubric, curriculum - based assessments constructed by a teacher or a team of teachers, teacher developed tests, formative assessments, and or diagnostic assessments)

a. Strongly Disagree
b. Disagree
c. Agree
d. Strongly Agree

(21) Please complete the following sentence. I collect IAGD / CFA data that support my SLOs ...

a. Weekly
b. Monthly
c. Every 3 months
d. 2 times a year

Appendix B

	Cognitive Process					
Types of Knowledge	**1** *Remember Recognize Recall*	**2** *Understand Interpret Infer Explain*	**3** *Apply Execute Implement*	**4** *Analyze Differentiate Organize Attribute*	**5** *Evaluate Check Critique*	**6** *Create / Generate Plan Produce*
1.) Factual • **Terminology** • **Basic Elements**	Music vocabulary Symbols Pitch Names Pitch Durations Instrument Parts	Music Terminology Time periods Styles Pedagogical concepts	Apply basic musical knowledge	Analyze basic musical elements	Evaluate music by checking for correct pitches, durations and other basic elements of music	Improvise, compose and perform music by using basic elements
2.) Conceptual *Interrelationships among the basic elements* ***within a larger structure*** • **Classifications and category** • **Principals and generalization** • **Theories, model and structure**	Theory Time Periods Musical Styles Specific Composers	Explain and discuss music concepts and music's relationships in other areas both within and outside music	Apply music concepts to the performing, composing, improvising or listening to music	Analyze musical concepts in a variety of ways such as music theory analysis, ethnomusicology, philosophy, music education, transcription …	Evaluate music through conceptual critique	Improvise, compose and perform music by using principles theories and musical concepts
3.) Procedural Skills • **Techniques and methods** • **Performance Criteria**	Notation procedures Instrumental & Vocal performance skills Methods / Techniques	Understand, explain, discuss and articulate performing, composing, improvising or listening to music meaningfully	Apply specific skills, methods, techniques and performance criteria to music	Analyze how to apply specific types of skills, methods and techniques to music	Evaluate music through checking and critiquing whether certain techniques, methods and skills were used correctly	Improvise, compose and perform music by using a variety of skills
4.) Metacognitive • ***Knowledge of self and personal cognition of music*** • **Strategic knowledge** • **Knowledge of cognitive demands** • **Self-knowledge**	Developed strategies for remembering musical symbols, notation, procedures, facts, techniques	Understand, explain and discuss self-knowledge and personal cognition of music. Personal strategies for listening and 'audiation'	Apply meta-cognition ability to musical tasks	Analyze how metacognition assists in understanding a given piece of music or analyzing a musical problem	Critique and self-evaluation of performances, how music is personally perceived	Improvise, compose and perform music by using self knowledge and personal cognition

Music Teachers' Perceptions of Efficacy: Student Learning Objectives and Data Driven Indicators

Geno Heiter

Sacred Heart University

Advisors: Michael K. Barbour & Charles Britton

Abstract

Previous research explains that twenty-first century education has moved passed pedagogical ideologies that focus solely on student tasks that require the recall of facts or rote application of simple procedures. Unfortunately, the literature on music education has ignored the importance of measuring intrinsic attributes of music learning and fundamental musicianship. Measuring 'valid' higher-order and critical thinking skills as they relate to music learning is significant because states are now measuring student learning and teacher effectiveness by evaluating multiple data driven indicators. Determining 'what' valid higher-order learning 'looks like,' and the data that can be generated by this learning in a music classroom, is essentially what is at stake for the twenty-first century music classroom. However, to date, no systematic investigation has been considered regarding music teachers and their process for developing higher-order and 'valid' music learning indicators. The purpose of this thesis was to examine perceptions of music teachers in Connecticut regarding the efficacy of the *Connecticut Guidelines for Educator Evaluation.* Data was collected through a comprehensive survey consisting of open- and close-ended questions. The results of the quantitative and qualitative data collected revealed that music teachers do not perceive the current use of Student Learning Objectives (SLOs) and Indicators of Academic Growth and Achievement (IAGDs) as efficacious or as a useful way to measure and evaluate critical thinking or inform music instruction. The data collected revealed that music teachers continue to create SLOs and collect IAGD data to fulfill a state mandate or district policy. As such, if the purpose and outcomes of SLOs and IAGDs continue to be worthless to music educators, meaningful and authentic music instruction and student learning will not progress until a better model that assesses teacher effectiveness and student progress emerges.

Table of Contents

Abstract……..i

Table of Contents…….…….ii

Chapter 1: Introduction……....1

Background 1

Statement of the Problem 2

Thesis Study 3

Summary 4

Definition of Terms 5

Chapter 2: Literature Review……..7

Introduction 7

Giftedness and Talent 9

Music Aptitude and Music Achievement 12

Ability-Grouping 14

Differentiation 21

Engagement and Motivation 25

Aspects of Learning 26

Taxonomies in Education 29

Summary 33

Chapter 3: Methodology……35

Description of Characteristics of Inquiry 35

Purpose 37

Research Design 37

The Case 38

Data collection Methods 39

Surveys 40

Data Analysis Methods 41

Quantitative Data 42

Qualitative Data 43

Reliability and Validity 46

Pilot Testing 46

Member Checking 47

Subjectivity Statement 48

Summary 51

Chapter 4: Results and Discussion ……52

Introduction 52

Research Question 52

Music teachers perceive that SLOs and IAGDs are intended to improve teaching, student learning, and measure teacher effectiveness. 53

Music teachers do not perceive that SLOs or IAGDs as efficacious. 59

Summary 77

Chapter 5: Conclusions and Implications ……79

Summary 79

Limitations of the Study 82

Implications for Practice 83

Suggestions for Future Research 85

References 88

Appendices 104

A. Music Teacher Survey 104

B. Bloom's Revised Taxonomy Table/Musicianship Skills 110

Chapter 1: Introduction

Background

Student engagement, motivation and achievement are three over-arching initiatives that influence the success of education across the United States (Asmus & Harrison, 1990; Azzam, 2014; Marzano, Pickering, & Pollock, 2001; Price, 2011; Sundberg, 2013). Equally important are the impact of authentic assessments that generate useful, reliable and valid metrics that guide teaching and evaluate instruction (Fox, 2013; James-Ward, Fisher, & Frey, 2013; Steele & Boudett, 2008a). As a result, generating data that proves instruction is effectively impacting student growth and achievement has become an essential part of measuring successful teaching (Connecticut State Department of Education, 2011a).

Connecticut's strategy for ensuring teachers are successful at meeting educational initiatives is to link teacher performance with teacher 'effectiveness.' As part of the new teacher evaluation process, teachers are required to anchor the skills and knowledge learned by students in data. Consequently, according to the state of Connecticut, how well students perform on multiple data indicators determines a teacher's effectiveness (Connecticut State Department of Education, 2011a).

Currently, there is no 'one' teacher evaluation and support system adopted by all school districts in Connecticut. To assist districts with their educator evaluations and support plans the Connecticut State Department of Education published the Connecticut Guidelines for Educator Evaluation and the Connecticut System for Educator Evaluation and Development (SEED). The Connecticut State Department of Education explained their purpose for creating SEED was as follows:

> The purpose of SEED was to provide districts in Connecticut a model for the evaluation and support of teachers in Connecticut [that] is based on the Connecticut Guidelines for Educator Evaluation (Core Requirements), developed by a diverse group of educators as part of PEAC (Performance Evaluation Advisory Council) in June 2012 and based upon best practice research from around the country. (p. 6)

Although all districts do not use SEED, a state-approved, district-developed teacher evaluation and support plan is required by all districts in Connecticut (Connecticut State Department of Education, 2015c). According to the Connecticut Guidelines for Educator Evaluation, teacher evaluation and support plans are driven by Student Learning Objectives (SLOs) and the results generated by multiple student data indicators. These indicators are often referred to as an Indicators of Academic Growth and Development (IAGDs) or Common Formative Assessments

Statement of the Problem

Many subjects have objective metrics that are used to measure and evaluate student learning, while others do not. For instance, math, reading, writing, science, language, and social studies are taught and assessed as objective, cognitive domain activities (Hanna, 2007). In contrast, objective assessment of subjects taught, such as music, are particularly difficult to objectively assess because their learning outcomes are often measured and evaluated using language that involves subjective assessment of specific artistic processes (Hanna, 2007; Krathwohl, Bloom, & Masia, 1964; Robinson, 2015; Vada, 2013). Presently, the Connecticut State Department of Education requires that music teachers follow the same goal-setting process as teachers of academic subjects. The *Connecticut Guidelines for Educator Evaluation* dictates that data generated by IAGDs accounts for 22.5% of a teacher's evaluation for all tested and non-tested subjects. In fact, the *Connecticut Guidelines for Educator Evaluation* points to

specific objective assessments for teachers of standardized tested grades and subjects. However, the *Connecticut Guidelines for Educator Evaluation* does not suggest objective assessments for non-tested grades and subjects (i.e., kindergarten, first-grade and second-grade teachers; special education, music and art teachers; and physical education, career, and technical teachers). Consequently, Connecticut music teachers and teachers in non-tested disciplines are left to measure student growth and achievement with SLOs whose success is determined by an array of non-standardized IAGDs.

Thesis Study

The purpose of this study is to gather, examine and discuss perceptions of music teachers in Connecticut regarding the efficacy of *Connecticut Guidelines for Educator Evaluation,* SEED and other district-developed guidelines for music teacher evaluation and support. This purpose led to the following research question:

1. How do music teachers perceive the efficacy of the Connecticut State Department of Education's policies and guidelines for music teacher evaluation and support?

This purpose led to an examination of perceptions of alignment between practice and policy, as well as a way to uncover and discuss the efficacy of SLOs and IAGDs. Further, this research will aim to uncover and evaluate the data driven collection tools used to evaluate music teacher effectiveness and student learning. A case study mixed methods design was used for this research because the drive behind this study was to collect and evaluate perspectives of music teachers in Connecticut so that a better understanding of this topic would be realized (Stake, 1995).

Summary

Chapter One provided an introduction, statement of the problem and the purpose for conducting this study. A research question was introduced that laid the groundwork for examining the alignment between policy, practice and music teacher perceptions of efficacy. In addition, the reader gained insight into Connecticut's new guidelines for teacher evaluation and support plans and how Connecticut links teacher performance with teacher effectiveness. Lastly, chapter one provided detailed definitions for SLOs and IAGDs for clarity.

Chapter Two will present a literature review that will highlight and distil the most relevant historical and current substantive findings related to my research purpose. This literature review will also provide the reader with a foundation of the fundamental underpinnings and relationships between themes found in literature. Additionally, Chapter Two will aim to explore the theoretical and pedagogical contributions related to music teaching, student learning, measurement and evaluation of instruction. Lastly, this literature review will identify gaps in the research and offer recommendations for future study.

Chapter Three will describe the structure and methodology that will be used and aim to explain why a case study best supports my research purpose. In addition, this chapter will show how the sample, measures, and methods used during the research process fit together and address the research question presented. Also, a detailed outline of how the data will be collected and analyzed will be presented in order to provide clarity of the research design. This process will provide a knowledgeable investigator enough information to replicate the study. Further, information that provides appropriate context of the research (i.e., setting, data collection and analysis methods) will be included. In all, this chapter will aim to provide the reader an

understanding of the methods used, as well as the appropriateness of the actions chosen given the nature of the study.

Chapter Four will present results of the data analysis. I will do this by incorporating illustrations such as tables, charts, pictures or drawings that summarize statistical information, figures, and variables. I will discuss relationships in the data and objectively provide potential explanations for statistical results. There were two specific themes that will be discussed, including: (1) music teachers do perceive that the intent of SLOs and IAGDs are to improve teaching and student learning, (2) music teachers do not perceive that SLOs or IAGDs as efficacious.

Chapter Five provides an overview of this research. First, it discusses conclusions that are drawn. Next, limitations were noted including the lack of prior research, prior sample size recommendations, available instruments and the amount of time allotted to complete this study. Following, implications of practice were stated suggesting that perhaps music teachers need more professional learning opportunities that would aid in the development of more meaningful and authentic SLOs and IAGDs. Lastly, suggestions were made for future research.

Definition of Terms

Indicators of Academic Growth and Development (IAGDs): An IAGD is the evidence that supports the learning target set forth by the SLO. These indicators are clear and relay what evidence will be examined, what level of performance is targeted and what proportion of students is projected to achieve the targeted performance level. Indicators should address student subgroups and strive to reach as many students as possible. IAGD should be fair, reliable, valid and useful to the greatest extent possible (Connecticut's System for Educator Evaluation and

Development, n.d.; Connecticut State Department of Education, 2015b; Illinois State Board of Education, 2016; Lachlan-Hache et al., 2012; Lacireno-Paquet et al., 2014).

Student Learning Objectives (SLOs): SLOs are an alternative to the more generally used value-added modeling with standardized test scores, which may not be available or appropriate for all teachers and subjects. SLO's are a way to measure teacher impact, which in turn, are a way to measure educator effectiveness (Connecticut State Department of Education, 2011a, 2015a, 2015b; Illinois State Board of Education, 2016; Lachlan-Hache, Cushing, & Bivona, 2012; Lacireno-Paquet, Morgan, & Mello, 2014).

Chapter 2: Literature Review

Introduction

Similar to successful kindergarten-12 (K-12) math, language arts or science programs, an efficacious music program is characterized by a curriculum whose units of study embed formative assessments that reliably measure valid music skills and awareness as a way to guide and improve all aspects of instruction (Ainsworth, 2011). Given the apparent benefits of a music education and the legal mandates to provide a free and appropriate music education in public schools throughout the United States, it seems prudent to continually explore, develop, implement and determine the highest quality assessment tools that measure students' musical potential and musical achievements. More importantly, considering the value of implementing a pedagogy that is driven by reliable and valid formative assessments is no longer an option in education, but a requirement (Connecticut State Department of Education, 2011a; Fox, 2013; James-Ward et al., 2013; Steele & Boudett, 2008a, 2008b).

Music and authentic music education offers people the opportunity to experience and learn a fine art that is uniquely a 'human' experience. As a point of interest, developing music skills and awareness is a discipline that 'all' people can learn to some degree of success when music instruction is targeted and accounts for individual differences (Gordon, 2012; McPherson, 1997; Seashore, 1919; Seashore, Lewis, & Saetveit, 1960). This literature review will aim to research, identify and examine (a) factors that influence learning (b), how learning occurs, and (c) how learning principles apply and correlate to 'music education.'

I began to review the literature in the field/topic of measurement and evaluation of music aptitude and music achievement in 2002. From 2002 to 2015, I established a professional practitioner knowledge base about the themes that existed in music education, and put into

practice many of the research based instructional strategies as they relate to music and learning. These experiences provided me with a foundation from which I organized, structured and designed my current research in 2016. My current review of the literature began primarily reflecting on the current state of music education. The following keywords were used (separately and in combination) when searching electronic databases that included *Google Scholar*, *Education Resources Information Center, Journal Storage* and *ProQuest*: music, education, aptitude, achievement, engagement, motivation, learning, theories, paradigms, constructivism, classroom, behaviorism, cognition, surveys, self-efficacy, Edwin Gordon, pedagogy, Seashore, testing, assessment, measurement and evaluation. I began with a broad search and then incorporated Boolean logic by adding 'and,' 'not' and 'or' to refine my search. To ensure high-quality research, searches were limited to pieces published in international peer-reviewed journals. For each piece, specific information was noted, including: (a) authors, (b) year of publication, (c) journal, (d) objectives of the study, (e) important findings and conclusions, (f) keywords and (g) times cited. Lastly, articles were reviewed for their reliable information and relevance to the topic presented in this literature review.

In this literature review, an overview of research pertaining to seven teaching and learning themes are presented, explored, examined and discussed as they relate to music instruction and education. These areas include giftedness and talent, music aptitude and achievement, ability-grouping, differentiation, engagement and motivation, aspects of learning and finally, taxonomies in education. For each theme, research pertaining to the topic are expressed with relevance to the importance of this topic and research study. A summary concludes the review of literature, where important research is restated and interpreted, with recommendations for future study.

Giftedness and Talent

For over a half a century, the word 'gifted,' has become a term with multiple meanings and much nuance (Gagné, 1985; National Association for Gifted Children, n.d.-b). For example, students who demonstrate success in music are typically described as gifted or talented (Heavner, 2005; McPherson, 1997; Seashore, 1919; Seashore et al., 1960). In a similar fashion, K-12 schools also use the terms giftedness and talent to describe students who demonstrate a high degree of success in general performance areas that include core subjects such as mathematics, visual arts, and language arts (Betts & Neihart, 1988; Gagné, 1985). Regardless of context, there are varying views on the nature of how the terms giftedness and talent are used to identify and measure student giftedness and talent (Gagné, 1985; Gordon, 1969; Heavner, 2005; Seashore, 1915, 1919; Seashore et al., 1960).

Consequently, due to the colloquial evolution of these two words (i.e., gifted and talented), they are often used together to describe a single behavior or attribute (Betts & Neihart, 1988; Davis & Rimm, 1989; Gordon, 2008). Through a comprehensive review of the literature (McPherson, 1997), noted that the competing definitions used in various sectors of education for giftedness and talent have made understanding these words problematic. Comparatively, according to the National Association for Gifted Children (2016), giftedness and talent were fluid concepts that might look different in schools across the United States. Albeit, since multiple meanings, nuance and competing definitions exist, nearly every U.S. state has its own definition of giftedness and talent. However, despite the multiple unique interpretations that the terms 'giftedness' and 'talent' elicit, individuals continue to use them interchangeably and the general public has grown accustomed to hearing them used synonymously (Gordon, 2012).

Music teachers often describe talented and gifted students as having the ability to "master various musical skills and concepts at a fast pace" (Heavner, 2005, p. 171). Similarly, McPherson (1997) noted, "music is one of the most easily identified fields of human activity in which talent can be demonstrated… the young violinist that can perform a violin concerto is obviously talented" (p. 71). As these statement may be true, students who master various skills at a slower pace, or not perform a violin concerto, but a catchy guitar riff without the aid of notation 'may also' have equally notable musical gifts or talents (Betts & Neihart, 1988; Gordon, 1990; McPherson, 1997; Richardson, 1990). By the same token, McPherson (1997) reflected that technique and recreation of existing music literature were the most popular indicators of giftedness and talent, but perhaps not comprehensive, reliable or valid indicators of giftedness or talent. Comparatively, Richardson (1990) stated:

> the terms "musically gifted" and "musically talented" can mean many things to many people, as can the term "musically gifted and talented." …Does your state's definition focus on the student's present, demonstrable performance talent? If so, it might seem relatively easy [or not, depending on the measurement tool] to pick the top twenty performers from among your student's by means of an audition… If, however, your state's definition also encompasses such factors as student's potential performance, …can you spot potential… [or are you] overlooking a potentially gifted music student who is *not* a star performer? (p. 41, emphasis in original)

In a similar fashion, McPherson (1997) summarized Richardson's points by stating, "…a child may be gifted without displaying any specific talent… the identification of gifted children is essentially a task of trying to predict an individual's potential to succeed musically prior to any formal musical training" (p. 69). Like Richardson (1990) and McPherson (1997), Schmidt (1980)

suggested three different skill areas that needed to be considered in determining musical giftedness: performance skills, creative ability (such as composition) and verbal and musical-perceptual skills. As a way to identify these musically gifted students, Schmidt suggested three procedures: a performance audition, analysis of student composition and evaluation of student writing. Similarly, McPherson (1997) added that for music, there were domains of ability (i.e., gifts) and fields of performance (i.e., talents).

Given these points, the writings of Heavner (2005), Richardson (1990), McPherson (1997) and Schmidt (1980) all represented samples in the literature that offered descriptions of giftedness and talent. On the negative side, these writings only emphasized observations and teacher experience. As a matter of fact, although few case studies and seminal understandings were referenced by these researchers (Heavner, 2005; McPherson, 1997; Richardson, 1990; Schmidt, 1980), no empirical experiments or statistical evidence that reliably or objectively measured musical giftedness or talent or that speak to the validity of measurement were evident in their research. More importantly, these researchers provided minimal recommendations for future research that helped to distinguish between giftedness or talent. Alternatively, their writings focused on pedagogical recommendations or music teaching methods or techniques.

All instruction, including music instruction, should be guided by reliable and valid measures that provide objective data to assist in subjective evaluation (Fox, 2013; James-Ward et al., 2013). Identifying musical giftedness and talent positively influences teaching and student learning (Ainsworth, 2011; Gordon, 1967, 2004; Seashore, 1915, 1919; Seashore et al., 1960). When the terminology used to describe and identify behavioral attributes becomes confusing and cumbersome, and valid and reliable data are not embedded into curriculum, authentic teaching and student learning is the result of a fortuitous accident.

Music Aptitude and Music Achievement

Accurate historical and diagnostic student data can positively transform curriculum and instruction (James-Ward et al., 2013). By in large, music education is no different than any other subject taught. Identifying and understanding the differences between music aptitudes and music achievement is essential to positively impacting teaching and student learning (Gordon, 1969, 2001b; Seashore, 1915; Seashore et al., 1960; Seashore, 1919). Individuals have come to recognize that intelligence is the ability to learn, reason and problem solve (National Association of Gifted Children n.d.-a). Additionally, in 1982, Howard Gardner's theory of multiple intelligences expressed the importance of recognizing musical intelligence as an important dimension of intellect (Woolfolk, Winne, & Perry, 2015).

According to Seashore (1915), "musical talent, like all other talent, is a gift of nature-inherited, not acquired; in so far as a musician has natural ability in music, he has been born with it" (p. 129). Further, in the *Psychology of Music*, Seashore (1919) stated musical intelligence was like "…philosophical, mathematical, or scientific intelligence" (p. 7). Seashore explained that the degree of a person's intelligence might characterize or set limits for musical achievement. A matter of continued confusion and debate among teaching professionals and researchers has been basing the measurement of musical giftedness and talent solely on intellectual tasks that involve muscle memory, technique and the recalling of facts (Harrison, 1990; Krathwohl et al., 1964; Woodford, 1996), and not based on the types and stages of *audiation* (Azzara, 1993; Dalby, 1999; Garner, 2009; Gordon, 2008, 2010; O'Donnell, 2011; Salvador, 2011).

For forty years after the *Psychology of Music* was published, most psychologists had built upon Seashore's principles that music talent was an innate human characteristic (Gordon, 1961). Further, attempts to help clarify the distinctions between these mental attributes, were provided

by McPherson (1997), who cited Gagné's definition of aptitude as, natural 'abilities' that have 'genetic' origins and appear to develop spontaneously in every individual. Alternatively, as early as 1972, and until his death in 2015, Gordon avoided words such as 'ability,' 'talented,' 'gifted,' and 'musical' from his research when evaluating and describing students, since by nature, the nuances of these terms have historically confused the issue by obscuring the important distinction between music aptitude and music achievement (Gordon, 2012). Richardson (1990) acknowledged the importance of identifying and measuring aptitude when she explained:

> teachers who routinely administer musical aptitude tests often discover that students who seem to be uninterested in music have advanced skills in [pitch discrimination, tonal memory, rhythmic memory, chord analysis, and music sensitivity and are] …the very students who need to be identified as having potential and whom special programs need to be devised. Musical aptitude tests are an invaluable source of information about the student that may otherwise be obscured by the student's classroom behavior [or performance]. (p. 42)

Gordon (2012) explained, "music aptitude as well as general intelligence is based on how well a person can draw generalizations from specific information and experience. To generalize enables one to make inferences and judgments that foretell and possibly influence future events" (p. 46). As a matter of fact, Seashore's (1919) 'degree of intelligence,' and Gordon's (2012) 'explanation of musical aptitude' provided a description of a mental attribute that moves beyond the skills of Bloom's memory and recall stages (Harrison, 1990; Krathwohl et al., 1964; Shulman, 1986, 1987; Vada, 2013). Moreover, Gordon (2012) further detailed the distinctions between music achievement and music aptitude when he stated, "music achievement is intellectual and primarily in the brain whereas music aptitude is spontaneous and occurs primarily in all cells and genes"

(p. 45). Measuring music aptitude and measuring music achievement are two distinct attributes. When performed with fidelity, both measures provide additional critical data for evaluating students and guiding authentic and meaningful music instruction.

"Music aptitude is a measure of what a student *can* learn. Music achievement is measuring what a student *has* learned" (Gordon, 1990, p. 1, emphasis added). In depth reflections of the relevant terminology provide additional clarity and rich discussion points for researchers when correlations and distinctions between giftedness, talent, aptitude and achievement are the topic of interest (Richardson, 1990; Rinn & Bishop, 2015; Slavin, 1990). When these measures are understood and used as diagnostic tools, they are essential components that inform comprehensive units of study (Fox, 2013; Steele & Boudett, 2008a, 2008b), and have the ability to transform music curriculum and music instruction (Ainsworth, 2011; James-Ward et al., 2013). Williams (2009) stated, "an ethical teacher is always using hard data and action research to improve his or her practice (p. 31). Furthermore, through a comprehensive understanding of how to accurately measure and evaluate music aptitude and music achievement, music curriculum and instruction can benefit from such data and provide more targeted and engaging units of study that positively impact teaching and student learning regardless of how students are 'grouped' (Fox, 2013; Standerfer, 2011; Taylor, 1908; Tomlinson & Strickland, 2005).

Ability-Grouping

There is a lack of research regarding the grouping of K-12 music students. K-12 music student grouping in the United States are typically influenced by the following circumstances: (a) chronological age, (b) student enrollment, (c) years of study, (e) instrument, (f) music teacher

observations and (g) parent recommendations. Further, researchers Hallam, Rogers, and Ireson (2008) wrote:

> art, music and drama have tended to be grouped together as 'the arts'… In schools, these subjects are rarely grouped by ability and where they are taught in ability groups those groups are usually based on classifications derived from more 'academic' subject groupings. While previous research has tended to suggest that teachers of the arts favored mixed-ability groupings, a weakness has been that their attitudes have been assessed collectively not taking account of possible differences. (p. 172)

Conversely, an important fact to recognize is that for more than 70 years, ability grouping and student tracking (AGST) has been a controversial issue for all K-12 subjects (Allan, 1991; Ireson & Hallam, 2001; Kulik, 1992, 1993; Slavin, 1990).

AGST opponents do not believe that homogeneous groupings benefit teachers and students (Allan, 1991; Ireson & Hallam, 2001; Kulik, 1992, 1993; Slavin, 1990). Further, Slavin and Kulik (1992; 1990) explained that persons opposed to AGST reason that students of lower aptitude and achievement levels benefit from the presence that higher aptitude and achieving students bring to learning. For example, typically, in a grades five to 12 music ensemble class, instrumental parts are distributed based on student ability to decode musical notation. These parts typically require skills of higher levels of motor skill dexterity of more intricate fingerings, extended ranges or rhythmically acrobatic content. Whether a student may or may not be able to give contextual meaning (i.e., tonality, meter or keyality) to the pitches and durations he or she is reading is often not considered (Gordon, 2001a, 2012). Students with lesser ability are ordinarily assigned easier parts that require lesser of the aforementioned skills. Whether they can identify the contextual nature of the task is also often not considered. According to Allan (1991), "while

there is nothing inherently wrong with [higher ability and achieving students] serving as a positive role model on occasion, it is morally questionable for adults to view any student's primary function as that of role model to others" (p. 64). Further, individuals opposed to AGST challenge that teaching high or low aptitude students in the same class requires the special skill and creativity of a highly qualified veteran teacher (Martin & Pickett, 2013; Salvador, 2011; Standerfer, 2011; Tomlinson, 2014; Tomlinson & Strickland, 2005). To put it another way, researchers Hallam et al. (2008) reported:

> they [teachers] perceived the advantages of mixed-ability teaching largely in social terms, while the disadvantage was perceived to be *the difficulty of providing appropriate work for pupils of high and low ability in the same class*. Those critical of mixed-ability teaching suggested that *it failed to motivate and increase the achievement of the highly able*, although the less able were perceived to benefit. The research also found differences in teachers' attitudes towards mixed-ability teaching depending on the subject that they taught. …teachers of mathematics and modern foreign languages tended to hold the most positive attitudes, while those teaching English, the humanities and the arts held the most negative. (p. 182)

With all this in mind, music teachers that are considered to be highly qualified are more likely to choose teaching positions that implement curriculums that are more rigorous and engaging and that by nature are designed to teach students with higher music aptitudes or levels of achievement (Slavin, 1990).

Additionally, Slavin explained, "…homogeneous [groups] harms many students, especially middle and lower aptitude students, who may suffer a loss in self-esteem, academic motivation, and overall accomplishment when placed [labeled] in the slower groups…" and

would benefit from those creative and experience teachers (p. 22). Labels that identify or certify a student's overall ability supports an epistemology that a student is either 'able' or 'unable.' Burris and Garrity (2008) stated:

> do students differ in talents and achievement? They do. But when those observed differences are reinforced by track placement and grouping practices, and children then internalize those differences, learning opportunities become limited for all but the elite student. The talents of late bloomers go undiscovered, and the rewards of hard work and diligent study are never realized. (p. 3)

Further, Slavin (1990) reported that those who oppose of AGST believe that the stigma of labels is discriminatory in nature towards minority and lower-class students and have an overall negative impact on teaching and learning. Alternatively, Allan (1991) stated:

> it is unclear whether grouping has any effect on the self-esteem of students in the general school population… [and] effects on self-esteem are small but positive for low-ability children and slightly negative for average and high-ability children. There is limited evidence that remedial programs have a positive effect on the self-esteem of slow learners. (p. 65)

However, Kulic (1993) did report that student achievement fell dramatically for high aptitude and ambitious students who attended schools that eliminated enriched or accelerated classes for the sake of eliminating AGST.

For many schools, AGST labels begin around kindergarten with intelligence quotient or early achievement tests designed to measure aptitude that determine an educational road map for students for the next twelve years (Burris & Garrity, 2008). Alternatively, in most music programs, students simply sign up in different ensembles for reasons that may be arbitrary or

inspired by a host extrinsic motivating factors (i.e., peer, social, parent or teacher influence). As a point of interest, reliable or valid music aptitude or achievement tests are often not administered to determine music group placement. With this in mind, Buldoc (n.d.) wrote, "standards [for rating and placement] are adjusted to suit the abilities of the performers… This is also a common classroom technique" (p. 5). Additionally, Buldoc added:

> the major difference between tests of ability and tests of attainment [for music grouping] is in the way the scores from both types of test are used. A test of attainment cannot be directly correlated to ability [music aptitude or music achievement]. Auditions [for placement in groups] are one example of measures of achievement or attainment, and while we might draw some conclusions about an individual's ability [music aptitude or music achievement] on the basis of the results, we would not use them as a direct measure of their ability [aptitude]. A less talented student [or a student with a current lower level of music achievement] may work harder than a more able [higher music aptitude] student to produce a higher score. This isn't a bad thing, and in fact bears out one of the developmental positive… Hard work and planning can offset talent [music aptitude]. The concern is the ability of evaluators to recognize high achievement [music aptitude and/or music achievement] based on the criteria in front of them. The results may be different if given criteria where the wording and weighting are different (technique over musicality). (p. 6)

Conversely, it is clear to recognize the impact of understanding the differences that exist between measurement and evaluation of music aptitude and music achievement when implementing various systems to group music students.

A point often overlooked is, unlike music classes, after elementary grades, AGST continues in middle or junior high school for core subjects where students are 'block scheduled' and spend most of the day in one homogenous group (Slavin, 1990). As a point of interest, Burris and Garrity (2008) argued that, "…tracking [such as this] is a meritocracy that relies on teacher recommendations, grades, and student motivation to determine placement… [and in many cases] students and their parents are allowed to choose a track, with certain conditions attached to the placement" (p. 1). Further, opposition to AGST suggested that student maturity, motivation, test-taking skill, absence of a reliable and valid measure and parent influence contributed to the lack of reliability and validity of AGST placement (Allan, 1991; Ireson & Hallam, 2001; Slavin, 1990). Slavin's (1990) meta-synthesis' of AGST involved 21 case studies and provided data on the effect size of ability grouping on students of different ability levels that drew the following conclusions.

1. Comprehensive between-class ability grouping plans have little or no effect on the achievement of secondary students. This conclusion is most strongly supported in grades 7-9, but the more limited evidence that does exist from studies in grades 10-12 also fails to support any effect of ability grouping.
2. Different forms of ability grouping are equally ineffective.
3. Ability grouping is equally ineffective in all subjects, except that there may be a negative effect of ability grouping in social studies.
4. Assigning students to different levels of the same course has no consistent positive or negative effects on students of high, average, or low ability. (p. 17)

Although Slavin's meta-synthesis provided a comprehensive list of conclusions based on research, none of his studies featured music class groupings.

Regardless of subject, what applies to 'all' teaching and student learning is how Allan (1991) cautioned and insisted that all educators (i.e., including music teachers) become critical consumers of the research to determine what the research supports, and then decide what can be reasonably applied to school programming. Comparatively, music programming should be no different than other academic school programming. At the top of Allan's list, he explained that no matter whether persons supported or opposed AGST, the data collected from meta-analytic reviews revealed effective grouping programs depended on their 'features' or AGST 'types.' Consequently, Burris and Garrity (2008) reported that AGST had been largely undone across the United States and replaced with somewhat less rigid systems characterized by curriculum differentiation to include 'features' that defined specific AGST types. The question that remains for music education is whether the movement has yet influenced music programs to implement a curriculum that are characterized by a systematic, research based and differentiated process (Bolduc, n.d.; New York State Education Dept., 2002).

Individuals in favor of AGST believe that such groupings benefit both teachers and students (Allan, 1991; Ireson & Hallam, 2001; Kulik, 1992, 1993; Slavin, 1990). Advocates for AGST believe that homogeneous instruction carries the benefits of student progress commensurate to abilities and provides instruction that focuses on the needs of a specific group. AGST supporters believe that teaching, without differentiation is easier (Slavin, 1990). Conversely, advocates embrace AGST paradigms since ability grouped classrooms do not require additional teacher planning or professional development to learn how to integrate differentiation into units of study (Kulik, 1992). As this may be true to some degree, differentiation does not exclusively mean scaffolding instruction. Differentiation of instruction includes the process of providing tasks that involve variety and diversity that are more likely to

facilitate an interest in learning (Ames, 1992). In a music class differentiation may include varied musical repertoire, groupings or different music skill development (i.e., improvisation and composition). Although select research suggest the need to differentiate instruction is not needed in a AGST classroom, Allan (1991) explained that, "one question *not* asked in the Slavin research [i.e., a meta-synthesis] was whether programs designed to provide differentiated education for gifted or special education students were effective" (p. 61, emphasis in original). Another key point to recognize was Allan's review of the literature revealed that in some cases, dramatic achievement gains were found for students that were regrouped and provided ability appropriate, differentiated materials.

Regardless of AGST opposition or support, all students, whether ability grouped or not, should be experiencing a differentiated curriculum, with comprehensive units of study that provides creative options (Bender, 2012; Salvador, 2011; Standerfer, 2011; Tomlinson, 2014; Tomlinson & Strickland, 2005). Differentiation should include tiered interventions when needed and systematic enrichment or acceleration opportunities geared to student learning styles, modalities and ability levels for core academic as well as music courses offered (Ainsworth, 2011). All things considered, the importance of distinguishing the difference between music aptitude and music achievement and how music students are grouped in any music class is paramount when evaluating music curriculum, units of study and for preparing to differentiate music instruction.

Differentiation

Differentiation of instruction can positively transform curriculum and instruction (Ainsworth, 2011; Bender, 2012; Perks & Middleton, 2014; Price, 2011; Tomlinson & Strickland, 2005). In a similar fashion, embedding differentiation into a music curriculum should

be no different than any other subject taught (Garnett, 2013; Gordon & Woods, 2001; Martin & Pickett, 2013; Niland, 2009; Salvador, 2011; Standerfer, 2011; Tobias, Campbell, & Greco, 2015). According to Connecticut State Department of Education (CSDE) (2011b) differentiation is "a proactive decision-making process that considers critical student learning differences and the curriculum. Differentiated instruction decisions are made by teachers and are based on: (1) formative assessment data, (2) research-based instructional strategies, and (3) a positive learning environment" (¶ 11). The CSDE's (2016) *Connecticut Common Core of Teaching (CCT) Rubric for Effective Service Delivery* identified that proficient or exemplary teaching was evidenced by "teachers who incorporate 'differentiated' strategies, tasks, and questions to actively engage the majority of learners in constructing new and meaningful learning through integrated discipline-specific tools that promote problem-solving, critical and creative thinking, purposeful discourse or inquiry" (p. 13). In addition, teachers strive to provide instruction that includes scientific research-based interventions (SRBI) that align with the common core of teaching and learning.

How effective differentiated instruction looks in a music classroom has been the topic of research (Martin & Pickett, 2013; Salvador, 2011; Standerfer, 2011). Teachers who differentiate, in any classroom, arts or academic, "…provide specific alternatives for individuals to learn as deeply as possible and as quickly as possible, without assuming one student's road map for learning is identical to anyone else's" (Tomlinson, 2014, p. 4). Researchers at the National Center on Accessing the General Curriculum (2009) defined differentiated instruction as:

> a process to approach teaching and learning for students of differing abilities in the same class. The intent is to maximize each student's growth and individual success by meeting each student where he or she is... rather than expecting students to modify themselves for the curriculum. (¶ 2)

In other words, attending to the individual differences of every student equally is a reality for all educators, music teachers included.

As an illustration, Tomlinson and Strickland explained (2005), teachers typically differentiate instruction by modifying either the content (i.e., what students learn), the process (i.e., how students learn), or the product (i.e., how students demonstrate their mastery of the knowledge or skills). With this in mind, the process will look different depending on the music classroom, prior knowledge, interests, and abilities students bring to a learning scenario. In music, prior knowledge and ability would be determined by a person's music aptitude and level of music achievement. Gordon (2012) explained:

> process, …relates to method of learning whereas product relates to goals accomplished as a result of process. The process of how and the product of what is learned are different only in theory. In actual teaching they are not mutually exclusive. (p. 15)

At the present time, adapting instruction to meet the individual differences is an obvious requirement to ensure teaching and student learning success in the classroom. What is less obvious is the process of implementing specific and targeted differentiating instruction (Ainsworth, 2011; Green, 2008; Standerfer, 2011; Tomlinson & Strickland, 2005; Vada, 2013) for different courses of study (i.e., language arts, math, science, and in particular music). Further, Salvador (2011) wrote that "conceptual clarity about instruction that is guided by clear and accurate evaluation of student skill and awareness provides authentic modifications to teaching methods and instructional materials that address the differences of all learners …" (p. 44), and not solely targeted to those who have exceptional ability to reason and learn (National Association for Gifted Children, 2010).

Currently, evidenced-based process (i.e., measuring music aptitude and music achievement), specific 'differentiated' instruction, and SRBI are mandated for core subjects 'are not' mandated for music education. "In music education, teaching practices are often implemented without any evidence to support enhancement in teaching or learning outcomes" (Bugos, 2015, p. 8). Bugos added, music "educators spend little time evaluating outcomes of specific [research-based] pedagogies, approaches, or methods" compared to teachers of math, science and language arts (p. 8). Bugos continued to explain, "there is a considerable need for schools to get involved in conducting research in music education that can translate to practical application in the general music classroom" (p. 8). This lack of reflection and systematic investigation of current practice contributes to the inadequate diagnosing and fostering of students' music aptitude and music achievement. Inadequate diagnoses prevent authentic and dynamic instruction that meets the needs of all music learners (Fox, 2013; James-Ward et al., 2013; S. Taylor, 1908).

Ironically, although an abundance of music learning research does exist, much has been done with questionable purpose and the results themselves have accomplished little (Bugos, 2015; Cogdill, 2015; Gordon, 2005). Many music teachers, district music supervisors, directors and school administrators are unaware of the complex framework that contributes to shaping a student's needs that contribute to their motivation to continue learning music. Understanding of these complex frameworks is necessary to effectively and efficiently address the individual needs of all students regardless of music aptitude and level of achievement. Through purposeful differentiation and modifying of instruction, no matter what the subject, students become better prepared and engaged and motivated for the next phase of learning (Ainsworth, 2011; Standerfer, 2011; Tomlinson, 2014; Tomlinson & Strickland, 2005).

Engagement & Motivation

Researchers have noted that engagement and motivation can positively transform students and the learning climate of a school and classroom (Azzam, 2014; Burak, 2014; Cogdill, 2015; Harrison, Asmus, & Serpe, 1994; Larmer, 2014; Martin & Pickett, 2013; Quate & McDermott, 2014; Sundberg, 2013; Wormeli, 2014). Comparatively, embedding lessons that are engaging and motivating students in a music classroom is no different than any other subject (O'Donnell, 2011; Salvador, 2011). A search on *Google Scholar* yielded about 3,620,000 results for articles related to 'engagement' and about 3,150,000 articles related to 'motivation.' Two schools of thought that exist in the literature are that motivation is a fixed quality that drives a student or motivation is the result of environmental influences (Perks & Middleton, 2014). For example, Schunk (2012) discussed that regardless of diverse behavioral or cognitive learning theories, common instructional principles include, 'motivation' as part of the mental construct for learning. "Educators have described [engagement and] motivation in many ways – and how they view it influences both their beliefs about their students and their approach to teaching" (Perks & Middleton, 2014, p. 48). Consequently, the process of effectively engaging students in a music classroom is a teacher's ability to skillfully navigate content, instruction, and attend to students' individual differences in ways that direct or redirect student thinking to a state of motivation that inspires authentic and meaningful learning (Jackson & Zmuda, 2014).

Engaged music learners pursue and focus on their own thoughts. Engaged music students share their ideas and understandings about topics of study and take risks. Engaged music learners are not compliant or passive participants. Ironically, alternative thought by research suggested, engagement is not a requirement for all types of learning (Jensen, 1998). However, under most circumstances, "for typical… classroom learning… more focused and engaged attention is better

than less of it" (p. 34). All things considered, successful teachers work to managing stimuli and maintain engaged and motivated behavior especially when teaching and student learning requires effort and purpose when rigor is a factor.

Although engagement and motivation are both unique behavioral attributes, teaching professionals often link them together when discussing and analyzing their role during the learning process (Azzam, 2014; Jensen, 1998, Quate & McDermott, 2014; Richardson, 1990; Southern Regional Education Board, 2011). 'Engaged' students are typically 'motivated' to learn by some stimuli. 'Motivated' students are typically the result of cognitively 'engaged' students. As Asmus & Harrison (1990) explained, identifying and understanding characteristics of motivation and engagement, and their relationship to aptitude, contribute significantly to one's propensity to succeed during learning episodes. Further, Gordon (2012) explained that students who lacked motivation and engagement were the result of poor teaching practices that ignored students' music aptitude, prior knowledge and level of achievement. Music teachers that understand how to interpret reliable and valid music aptitude and music achievement results are better equipped to provide instruction that intrinsically motivates and engage students in all aspects of music learning.

Aspects of Learning – Categorizing

Teachers and learning theorist generally agree on the importance of concept learning, problem solving, transfer, and metacognition during the learning process (Gordon, 2012; Isbell, 2012; Meumann, 1913; Schunk, 2012). Comparatively, embedding lessons that incorporate higher-order skills that require students to extend their thinking in a music classroom is no different than any other subject (Bender, 2012; Keast, 2009; O'Donnell, 2011; Salvador, 2011). Notably, educational psychologists have discussed that learning tasks such as, "fluent reading—

reading with comprehension—is an outgrowth of viewing words through a semantic feature-analytic approach or [process]" (Gordon, 1974, p. 39). In a similar fashion, for music teachers, this cognitive process requires embedding modifications that account for measuring and evaluating prior knowledge. Moreover, part of this process requires students, music students alike, to develop the skill and ability to categorize. Smith (2012) stressed that categories were an essential component of cognition and developing information systems. "To categorize means to treat some objects or events as the same yet as different from other objects or events" (p. 16). Notably, during general skill development, each type of skill learning is unique (Schunk, 2012), and comprehension occurs through learning difference and sameness and the ability to discriminate between categories and distinctions within categories for 'music' as well as with other subjects in K-12 education (Gordon, 1981, 2012; Vada, 2013).

In a like manner, Bruner (1985) compared learning a musical instrument, mathematics, how to play chess or reading rhymes as similar learning tasks since all involve cognitive processing that require balancing attention, memory, persistence and mental categorizing. Smith (2012) explained:

> this process of learning to establish categories involves hypothesizing what are the significant differences—the only reason to establish a new category is to make a new differentiation in our experience, and the learning problem is to find the significant differences that should define the category. (p. 200)

The process of acquiring reading and comprehension skills when developing music literacy (i.e., the ability to listen, read and write music with comprehension) parallels that of reading and comprehending language. "It should be recognized that 'words' and 'patterns' function

synonymously in language reading as they do in developing music literacy" (Gordon, 1974, p. 40). An important distinction that Gordon (2001a) made in over 50 years of research was that:

> music is not a language. It has no grammar or parts of speech. Music is a literature. Nevertheless, processes of learning language are highly similar. Most adults are familiar with children's linguistic development. Thus, …analogies of language development and musical development [help] make the musical development process more easily comprehensible. (p. 1)

Individuals develop their understanding of word meaning through various experiences that acculturate and guide their learning. The vocabularies of language include – and in order of developmental sequence are – listening, speaking, thinking, reading and writing (Gordon, 2011, 2012; Smith, 2012; Vygotsky, 1978). Developing competence categorizing represents a process of skill acquisition for the complex types of learning that occur in school subjects such as reading, writing, mathematics, science and music (Gordon, 2012; Isbell, 2012; Schunk, 2012). As the rules of syntax and word choice evolve in our cognitive structures and meaning is established, persons group and categorize phonemes that individual letters or groups of letters create contextually (Smith, 2012).

In light of current educational policy, many music educators are often searching for ways to connect the discipline of teaching music with Common Core State Standards (CCSS) and the influences state mandates have on teaching and student learning have on all teachers, including music teachers (National Association for Music Education, n.d.; State Education Agency Directors of Arts Education, 2016). Conversely, the New York State Education Department (2002) published *Music – A Resource Guide for Standard-Based Instruction (MRGSBI)*, which was designed to provide, "guidance to New York state school districts and teachers to help

students achieve the music standards" (p. 1). Consequently, this 164-page document provides a meta-compilation of pre-K-12 'field tested' lessons in all areas of music instruction including band, chorus, orchestra, and general music. As a point of interest, the *MRGSBI* was not intended to be a curriculum. It was intended assist music teachers with aligning the current national standards for music education with the state's. Further, the *MRGSBI* provided comprehensive, sequential pre-K-12 units of study that would be dynamic and considered to be continuously developed. Conversely, footnoted on page 131 of the *MRGSBI*'s Appendix B titled: *Types of Assessment Tools and Tasks*, numbered 16 of 17 of 'recommended' *assessment tools and materials* was listed: *Standardized Music Achievement Tests* (i.e., Iowa Tests of Music Literacy) (Gordon, 1971, 1991): Music Achievement Tests (Colwell 1969, 1986); Silver Burdett Music Competency Test (Colwell 1979); Watkins-Farnum Performance Scale (Walkins & Farnum, 1954, 1969). An additional point of interest was that no mention of a music aptitude test was listed. With this in mind, for the purpose of state and national alignment, associating aspects of learning to units of music study and observing the 'taxonomies in education' regarding how all these elements apply to a music and learning, has unlimited positive potential to guide research based instruction, engage and motivate and differentiate learning in the music classroom.

Taxonomies in Education

Researchers and music teaching professionals have used the word taxonomy to describe various areas of teaching and learning (Gordon, 1974; Krathwohl et al., 1964; Mayer, 2002; Vada, 2013; Veal & MaKinster, 1999). Travers (1980) offered that classification is the taxonomic process by which groups of categories or attributes are established in a logical order. Krathwohl, Bloom, and Masia, (1964) described a true taxonomy in the context of educational objectives as:

> …a set of classifications which is ordered and arranged on the basis of a single principle or on the basis of a consistent set of principles. Such a true taxonomy may be tested by determining whether it is in agreement with empirical evidence and whether the way in which the classifications are ordered corresponds to a real order among the relevant phenomena. The taxonomy must also be consistent with sound theoretical views available in the field... finally, a true taxonomy should be of value in pointing to phenomena yet to be discovered. (p. 11)

In a similar fashion, taxonomy can describe the logical order of research-based pedagogical strategies for music educators. As an illustration, pedagogical strategies in a music classroom include, for example: planning, teaching methods, evaluation, group work, questioning, wait time, feedback, individual instruction, lecture, demonstration, and reinforcement. Marzano, Pickering, and Pollock (2001) wrote "it may come as a surprise to some readers that up until 30 years ago, teaching had not been systematically studied in a scientific manner (p. 1). Another compelling surprise is that a uniformed systematic approach to music instruction that horizontally and vertically aligns K-12 comprehensive learning objectives has not been mandated (National Association for Music Education, n.d.; State Education Agency Directors of Arts Education, 2016).

The CCT outlined a taxonomy of children's linguistic development and stressed that all students must learn to listen, speak, understand, read, write, and use language effectively in a variety of content areas (National Governors Association and Council of Chief State School Officers, 2016c). In similar fashion, sequential music learning observers the same sequence of music literacy acquisition, with two substitutions in terminology to account for the music learning differences, they are: listen, *perform*, *audiate*, read and write (Gordon, 2001a, 2010).

Additionally, taxonomies in education were apparent in the CCSS literacy skills by which they aligned with the sequential development of comprehension related to varied text complexities throughout K-12 education that prepared students for college and career readiness in multiple disciplines (National Governors Association and Council of Chief State School Officers, 2016b). Similarly, the CCSS provided a taxonomy for math and "…beginning in grade 6, the literacy standards allow teachers of ELA, history/social studies, science" (¶ 3). Consequently, students are expected 'and' required to meet the particular challenges of listening, speaking, understanding, reading, and writing, the language that pertains to in their respective fields.

Music programs on the school and district level may all have similar learning objectives and goals for teaching and student learning. Consequently, without alignment with respect to the taxonomies and content and pedagogy that reflects agreement among all teachers, essential or transformative education will not be realized (Benedict, 2012; Mayer, 2002). Researchers have suggested that three areas of focus to better align teaching and learning to meet educational goals for teaching for 'all' subjects included: (a) subject matter content knowledge, (b) pedagogical content knowledge, and (c) curricular knowledge (Shulman, 1986). Shulman clarified:

> when there exist competing claims regarding a given phenomenon, the syntax of a discipline provides the rules for determining which claim has greater warrant. A syntax is like a grammar. It is the set of rules for determining what is legitimate to say in a disciplinary domain and what "breaks" the rules. (p. 9)

In a similar fashion, effective communication of learning objectives, goals and outcomes that align with an acceptable level of capability for defining accepted truths in a domain and an understanding to explain and defend logically why a particular proposition or purpose for a lesson is warranted, why it is worth knowing, and how the content relates to other propositions,

both in theory and in practice is essential for positively impacting student engagement, motivation, teaching and learning in 'all' subject areas (Benedict, 2012; Mayer, 2002; Shulman, 1986, 1987).

In contrast, with music education, a crucial factor which contributes to misaligned state or national standards is the lack of consensus of pedagogical taxonomy (Mayer, 2002), and what is a valid test of music aptitude and music achievement (National Association for Music Education, n.d.; State Education Agency Directors of Arts Education, 2016). Music psychologists and research suggested the importance of tonal and rhythm patterns in the development of music literacy (Azzara, 1993; Gordon, 2012; Holahan, Saunders, & Goldberg, 2000; Seashore, 1919). As a matter of fact, tonal and rhythm patterns have been researched extensively and seminally organized (i.e., a taxonomy exists) according to their musical structure in *The Psychology of Music Teaching* (Gordon, 1971), and more recently in *Learning Sequences in Music: A Contemporary Music Learning Theory* (Gordon, 2012). Additionally the role of 'audiation' helps to distinguish the unique nature of musicianship from other intelligences that may appear to be similar in nature due to 'like' intelligence attributes expressed by various researchers (Brualdi, 1996; Gordon, 2012; Harrison, 1990; Jensen, 1998; Woodford, 1996; Woolfolk et al., 2015).

Consequently, much of this research and many K-12 music teachers and music teaching universities have ignored the distinct attributes that are unique to music learning (Gordon, 1969, 2012; Seashore, 1915, 1919; Seashore et al., 1960). Regardless of the tonal and rhythm pattern research that has been performed and the extensive efforts that have been made to justify their importance, these taxonomies are not part of any CCSS or national music and arts initiative (Gordon, 1974; National Association for Music Education, n.d.; State Education Agency

Directors of Arts Education, 2016), and consequently remain topics of research rather than guiding principals that can be embedded nationally to transform future music curriculums (Beall, 1991; Garner, 2009; Gordon, 1974; O'Donnell, 2011; Sang, 1998; Vada, 2013; Woodford, 1996).

Summary

The purpose of this literature review was to research, identify and examine (a) factors that influence learning (b), how learning occurs, and (c) how learning principles apply and correlate to 'music education. Conversely, the key themes in the literature that were most relevant with regards to music teaching and student learning and their relationship to music aptitude and music achievement were: giftedness and talent, music aptitude and achievement, ability-grouping, differentiation, engagement and motivation, aspects of learning and finally, taxonomies in education.

The literature revealed a limited amount of research that explored, examined or discussed the impact of how music teachers could use objective measurement and how these measures could or would influence subjective evaluation of music instruction and music students. The literature did not reveal substantial empirical evidence regarding the use of teacher created rating systems that addressed various quantitative or qualitative measurement of student performance that focused on music goals and objectives for teaching and student learning (i.e., teacher created continuous, additive or numerical rating scales). Additionally, there was very little research that discussed the logistics, practicality and benefits for administering a standardized reliable and valid music aptitude or music achievement test and how these measures may or may not impact music instruction. Equally important was the absence of how students of different aptitudes responded to different music pedagogical approaches and music programs and if correlations

existed between music pedagogy, music aptitude and music achievement. Additionally, the literature did not reveal research that collected, examined, and discusses cohort samples of students that attended the same school but different music classes, teachers, music pedagogical approaches, music aptitude, and music achievement. Further, surveys regarding student and teacher attitudes and perception of various music pedagogies were not apparent in the literature.

Chapter 3: Methodology

Description of Characteristics of Inquiry

At our core, we all are nothing but the sum of our experiences. Creswell (2013) stated, "whether we are aware of it or not, we always bring certain beliefs and philosophical assumptions to our research" (p. 15). With this in mind, Creswell also posited:

> sometimes these [experiences] are deeply ingrained views about the types of problems that we need to study, what research questions to ask, or how we go about gathering data. These beliefs are instilled in us during our educational training through reading journal articles and books, through advice dispensed by our advisors, and through the scholarly communities we engage at our conferences and scholarly meetings. (p. 15)

My epistemological beliefs are based on life-long experiences and dedication to music learning and teaching. Epistemological assumptions are those beliefs that knowledge is known and the longer researchers stay in the 'field' or get to know the participants, the more they 'know what they know' from firsthand information.

Teacher evaluation systems in Connecticut public schools vary. In 2015, the Connecticut State Department of Education issued new teacher evaluation guidelines. The Connecticut State Department of Education established, "educator evaluator guidelines [that] provide direction to school districts as they develop and adopt new systems of educator evaluation and support" (p. 2). To assist districts in the development and implementation of new educator evaluations systems, the Connecticut State Department of Education published the *Connecticut System for Educator Evaluation and Development (SEED)*. The Connecticut State Department of Education (2015a) further stated, "in electing to implement the SEED model, your district is expected to implement the four components of evaluation and support, …with fidelity…" (p. 43). The

Connecticut State Department of Education explained that, "any variation from the components of teacher evaluation and support as written within this document is no longer the SEED model and would be considered a 'district-developed' evaluation and support plan" (p. 43). The Connecticut State Department of Education offered districts the option of adopting SEED, or using the Connecticut Guidelines for Educator Evaluation and SEED to develop their own teacher evaluation and support plans. The Connecticut State Department of Education required districts that opted to use the SEED guidelines and develop their own plans to submit their educator evaluation and support plans annually to the Connecticut State Department of Education for approval.

Working within a pragmatist interpretive framework (Creswell, 2012), this research will serve to explore the rigorous attributes of the Connecticut State Department of Education guidelines for teacher evaluation. I believe that with progressive, timely and scaffold professional learning, the Connecticut State Department of Education's guidelines for teacher evaluation has the potential to evolve in such a way that it can indeed "fairly and accurately evaluate [music] teacher and school leader performance in order to help strengthen practice to improve student learning" (SEED, n.d.). Creswell (2012) stated, "individuals holding an interpretive framework based on *pragmatism* focus on the outcomes of the research—the actions, situations, and consequences of inquiry" (p. 28, emphasis in original). My pragmatic framework of inquiry has sculpted my current philosophy and driven me to believe that all music teachers and music teacher evaluators can employ the use of objective data to better measure and evaluate teacher effectiveness and student learning. Moreover, through the implementation of professional learning, it is my pragmatic belief that music teachers can learn better ways to generate objective

data that can positively impact their practice while in turn be used to dictate professional development opportunities and improve the validity and consistency of music teacher evaluation.

Purpose

The purpose of this study was to gather, examine, evaluate and discuss perceptions of music teachers in Connecticut regarding the efficacy of the *Connecticut Guidelines for Educator Evaluation*, *SEED* and district-developed guidelines for music teacher evaluation and support. This purpose led to the following research questions:

1. How do music teachers perceive the efficacy of the Connecticut State Department of Education's policies and guidelines for music teacher evaluation and support?

This purpose led to an examination of perceptions of alignment between practice and policy, as well as a way to uncover and discuss the efficacy of Student Learning Objectives (SLOs) and Indicators of Academic Growth and Development (IAGDs). Further, this research aimed to uncover and evaluate the data driven collection tools used to evaluate music teacher effectiveness and student learning.

Equally important, this study aimed to address the research question and 'tease' out data that revealed information that could be used to examine the alignment between music teacher perceptions with actual practice and policy. With this in mind, this research sought to explore the perceived impact that the Connecticut State Department of Education's policies and guidelines for teacher evaluation have on teaching, student learning, twenty-first century skill development, core art standards and advancing K-12 music curriculums.

Research Design

Yin (2009) described case study methodology as, "the preferred strategy when 'how' or 'why' questions are being posed, when the investigator has little control over events, and when

the focus is on a contemporary phenomenon within some real-life context" (p. 1). This research explored and examined music teacher perceptions of the teacher evaluation and teacher support process using a case study methodology. Creswell (2012) defined a case study as, "an in-depth exploration of a bounded system (e.g., activity, event, process, or individuals based on extensive data collection)" (p. 465). Further, a case study methodology allowed for multiple forms of data collection. This mixed methodology approach allowed for a systematic collection of Connecticut public school music teacher perceptions that related to my research questions (Yin, 2009)

A case study design and mixed methods data collection and analysis allowed for the most effective and in-depth examination of the issues (Yin, 2009). This research employed a mixed method design where both quantitative and qualitative data were collected. This mixed method design provided concrete procedures for collecting, analyzing, and mixing both quantitative and qualitative data into a single study to best understand the results generated by the data collected (Creswell, 2012).

The Case

This research integrated findings and compared themes generated by music teacher's perceptions across multiple Connecticut public schools located in different District Regional Groups (DRGs). According to the Connecticut State Department of Education's Division of Teaching, Learning and Assessment (2006) a DRG is "a classification system in which districts that have public school students with similar socioeconomic status and need are grouped together." (p. 1). This data yielded data that allowed for a more comprehensive and accurate assessment of the perceptions and practices for all demographics in Connecticut public schools (Yin, 2009).

Participants in this study were music teachers who held an 049 teaching certificate in

music education. Participants included teachers who taught general music, band, chorus, orchestra, guitar/ukulele ensembles and music technology. In fact, the sample consisted of forty-six certified Connecticut public school music teachers from different DRGs, whose experience ranged from two to over twenty-one years. Lastly, participants were music teachers who used SLO(s) and IAGD(s) or Common Formative Assessments as part of their teacher evaluation and support plans within the last two years. In all, this case study sought to capture a broad sample of music teachers throughout Connecticut.

Data Collection Methods

Quantitative and qualitative data collection methods were used to collect data for this mixed methods case study design to answer a research question. The research question and corresponding data collection methods utilized for this study can be found in Table 1 below.

Table 1.

Research Questions and Methods

Research Question	Methods
(1) How do music teachers perceive the efficacy of Connecticut State Department of Education's policies and guidelines for music teacher evaluation?	• Close-ended Survey Questions • Open-ended Survey Question

As previously stated, the research question described in the table above was answered through the use of both qualitative and quantitative data. In the next section, the method of collecting these two types of data is described in detail.

Surveys

According to Creswell (2012) surveys are administered to a population in order to help describe the attitudes, opinions or trends of that population. As a point of interest, surveys provide useful information to evaluate programs in schools. This research implemented a cross-sectional survey design. This means that survey data were collected from one point in time (Creswell, 2012; Fink, 2013; Mertens, 2014). Specifically, for this research, survey data was collected for three weeks during the month of October of 2016.

Close-ended questions keep the boundaries of answering each question strict (Stevens, 1993), and multiple choice options, scalar questions, and checklists assist participants in answering questions and keeping responses focused while teasing out common perceptions (Mertens, 2014). Further, quantitative approaches use more closed-ended approaches in which the researcher identifies set response categories (Creswell, 2012). For this research, a majority of the survey questions were close-ended and used a four level Likert scale to specify participants level of agreement or disagreement on a symmetric disagree-agree scale for a series of statements.

Alternatively, open-ended survey questions allow participants to elaborate more on their opinions and write specific details regarding the questions asked. Creswell (2012) discussed that open-ended questions are an opportunity to probe deeper. Further, open-ended questions allowed for the researcher to "…explore the reasons for the closed-ended responses and identify any comments people might have had that were beyond the responses of the closed-ended questions" (p. 220). Finally, open-ended questions allowed for respondents to clarify their answers and helped relay their true feelings on an issue.

Quantitative and qualitative data were collected through electronic surveys completed by

K-12 music teachers who held an 049 teaching certificate in music education (see Appendix A for a copy of this survey). The survey was emailed to approximately 400 music teachers throughout the state of Connecticut using *Google Forms.* This web-based survey provided an efficient method for collecting a large amount of raw data that was organized and analyzed (Creswell, 2012; Fink, 2013). The electronic survey administered had both open and close-ended questions. Open-ended questions did not provide any response options so that the participant could provide his or her own short answers to the questions presented (Creswell, 2012). A majority of the survey questions were close-ended and used a four level Likert scale to specify participants' level of agreement or disagreement on a symmetric disagree-agree scale for a series of statements. For this research, the open-ended questions allowed for respondents to write exactly what they were doing for SLOs and IAGDs.

Data Analysis Methods

Quantitative and qualitative data were rigorously analyzed in order to understand the perceptions of music teachers regarding Connecticut State Department of Education's guidelines for teacher evaluation. Further, this research sought to investigate and evaluate what the impact these State guidelines have on teaching and student learning. Descriptive statistics were used to analyze the quantitative data obtained from close-ended survey questions. The constant comparative method was used to meticulously analyze, evaluate and codify the qualitative data obtained from open-ended survey questions. As a result of both these data analysis methods, a rigorous analysis of the data was completed. Consequently, robust and comprehensive insight about the perceptions of efficacy held by Connecticut public school music teachers regarding teacher evaluation, SLOs, IAGDs and student learning emerged for discussion.

Quantitative Data

Descriptive statistics were used to analyze quantitative data and describe data trends and establish general tendencies in the data (i.e., mean, median and mode). In addition, descriptive statistics helped to determine the variation of scores (i.e., variance, standard deviation and range), and were used to compare where one score stands in relation to others (i.e., means, modes and standard deviations) (Creswell, 2012). With regards to quantittative data generated by the surveys, Ary, Jacob, and Sorensen (2010) stated that Likert-type survey items classified as ordinal measures were best defined using the mode when analyzing data. Therefore, in addition to calcultaing and interpreting the mean and variance for the responses, calculating the mode when analyzing the Likert scale responses was done. Consequently, these methods helped to explain the characteristics of the quantitative data collected from the sample (Mertens, 2014). Further, Creswell (2012) remarked that problems best suited for quantitative research and analysis were those in which trends or explanations to research questions need to be made.

I downloaded and organized the quantitative data collected from the electronic survey database. The data were entered into the *Statistical Package for the Social Science* (*SPSS*). *SPSS* provided the descriptive statistic calculations aforementioned which yielded visual aids such as pie charts, bar graphs and histograms as an additional way to better understand the statistics generated. Further, the output generated by *SPSS* suggested and revealed trends from the data collected (Creswell, 2012; Mertens, 2014). To summarize, I steeped myself in the numbers generated by my surveys and used *SPSS* to uncover descriptive statistics. I created visual representations of the data collected and gained deeper insight to what the data informed. In fact, through these rigorous methods of analysis, I better understood the characteristics of the samples collected as they related to my research questions (Mertens, 2014).

Qualitative Data

The constant comparative method is characterized by the compilation and analysis of data collected continuously and simultaneously. This method is a process in which any newly collected data is compared with previous data that was collected in one or more earlier studies. Creswell (2012) stated that this process includes "gathering data, sorting it into categories, and comparing information with categories" (p. 434). The constant comparative method facilitates the rigorous process of qualitative data analysis because the comparative analytical method can be applied to social units of any size and because theories are formed, enhanced, confirmed, or even discounted as a result of any new data that emerges from the study (Creswell, 2012).

I used the constant comparative method to analyze themes found in the qualitative text-based data generated by the open-ended survey questions. The open-ended survey questions asked participants to describe in writing information about their SLOs and IAGDs. I began by organizing and coding participant responses as they related to both a two-dimensional Blooms revised taxonomy table (see Table 1 below) and music learning activities that demonstrated the related knowledge type and cognitive process attribute indicated (see Appendix B).

Table 2.

Two-Dimensional Blooms Revised Taxonomy Table

	Cognitive Process					
Types of Knowledge	**1** *Remember Recognize Recall*	**2** *Understand Interpret Infer Explain*	**3** *Apply Execute Implement*	**4** *Analyze Differentiate Organize Attribute*	**5** *Evaluate Check Critique*	**6** *Create Generate Plan Produce*
1.) Factual • Terminology • Basic Elements						
2.) Conceptual *Interrelationships among the basic elements* ***within a larger structure*** • Classifications and category • Principals and generalization • Theories, model and structure						
3.) Procedural Skills • Techniques and methods • Performance Criteria						
4.) Metacognitive • *Knowledge of self and personal cognition of music* • Strategic knowledge • Knowledge of cognitive demands • Self-knowledge						

Using Blooms revised taxonomy as an instrument to explain music learning results into objective criteria helps to define higher-order, critical thinking that embeds procedural and metacognitive knowledge that is characteristic of twenty-first century learning (Hanna, 2007).

As a point of interest, a common goal for all teaching professionals is grounded in the ideology that teachers of all subjects move student thinking forward through types/depths of knowledge and the cognitive process (i.e., Bloom's revised taxonomy and Webb's depth of knowledge) (Hanna, 2007; Jensen, 1998; Krathwohl et al., 1964; Shulman, 1986, 1987; Vada, 2013; Webb, 2002). Another key point to my coding of the respondent's words was that prior to

beginning the coding of the qualitative data, I created a template of key music learning action words and phrases that correlated to Bloom's knowledge types and cognitive processes. I coded all the responses twice and gave questionable responses the benefit of the doubt (i.e., I rounded up when I interpreted a response as a borderline knowledge type or cognitive process). I repeated the process several times. I drew initial comparisons between data points that lead organizing and classifying my responses into categories. I used *Microsoft Excel*® to organize the data and generate proportions for analysis. Simultaneously, I repeatedly compared music teacher responses to the SLO definition set forth by the United States Department of Education. Here, Connecticut defined SLOs as:

> …broad statements about the knowledge and skills a teacher wants students to demonstrate as a result of instruction, address the central purpose of a teacher's assignment, take into account baseline data on student performance, pertain to a large proportion of a teacher's students, reflect content mastery or skill development, and reflect ambitious but attainable goals for student learning. (Lacireno-Paquet, N., Morgan, C., & Mello, D., 2014, p. 2)

After organizing responses, identifying themes, assigning codes, determining proportions and making comparisons, the data was ready to be interpreted. To summarize, I used the constant comparative method to tease out overarching themes that emerged in the qualitative data. I rigorously compared that data to types/depths of knowledge or attributes related music teaching, student learning and the cognitive process.

Reliability and Validity

Reliability and validity of the data collected were determined by following a robust, rigorous and methodical approach (Creswell, 2012, 2013; Mertens, 2014; Yin, 2009). Creswell (2012) discussed reliability meaning:

> …that scores from an instrument are stable and consistent. Scores should be nearly the same when researchers administer the instrument multiple times at different times. Also, scores need to be consistent. When an individual answers certain questions one way, the individual should consistently answer closely related questions in the same way. (p. 159)

Creswell stated, "scores need to be stable and consistent first before they can be meaningful" (p. 159). Equally important, when discussing reliability is the perception of validity. Creswell summarized, "validity is the degree to which all of the evidence points to the intended interpretation of test scores for the proposed purpose" (p. 159). Comparatively, the validity of a study will be tested in order to determine whether or not the research is credible. To summarize, reliability and validity are how individuals judge the quality of the data that is collected in a study. To insure reliability and validity, I will use two methods: pilot testing and member checking.

Pilot Testing

Pilot testing provides a deeper perspective regarding survey instruments. Further, pilot testing provides critical feedback with regards to the general trustworthiness and construction of the questions created (Creswell, 2012; Creswell & Miller, 2000; Mertens, 2014; Schade, 2015). According to Schade, (2015) pilot testing is beneficial and allows researchers to test survey and interview questions to ensure the questions are not misleading or confusing.

Since a survey was the sole manner in which data would be collected, I made certain that my survey instrument would be reliable and valid. The review of the literature revealed a lack of research regarding perceptions of music teacher evaluation and support systems. As a result, there were no existing survey instruments that would adequately address my research questions. Consequently, I developed my own survey instrument following the model set forth by Fink (2013) and Creswell (2012). In order to collect both the quantitative and qualitative research for my mixed method case study design, the survey included both open-ended and close-ended questions. During the survey development process, I went through multiple drafts and iterations that were the result of rigorous testing and response to feedback provided by two twenty plus year veteran music educators. In addition, I had two non-music teachers, who taught subjects similar to music (i.e., where learning outcomes are often measured and evaluated using language that involves subjective assessment) provide critical feedback to help refine question clarity. Finally, one of my thesis advisors provided feedback to help improve my survey instrument's reliability and validity.

Member Checking

As a way to increase the integrity and fidelity of this study, I employed the validation procedure known as member checking. Creswell (2012) specifically referred to member checking as:

> a process in which the researcher asks one or more participants in the study to check the accuracy of the account. This check involves taking the findings back to participants and asking them (in writing or in an interview) about the accuracy of the report. You ask participants about many aspects of the study, such as whether the description is complete

> and realistic, if the themes are accurate to include, and if the interpretations are fair and representative (p. 259)

As a point of interest, member checking can take place near the end of the research project (Creswell, 2012; Lincoln & Guba, 1985). This process involves participants checking to see whether an authentic representation was communicated during an interview or from a survey. To put it differently, member checking that occurs towards the end of the research process involves sharing all of the findings with the participants and allows them to critically analyze findings and provide feedback regarding their responses so that the researcher can better interpret the data collected (Creswell, 2012). To summarize, member checked during and after all data was collected to increase validity and reliability of all responses.

At the end of my data collection process, to insure that the findings were reliable and valid, I interviewed three music teachers and one first grade teacher that completed the survey and asked them to validate their responses and elaborate on the make-up of the survey and questions. All four responded positively and confirmed that their responses were accurate. One mentioned having to recall and do 'a little' research in order to provide answers that accurately reflected 'his' perceptions.

Subjectivity Statement

I am a 25-year veteran educator in the area of music education for pre-kindergarten through 12 (preK-12) and hold an 049 Connecticut music education certificate. I have an undergraduate degree in commercial arranging and a degree of Master's of Science/Education. In addition, I hold an 092 Intermediate Administrative Certificate and I completed a Certificate of Advanced Study (CAS) in Administration in December of 2016. Further, I bring a wealth of

practical experience through my service in a wide variety of public and private school districts in Connecticut.

Coupled with my teaching experience as a preK-12 music educator, I also have mentored new and veteran music teachers and provided professional development in the area of understanding by design concepts related to music instruction that embed authentic and objective measurement and evaluation tools into curriculum that inform instruction and evaluate teaching methods. In addition, I teach college, graduate and post graduate students how to develop authentic and meaningful musicianship by developing the ability to audiate, infer, discriminate and improvise. I am also a working musician who has performed for general business engagements with various ensembles for over 30 years. My experience as a music teacher and performer, in addition to my graduate coursework in leadership and research have equipped me with the skills, knowledge and disposition necessary to conduct a study that explores the efficacy of music teacher evaluation.

As a veteran Connecticut educator, I experienced the transition from traditional teacher evaluation systems to the new state required system. Although I earned exemplary ratings year after year, the sum outcomes of my experiences with current professional development and teacher evaluation plans provided me very little support for improving teaching and student learning. Also, progressive efforts to use data results generated by SLO(s) and IAGD(s) generated by music teachers in my district were not used to influence collaborations between K-12 music teachers to generate positive and unified change to improve music teaching, student learning and twenty-first century skill development. As a matter of fact, fostering objective and valid expectations for closing the gaps between music aptitude and student music achievement were for the most part, ignored.

In addition to considering myself a music teacher and musician, I am a professional educator. As a professional educator, I abide by a code of conduct established by *the Connecticut State Leadership Standards* (CSLS). One CSLS (2012) standard established an expectation that, "leaders understand and expect faculty to plan, implement, and evaluate standards-based curriculum and challenging instruction aligned with Connecticut and national standards" (p. 1). An additional CSLS standard stated that, "leaders use assessments, data systems, and accountability strategies to improve achievement, monitor and evaluate progress, and close achievement gaps" (p. 2). I strive to incorporate these strategies into every aspect of my practice to help me move teaching and learning forward.

Lastly, I care deeply about the quality of education of 'all' programs offered to public school students in Connecticut and possess a deep responsibility for the *Connecticut Code of Professional Responsibility for Teachers.* The Connecticut State Department of Education's (2003) *Code of Professional Responsibility* for teachers stated that, "…teacher accepts both the public trust and the responsibilities to practice the profession according to the highest possible degree of ethical conduct and standards. Such responsibilities include the commitment to the students, the teaching profession, and the community" (p. 1). I am inspired and motivated by CSLS, Connecticut State Department of Education's *Code of Professional Responsibility* and my professional practitioner knowledge base to openly explore and discuss the circumstances surrounding music teacher support and professional growth plans. Further, I am committed to examining the implications of music teacher evaluation guidelines, and the influence they have on the integrity of the music teaching profession.

Summary

This study gathered, examined, evaluated and discussed perceptions of music teachers in Connecticut regarding the efficacy of *Connecticut Guidelines for Educator Evaluation,* SEED and other district-developed guidelines for music teacher evaluation and support. The research 'teased' out data that offered information regarding the alignment between music teacher perceptions with actual practice and policy. The participants of the study included music educators throughout the state of Connecticut that hold a current Connecticut 049 music educator's certificate. To collect data on music teacher perceptions, this study used a survey with both open and close-ended questions. The data was analyzed using both descriptive statistics and the constant comparative method. To ensure the reliability and validity of the data collected, rigorous pilot testing of my survey instrument were performed. Finally, member checking procedures were initiated to guarantee the validity and reliability of all data collected.

Chapter 4 – Results and Discussions

Introduction

The purpose of this study was to gather, examine and discuss perceptions of music teachers in Connecticut regarding the efficacy of the *Connecticut Guidelines for Educator Evaluation*. More specifically, this research aimed to uncover and evaluate the data driven plans and collection tools music teachers use to measure student learning and music teacher effectiveness.

After the data collection and analysis process, two themes were identified:

(1) music teachers perceive that SLOs and IAGDs are intended to improve teaching, student learning, and measure teacher effectiveness, and

(2) music teachers do not perceive that SLOs or IAGDs as efficacious.

These themes were the result of patterns identified from the data sets and describe phenomenon that are associated to my research question.

Research Question: How Do Music Teachers Perceive The Efficacy Of Connecticut State Department of Education's Policies And Guidelines For Music Teacher Evaluation And Support?

As stated in Chapter One, a state-approved, district-developed teacher evaluation and support plan 'is required' by all districts in Connecticut (Connecticut State Department of Education, 2015c). According to the *Connecticut Guidelines for Educator Evaluation,* teacher evaluation and support plans were driven by SLOs and the results generated by multiple student IAGDs. Presently, the Connecticut State Department of Education requires that 'music' teachers follow the same goal-setting process as teachers of 'academic' subjects. Further, the *Connecticut*

Guidelines for Educator Evaluation dictated that data generated by IAGDs accounts for 22.5% of a teacher's evaluation for all tested and non-tested subjects.

Music Teachers Perceive That SLOs And IAGDs Are Intended To Improve Teaching, Student Learning, And Measure Teacher Effectiveness.

Survey question four directly asked music teachers for their perceptions regarding the 'intent' of SLOs and IAGDs. As a result, a combination of 67% of music teachers surveyed either agreed or strongly agreed. It was interesting to note that in comparison, a combination of 33% of music teachers selected either disagreed or strongly disagreed when asked to respond to the same question (see Figure 1).

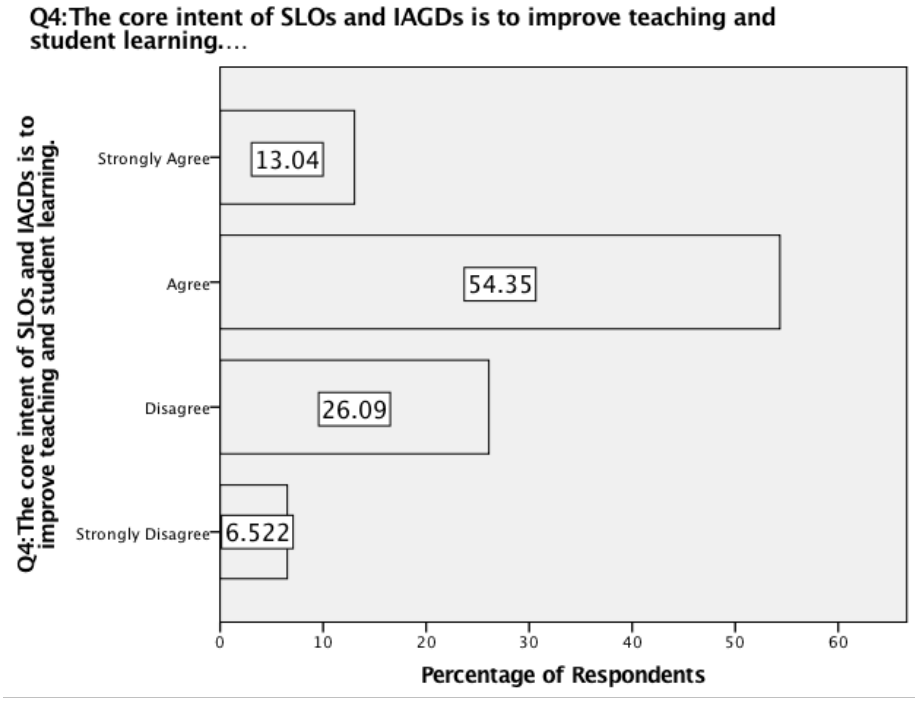

Figure 1. The core intent of SLOs and IAGDs is to improve teaching and student learning.

Figure 1 illustrates that a majority of music teachers surveyed, were aligned with the notion that SLOs and IAGDs were intended to positively impact teaching and student learning. Further, these results were consistent with the existing literature where music teachers understand that

implementing a pedagogy that was driven by reliable and valid formative assessments was no longer an option in education, but a requirement (Connecticut State Department of Education, 2011a; Fox, 2013; James-Ward et al., 2013; Steele & Boudett, 2008a, 2008b).

In response to question five, a combination of 72% of teachers either agreed or strongly agreed that the core intent of SLOs and IAGDs was to measure teacher effectiveness. These results aligned with the state of Connecticut in that teacher effectiveness is determined by data driven indicators (Connecticut State Department of Education, 2011a). Alternatively, 28% of these music teachers either disagreed or strongly disagreed (see Figure 2).

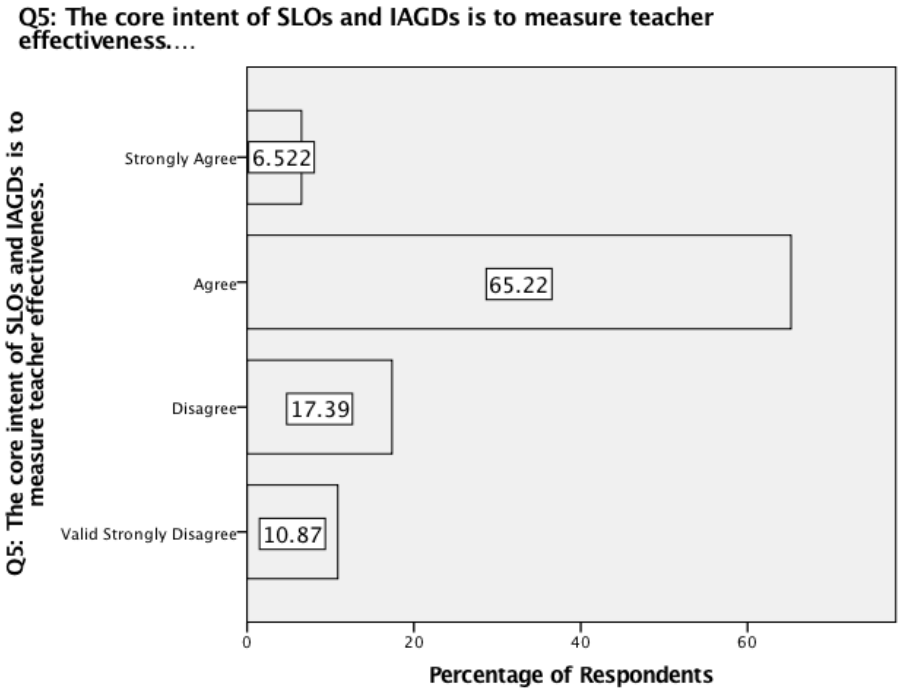

Figure 2. The core intent of SLOs and IAGDs is to measure teacher effectiveness.

The take-way here was that the data revealed that music teachers did perceive that SLOs and IAGDs were linked to measuring and evaluating teacher's performance.

A closer percentage relationship occurred when music teachers were asked to respond to question 15. Here, a total of 41% disagreed or strongly disagreed that the data generated by their

IAGDs was actually being used to evaluate music teacher effectiveness. Comparatively, 59% of the music teachers either agreed or strongly agreed with the same inquiry (see Figure 3).

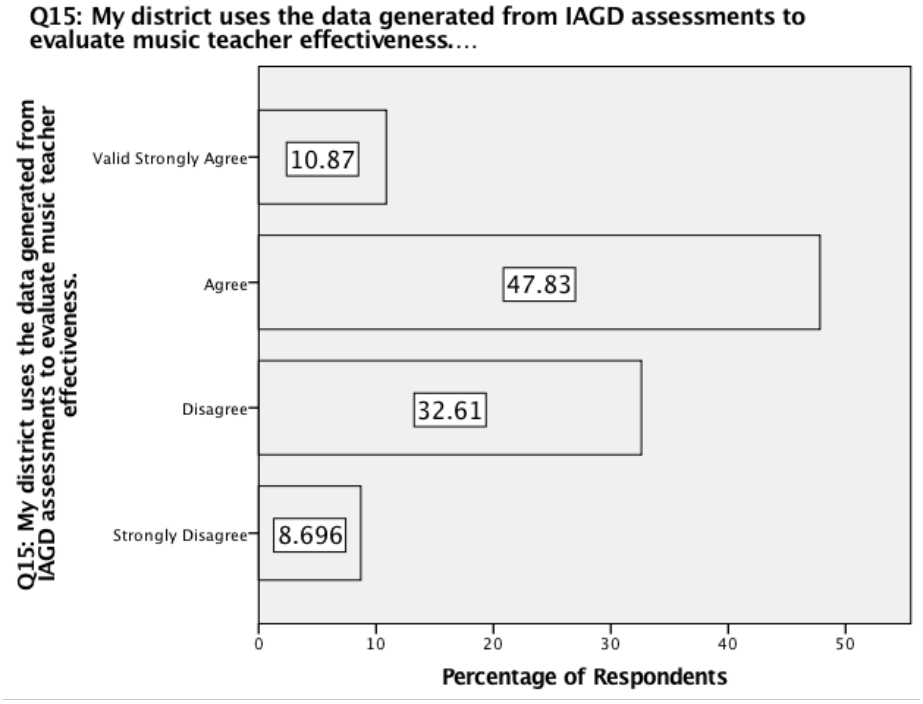

Figure 3. My district uses the data generated from my IAGDs to evaluate and measure teacher effectiveness.

Further investigation of the data generated by question 15 revealed that although the frequency distribution revealed a near to even split (i.e., 9% difference), descriptive statistics revealed a mean of 2.6 and a low standard deviation of 0.80. This suggested that music teachers were genuinely split between agreeing or disagreeing that their district used IAGD data to evaluate music teacher effectiveness.

Equally important, descriptive statistics revealed a mode of 3.0 for both question five and 15 illustrating that teachers agreed more times than disagreed that the core intent and use of SLOs and IAGDs was to measure teacher effectiveness (see Figure 4).

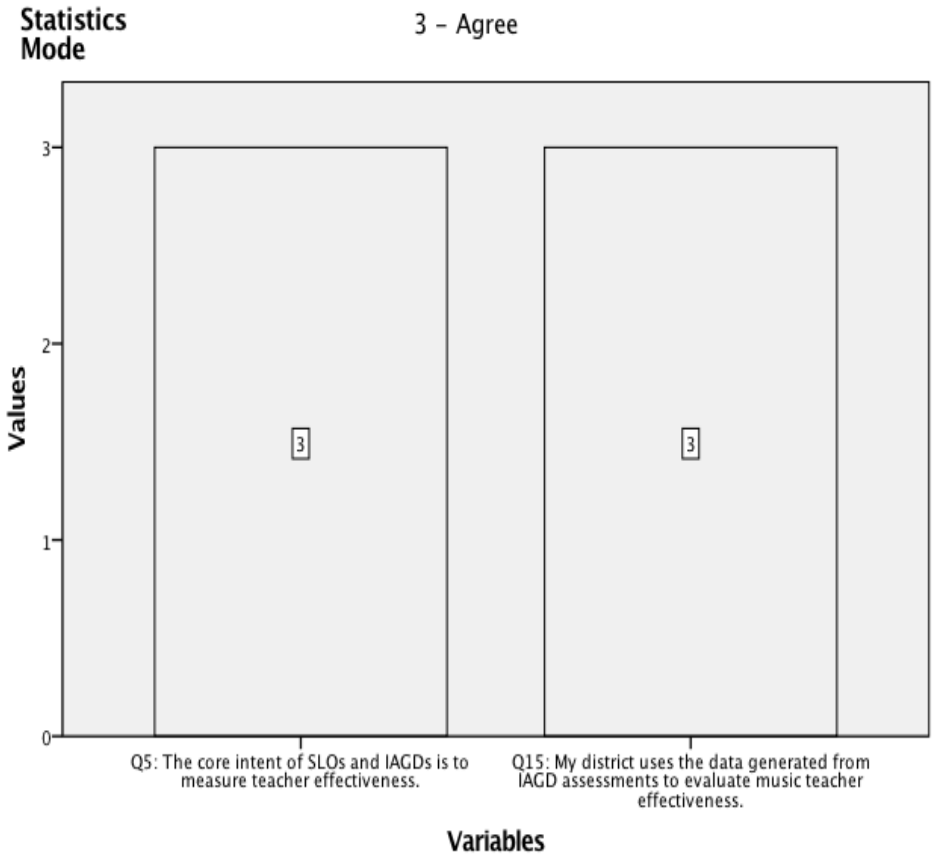

Figure 4. Mode comparison between question five and question 15

Finally, the data indicated that music teachers agreed that the data generated by their IAGDs were used by their district to evaluate their effectiveness. This finding were consistent with state guidelines in that data from IAGDs were an essential part of measuring successful teaching (Connecticut State Department of Education, 2011a).

When music teachers were asked to write down an example of an SLO they used in the past, 72% of the music teachers responded with a valid response (see Figure 5).

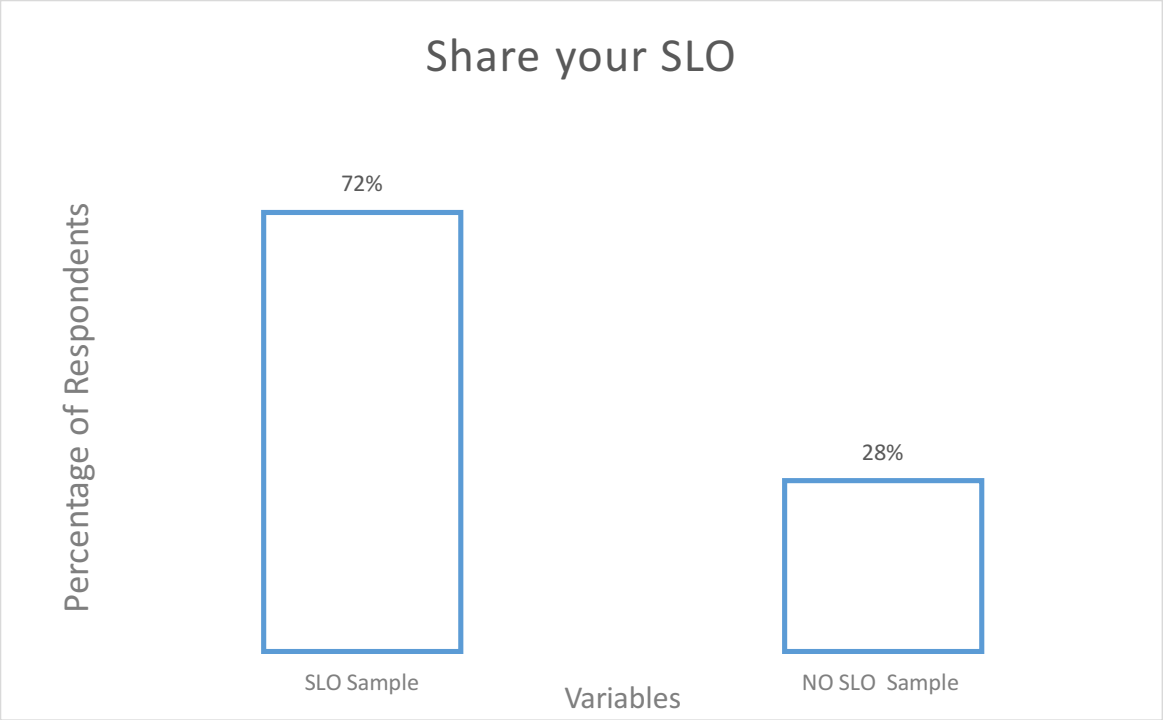

Figure 5. Share your SLO

Alternatively, 28% of the teachers surveyed did not share a valid SLO and responded as follows:

(1) "Skip"

(2) "No Time – planning period"

(3) "(We were required to use a school wide SLO focused on reading). My students will show improvement in reading comprehension and shown in the I-Ready performance end of the year assessment."

(4) "We have a district plan, so do not use SLO's"

(5) "Varies"

(6) "No. Examples of SLOs can be obtained through the district."

Equally important, when music teachers were asked to write down an example of a valid IAGD, 83% of the music teachers responded (see Figure 6).

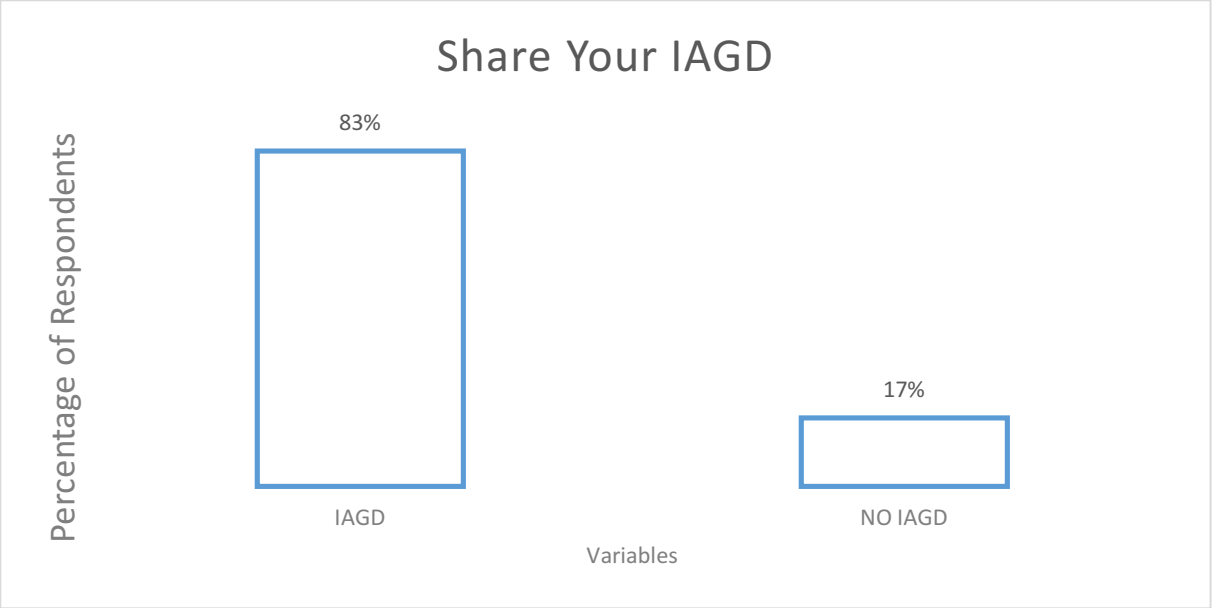

Figure 6. Share your IAGD

Alternatively, 17% of the teachers surveyed did not share a valid IAGD. Examples of how they responded were as follows:

(1) "Skip"

(2) "No Time – planning period"

(3) "N/A"

(4) "Not used"

(5) "I am not required to execute IAGDs this year."

(6) "Varies"

(7) "-"

(8) "Again, you are asking a question that is best answered by administrators/supervisors. That is the proper place for sifting through data."

Although definitive conclusions regarding music teacher perceptions of SLOs or IAGDs could not be deduced from this specific frequency data, the high rate of valid written responses as opposed to non-valid 'neutral' responses reflected a positive attitude towards SLOs and IAGDs

(Creswell, 2012). The content of these responses will be discussed in greater detail later in this chapter

Music Teachers Do Not Perceive That SLOs Or IAGDs As Efficacious.

When teachers were asked to respond to question six, they were asked to respond to the ideology of 'fairness and accurateness' of how they perceived SLOs and IAGDs were being used by their school district. A combined total of 61% of music teachers disagreed or strongly disagreed that SLOs and IAGDs accurately measured all music teachers' effectiveness, fairly and accurately (see Figure 7).

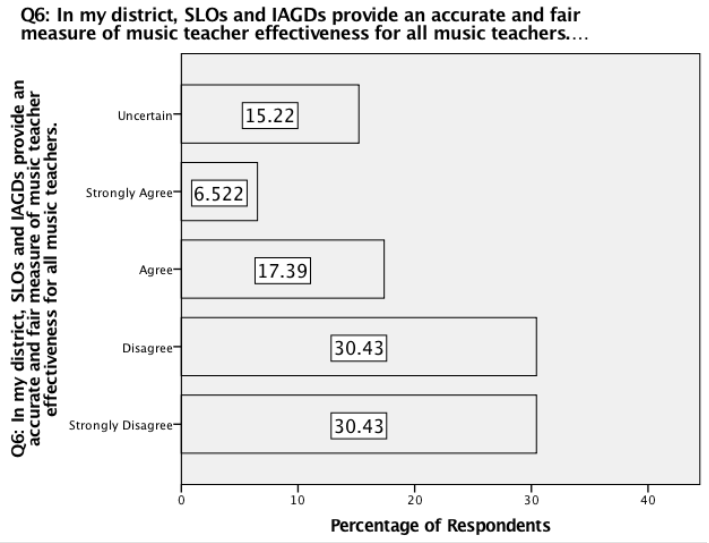

Figure 7. In my district, SLOs and IAGDs provide an accurate and fair measure of music teacher effectiveness for all music teachers.

In comparison, a combination of 24% of teachers either agreed or strongly agreed. Further, an interesting point the data revealed was that 15% of music teachers indicated that they were uncertain if SLOs and IAGDs provided an accurate and fair measure of music teacher effectiveness for all teachers. All these results contradicted state guidelines that data driven indicators were the proof that instruction was effectively impacting student growth and

achievement and an essential part of measuring successful teaching (Connecticut State Department of Education, 2011a). As a matter of fact, these results suggested that SLOs and IAGDs did not prove what the state was asking them to prove.

Survey question seven asked music teachers to respond to the benefits or positive impact their SLOs had with respect to aligning curriculum, relevant music learning, core art standards, critical thinking, problem solving, creativity and their day-to-day teaching assignments. A combination of 67% either disagreed or strongly disagreed (see Figure 8).

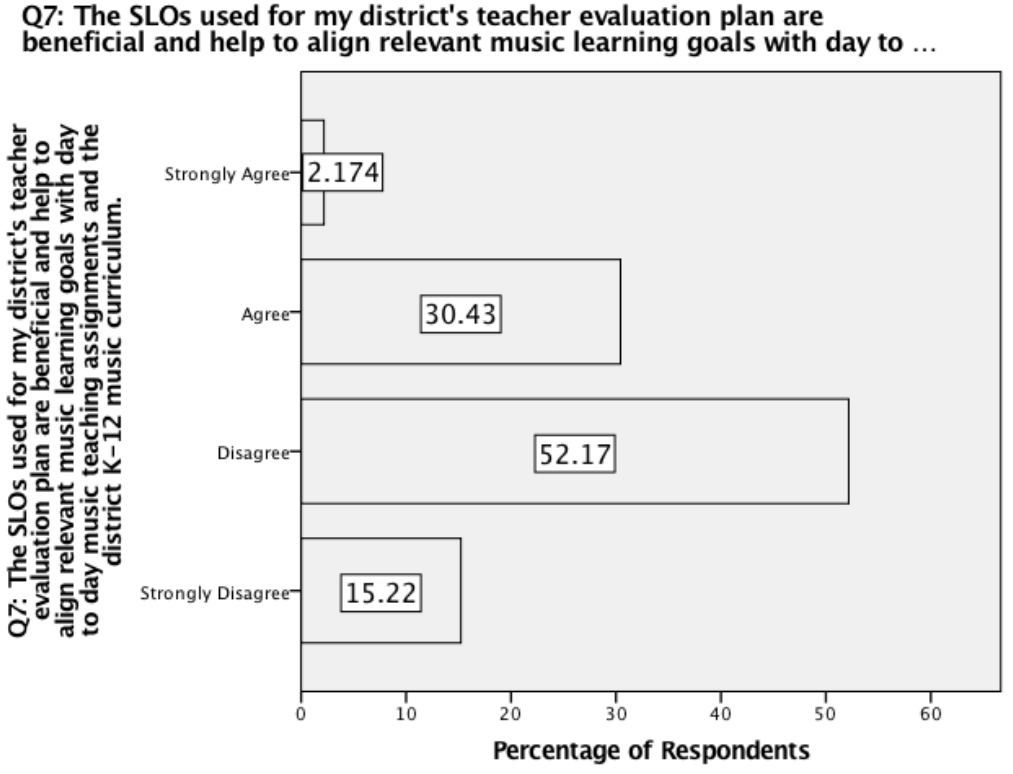

Figure 8. The SLOs used for my district's teacher evaluation plan are beneficial and help to align relevant music learning goals with day to day music teaching assignments and the district K-12 music curriculum.

Interestingly, a low 33% of music teaches either agreed or strongly agreed to the benefits their SLOs and IAGDs provided with regards to the practical day-to-day relevance of 'actually' improving teaching and student learning. These findings contradicted the literature where all instruction, including music instruction, should be guided by reliable and valid measures that provide objective data to assist in subjective evaluation (Fox, 2013; James-Ward, Fisher, & Frey, 2013). Further, these results suggested that SLOs and IAGDs do not identify musical giftedness in order to inform music instruction (Ainsworth, 2011; Gordon, 1967, 2004; Seashore, 1915, 1919; Seashore, C., Lewis, D., & Saetveit, J. G., 1960).

Similarly, in response to question eight, a total of 61% either disagreed or strongly disagreed that SLO's helped to align curriculum with core art standards and twenty-first century skills (Figure 9).

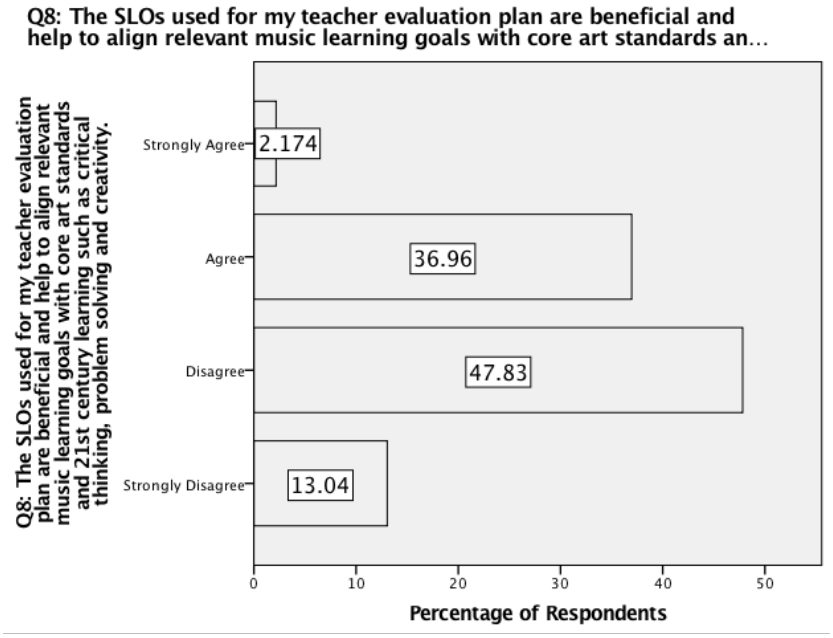

Figure 9. The SLOs used for my teacher evaluation plan are beneficial and help align relevant music learning goals with core art standards, twenty-first century learning such as critical thinking, problem solving and creativity.

Equally interesting, a total of 39% of the music teachers either agreed or strongly agreed that their SLOs and IAGDs were beneficial and help align music learning. These results actually illustrated that a uniformed systematic approach to music instruction that horizontally and vertically aligns K-12 comprehensive learning objectives 'had not' been mandated (National Association for Music Education, n.d.; State Education Agency Directors of Arts Education, 2016).

When teachers were asked to respond to survey question seventeen, a total of 85% either disagreed or strongly disagreed that data generated by SLOs and IAGDs positively impacted collaboration and unified change that improved teaching, student learning and twenty-first century skill development. Comparatively, 15% of all music teachers agreed or strongly agreed to the same statement regarding the positive impact of their SLOs and IAGDs (see Figure 10).

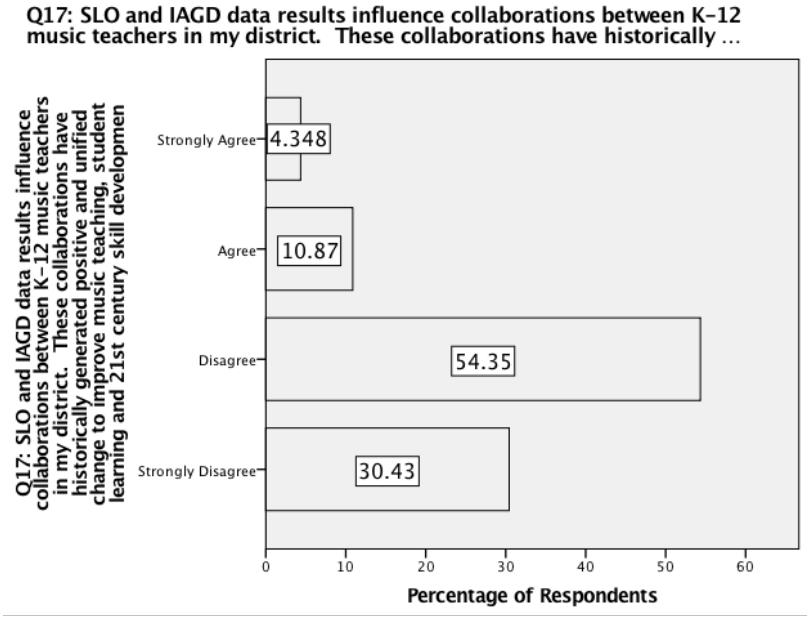

Figure 10. SLO and IAGD data results influence collaborations between K-12 music teachers in my district. These collaborations have historically generated positive and unified change to improve music teaching, student learning and twenty-first century skill development.

As an additional point of interest, descriptive statistics indicated that the mean response for question seventeen was 1.9 with a standard deviation of 0.77 suggesting that 'disagreement' was the average response.

Survey questions nine, 10, 11, 14 and 15 probed deeper into music teacher's perceptions of the data generated by their IAGDs. For example, when music teachers were asked to respond to survey question nine, a total of 61% of music teachers either disagreed or strongly disagreed that the data generated for their district's teacher evaluation plan was useful. Comparatively, a combination of 39% of the respondents felt otherwise by choosing to agree or strongly agree (see Figure 11).

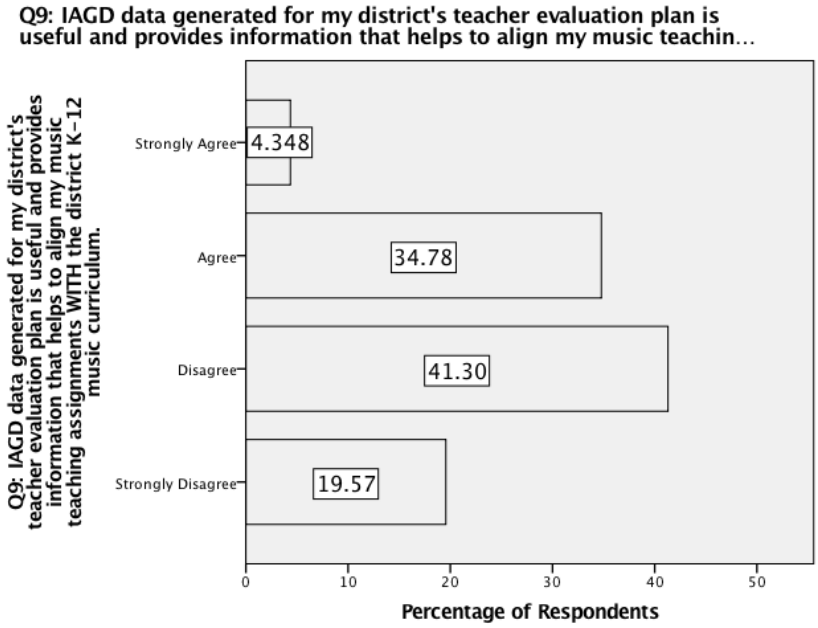

Figure: 11: IAGD data generated for my district's teacher evaluation plan is useful and provides information that helps to align my music curriculum assignments 'with' the district K-12 music curriculum.

Although almost 40% of the teachers surveyed did find the data generated by their IAGD to be useful, descriptive statistics revealed the mean score for survey question nine to be 2.2 with a

low standard deviation of 0.82, which suggested that on average, music teachers disagreed that IAGD data they collected were useful. Here, music teachers failed to either recognize or have the means to accurately collect or reflect on historical and diagnostic student data that could positively transform curriculum and instruction (James-Ward et al., 2013).

In response to question 10 (see Figure 12), a combined total of 72% of the music teachers surveyed either disagreed or strongly disagreed that IAGD data generated for their district's teacher evaluation plan was an accurate reflection of the day-to-day teaching of relevant music skills and that the data generated did not align learning goals with core art standards and twenty-first century learning such as critical thinking, problem solving and creativity.

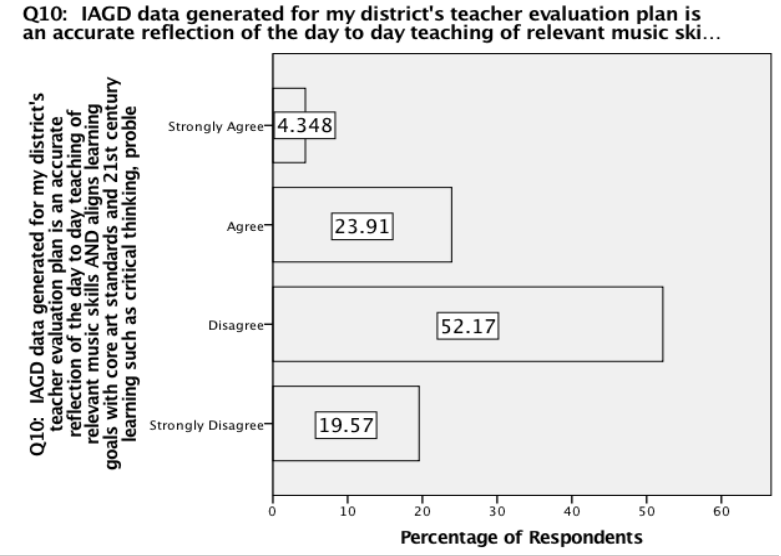

Figure 12. IAGD data generated for my district's teacher evaluation plan is an accurate reflection of the day to day teaching of relevant music skills and aligns learning goals with core art standards and twenty-first century learning such as critical thinking, problem solving and creativity.

Comparatively, 28% of the music teachers surveyed either agreed or strongly agreed. Descriptive statistics revealed that the mean score for survey question nine to be 2.2 and a low standard

deviation of 0.8, which illustrates that on average, music teachers perceived that the IAGD data they collected were not an accurate reflection of day to day learning.

Survey question eleven revealed that a total of 72% of the music teachers surveyed either disagreed or strongly disagreed that the IAGD data they collected for their district teacher evaluation plan provided information that was used to improve their district K-12 music curriculum (see Figure 13).

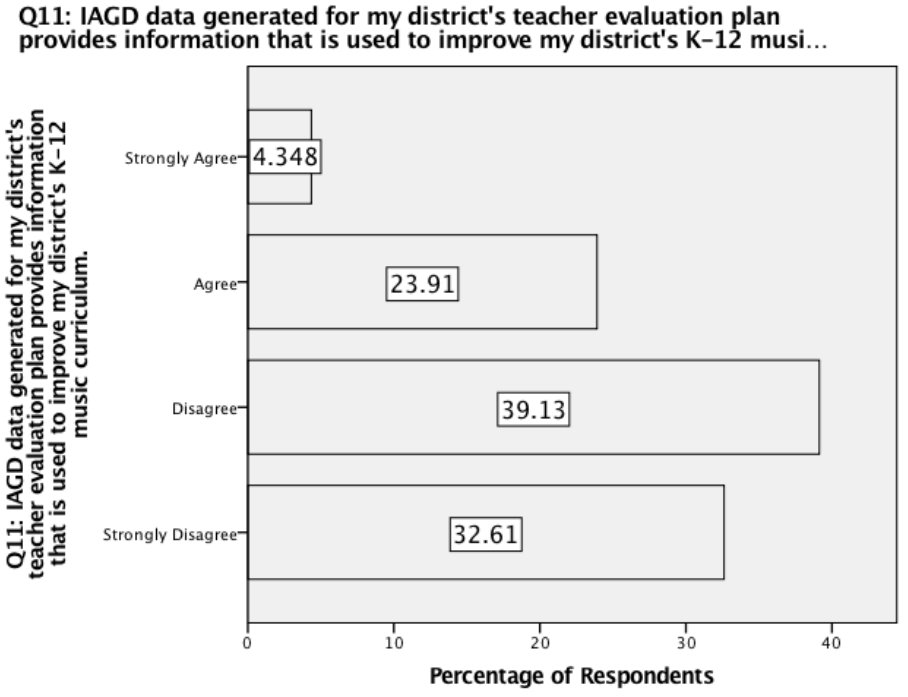

Figure 13. IAGD data they collected for my district teacher evaluation plan provides information that was used to improve their district K-12 music curriculum.

Comparatively, 28% of all music teachers either agreed or strongly agreed. Descriptive statistics revealed a mean of 2.0 and a low standard deviation of 0.87, which suggested that on average, most music teachers perceived the IAGD data collected as 'not' generating data they used to improve their district's K-12 music curriculum

When music teachers were asked to respond to question 14, a total of 91% either disagreed or strongly disagreed that the data generated by their IAGDs was used to evaluate K-12 music programming or used to initiate conversations aimed to improve music course offerings in their district (see Figure 14).

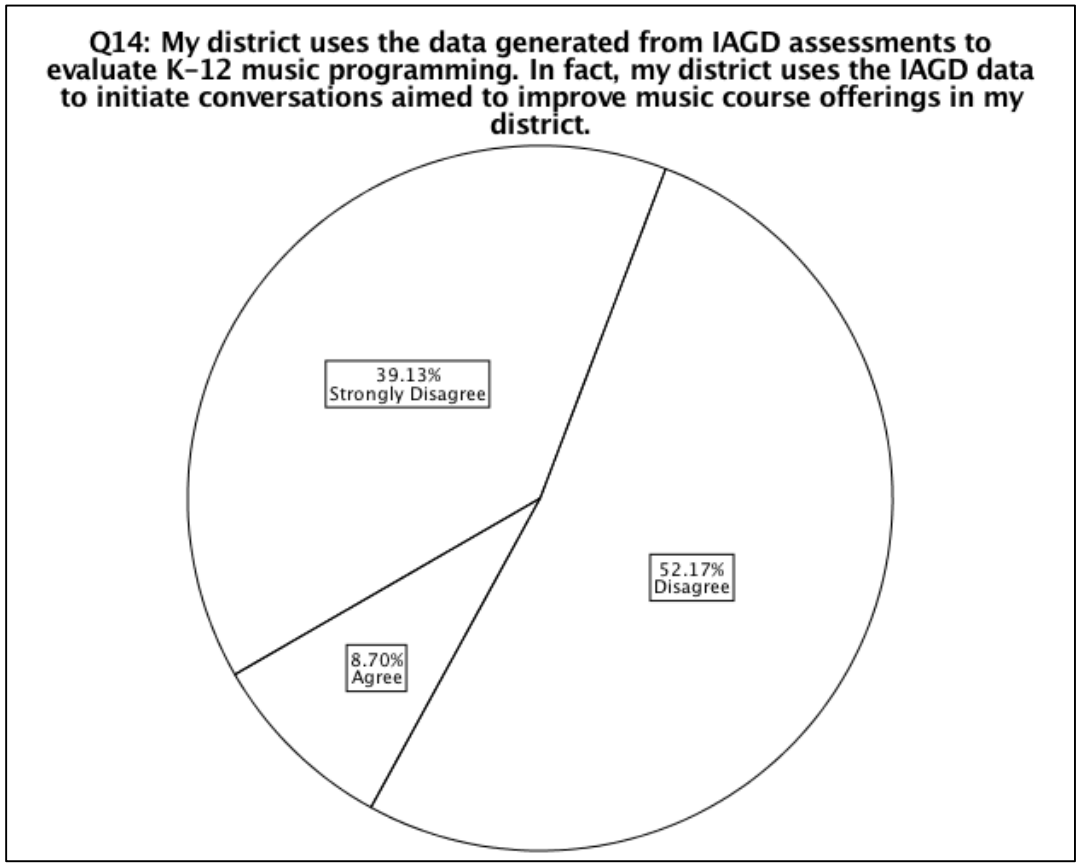

Figure 14. My district uses the data generated from IAGD assessments to evaluate K-12 music programming. In fact, my district uses the IAGD data to initiate conversations aimed to improve music course offerings in my district.

Conversely, 9% of the music teachers surveyed either agreed or strongly agreed. Descriptive statistics revealed a mean of 1.6 and a low standard deviation of 0.63, which suggested that on average, music teachers perceived the IAGD data they collected as 'not' being used to evaluate K-12 programming or used to improve course offerings for their respective districts.

Calculating the mode for Likert scale responses and comparing those responses to each other provided a profound presentation of the data collected (see Figure 15).

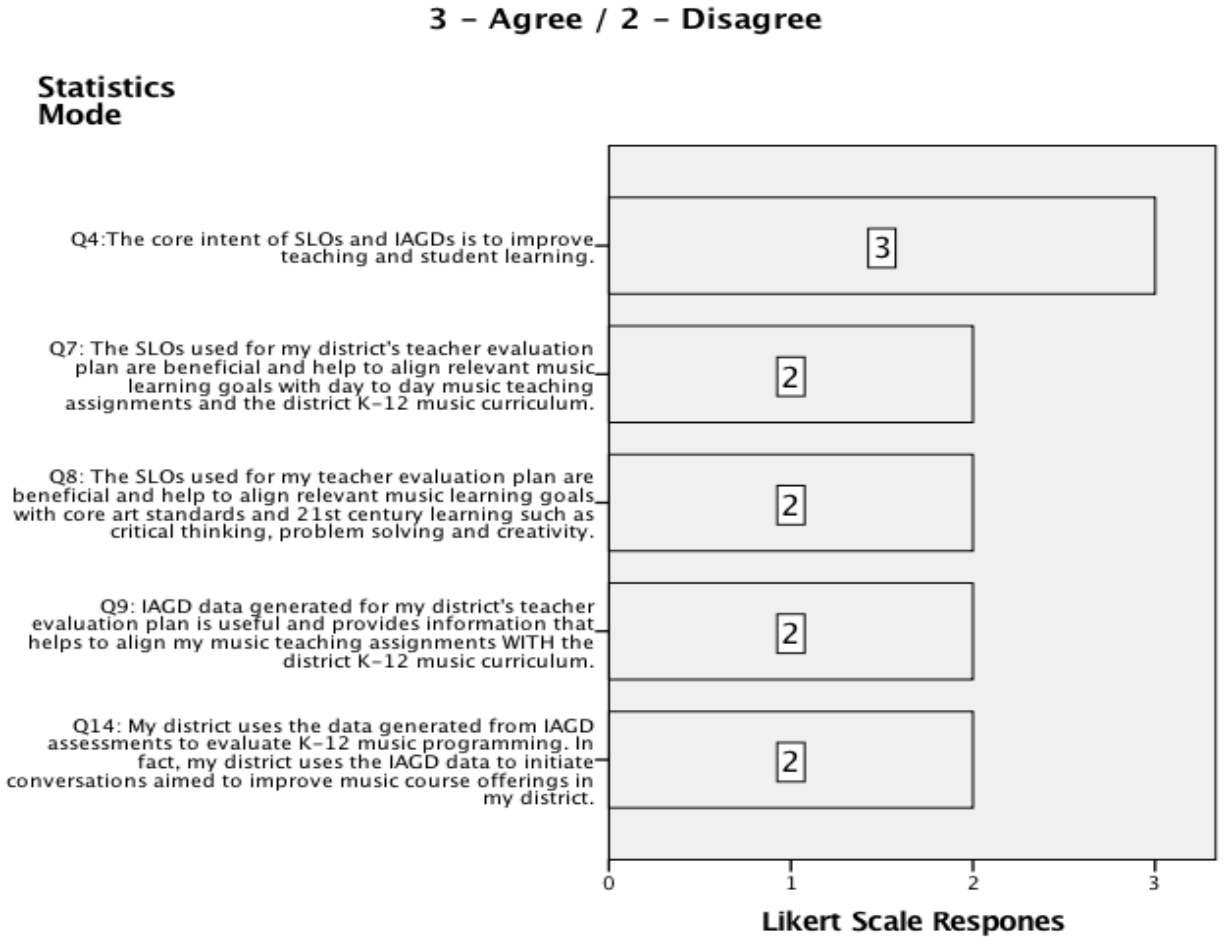

Figure 15. Comparing Modes – question four with questions seven, eight, nine, and 14

In Figure 15 question four was compared to question seven, eight, nine, and 14, and illustrated that although music teachers might have perceived the intent of SLOs and IAGDs to be positive, they did not perceive them as efficacious.

Another compelling comparison was the relationship between the modes of question five, with question seven, eight, nine, 10, 11 and 14 (see Figure 16).

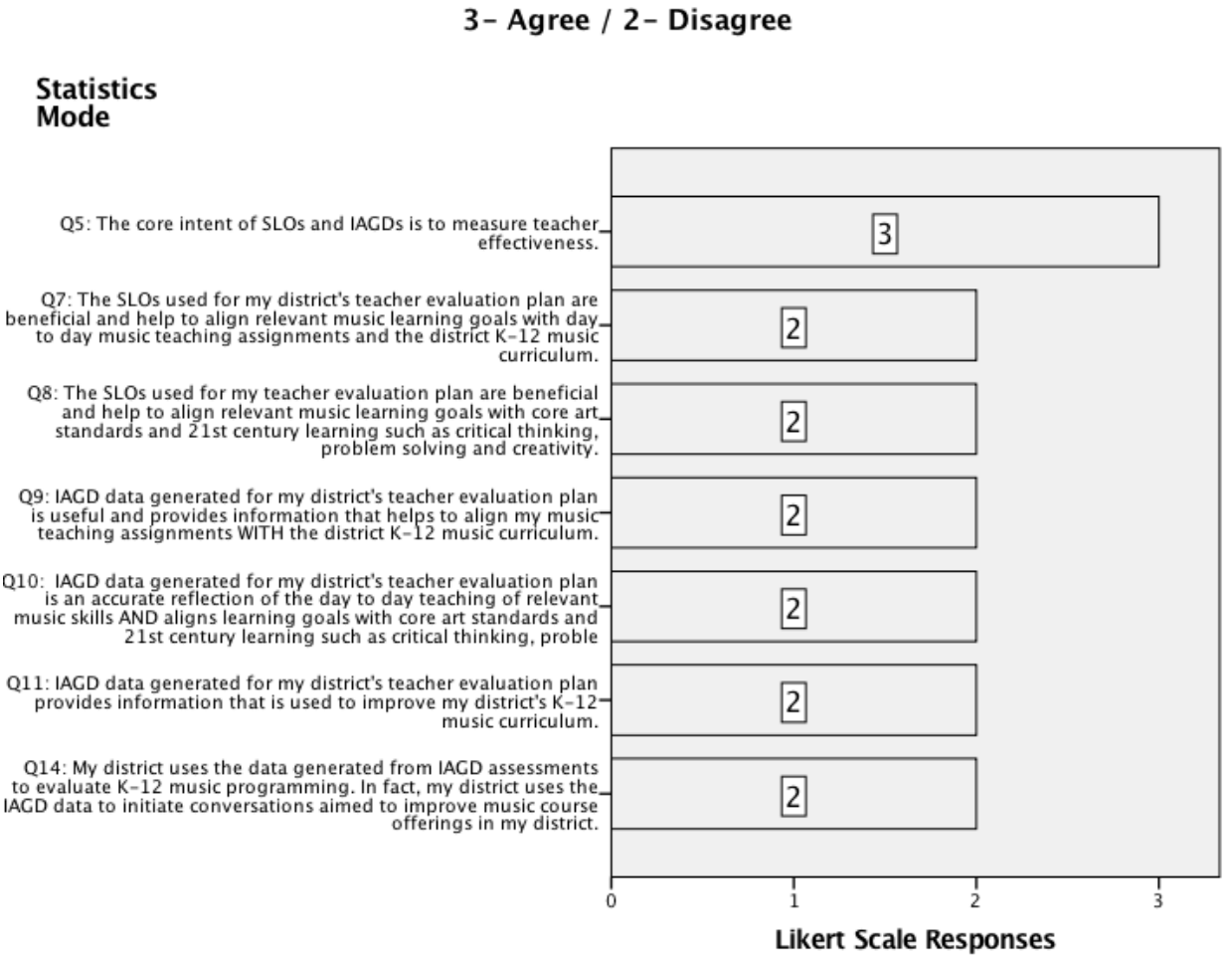

Figure 16. Comparing Modes – question five with question seven, eight, nine, 10, 11 and 14

The data in Figure 16 clearly illustrated that although music teachers perceived the intent of SLOs and IAGDs was to measure teacher effectiveness, teachers perceived that these data driven indicators did not.

Finally, comparing the modes of question four and five with question 17 revealed possibly one of the most telling facts about the relationships between music teacher perceptions, regarding policy and practice (see Figures 17 and 18).

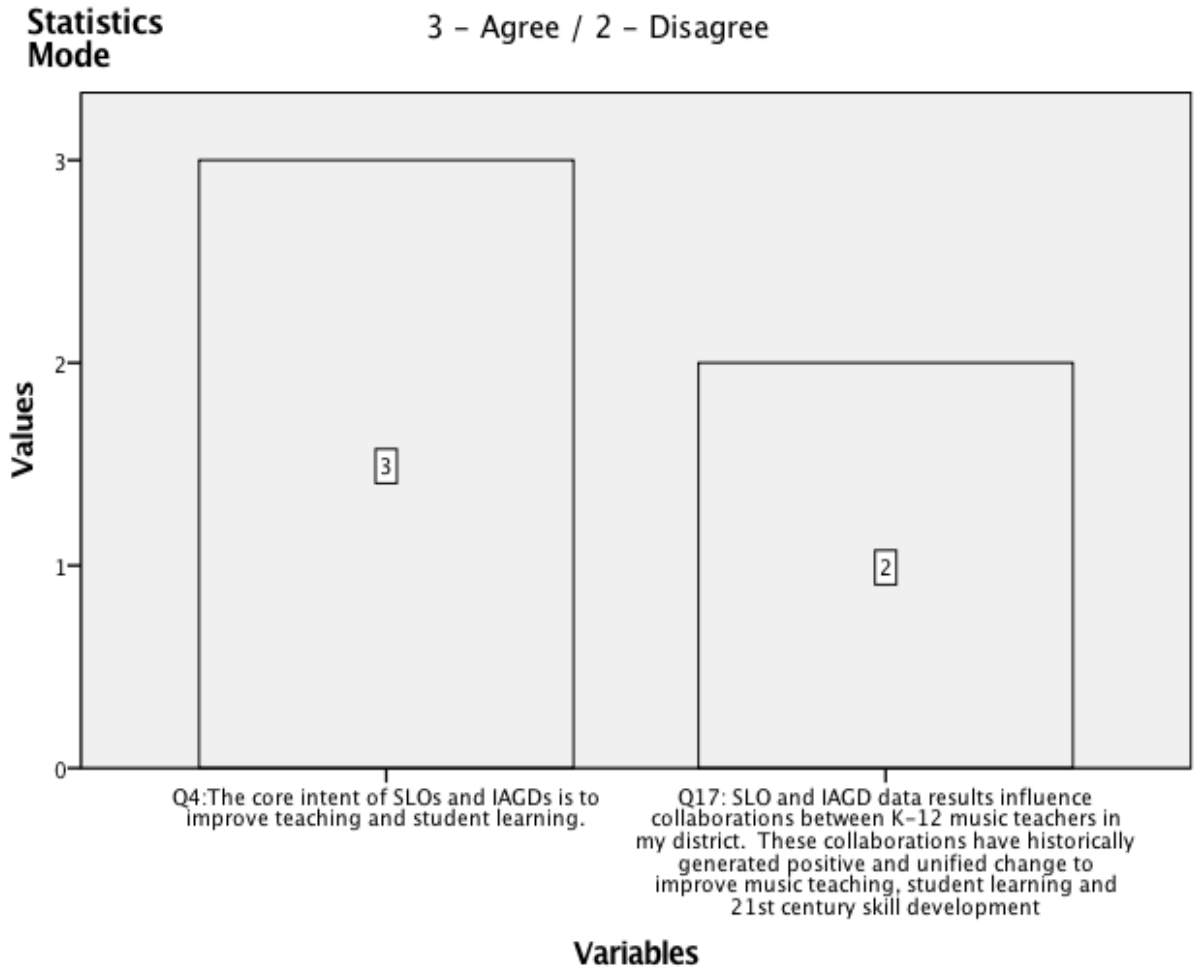

Figure 17. Comparing Modes – questions four and 17

Question 17 was carefully designed to 'tease' out perceptions regarding the ideology of collaboration influenced by the successful teaching frameworks of Danielson (2011) and Marzano, Pickering, and Pollock (2001). As a point of interest, Connecticut State Department of Education's rubric for effective teaching embraced the collaborative attributes of Marzano et al. (Connecticut State Department of Education, 2016).

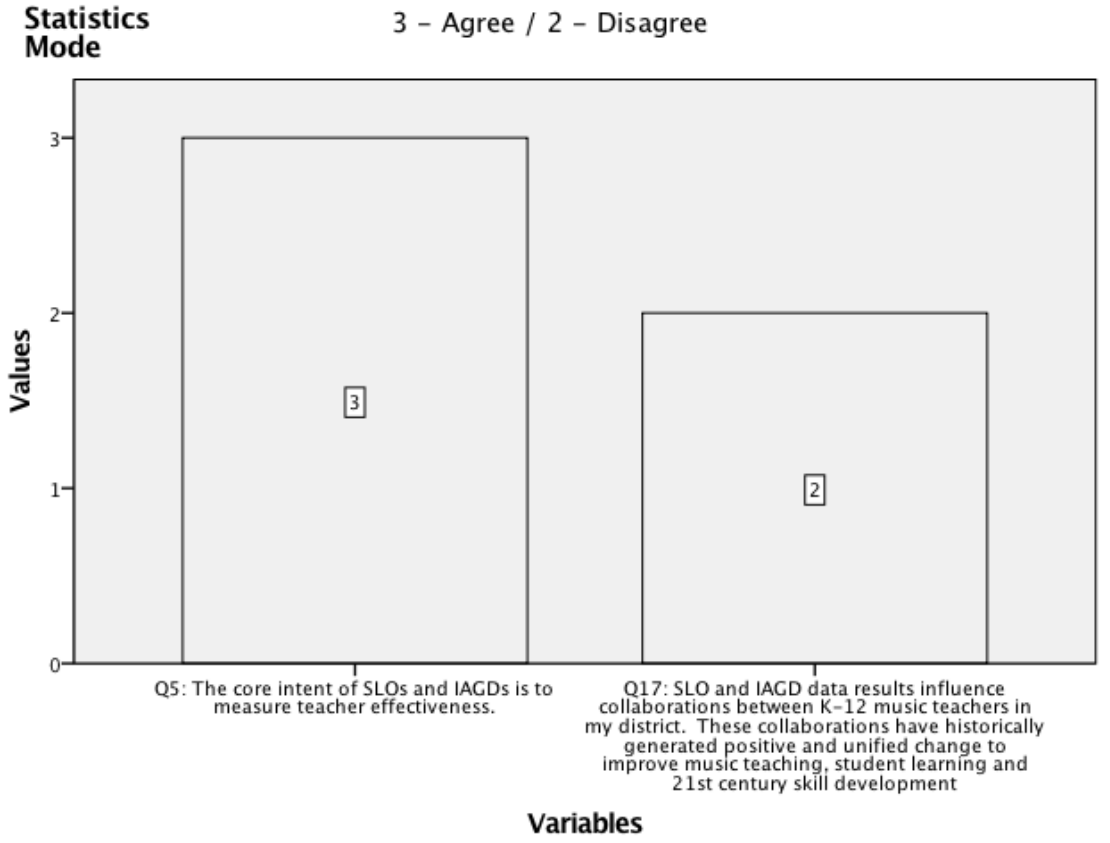

Figure 18. Comparing Modes – question five and question 17

Question 17 drew out perceptions of music teachers and the effects of SLOs and IAGDs. The results of this survey question illustrated the lack of the positive effect SLOs and IAGDs had on collaboration or the encouragement of productive and meaningful conversations between colleagues. Prior research confirmed that for schools to survive in the twenty-first century and beyond (Connecticut State Department of Education, 2011a, 2015a, 2015b; Illinois State Board of Education, 2016; Lachlan-Hache, Cushing, & Bivona, 2012; Lacireno-Paquet, Morgan, & Mello, 2014), collaboration is a necessary component that helps develop and sustain a professional learning environment that supports teaching and that positively impacts student learning (Danielson, 2011; Marzano et al., 2001).

Music teachers' perceptions of standardized and non-standardized assessments were revealed by the data collected from survey questions nineteen and twenty. According to the data collected, 39% of music teachers reported that they used standardized assessments as a way to collect IAGD data (see Figure 19). In contrast, 52% of music teachers reported that they did not use standardized assessments to collect IAGD data.

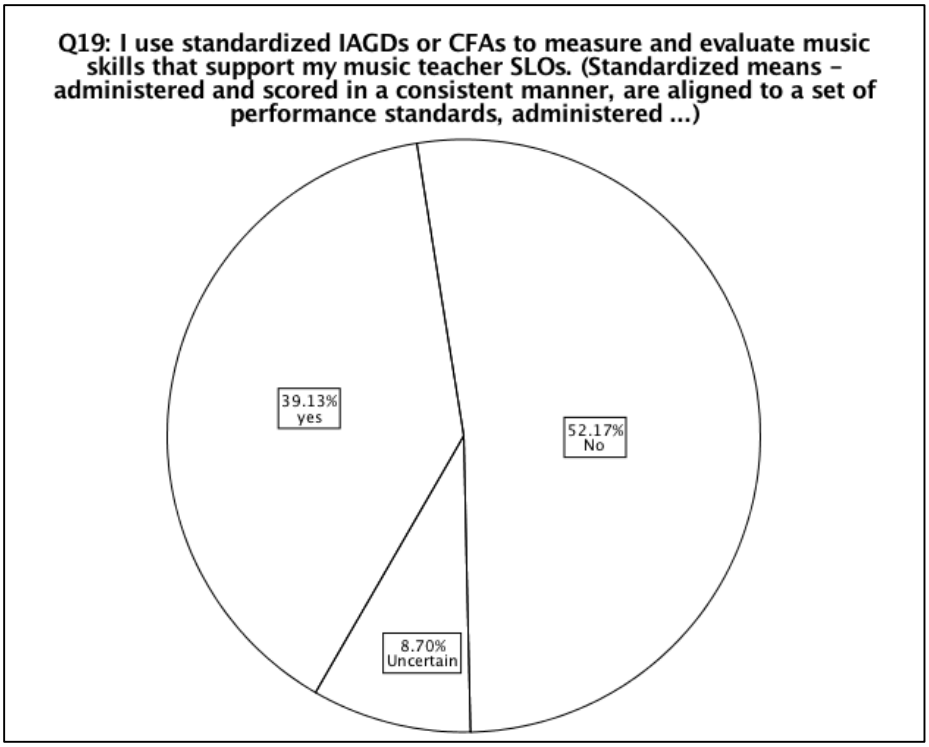

Figure 19. Question 19: I use standardized IAGDs or CFAs to measure and evaluate music skills that support my music teacher SLOs (Standardized means – administered and scored in a consistent manner, are aligned to a set of performance standards, administered nation or state-wide, commercially produced, and are often administered one or two times a year)

As a point of interest, 9% of the music teachers reported that they were uncertain if the assessments they were using were standardized or non-standardized. Taking this line of questioning further, question 20 revealed that 83% of the music teachers surveyed used non-

standardized assessments, 13% did not use non-standardized assessments and 4% were uncertain (see Figure 20).

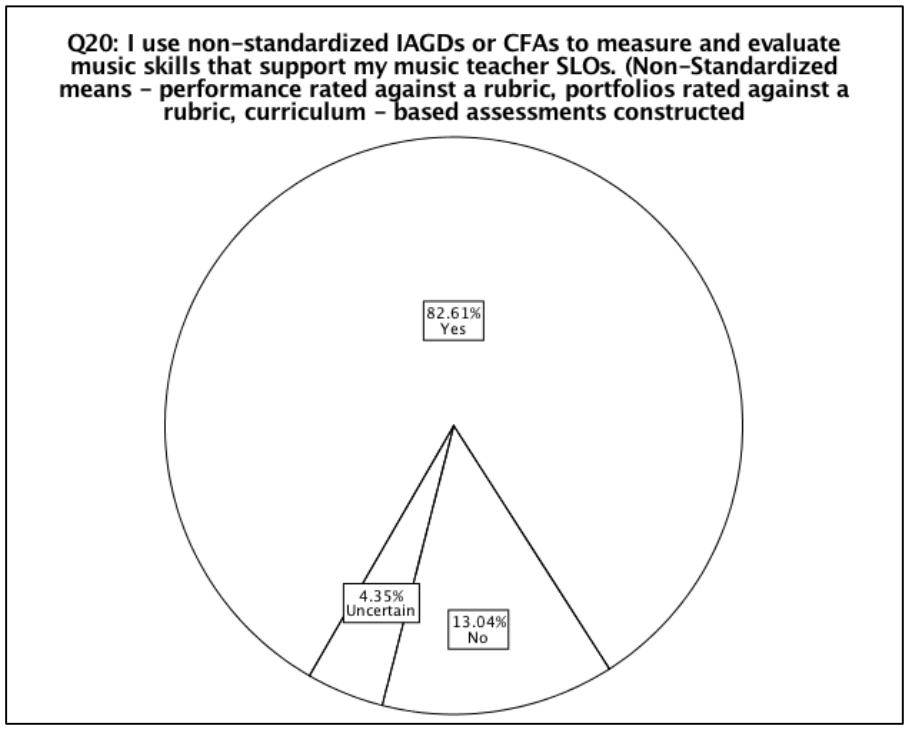

Figure 20. Question 20: I use non-standardized IAGDs or CFAs to measure and evaluate music skills that support my music teacher SLOs (n.b., Non-Standardized means – performance rated against a rubric, portfolios rated against a rubric, curriculum – based assessments constructed by a teacher or a team of teachers, teacher developed tests, formative assessments, and or diagnostic assessments)

These survey questions revealed an interesting collection of data. To help clarify respondents' answers, I provided open-ended questions for music teachers to write in examples of their IAGDs. I followed that question up with an additional open-ended question for music teachers to provide the procedures they followed for administering and collecting IAGD data. I analyzed and coded their responses as either an 'S' for standardized with an 'N' for non-standardized based on the Connecticut State Department of Education definition of standardized and non-standardized

indicators (Connecticut State Department of Education, 2011a). The following are samples of the responses collected that were consistent with state guidelines for standardized and non-standardized:

(1) "Seventy percent of students will meet/exceed expectations on school-wide assessment" (N)

(2) "Twenty-five percent of my students will move from "Approaching Effective" to "Effective" in pitch accuracy" (N)

(3) "The other orchestra teacher at my school and I have collaboratively designed a formative assessment for performances and auditions" (N)

(4) "Students will score a three or better in rhythm" (N)

(5) "Of all the first grade students, 6% who scored one out of four on the pre-assessment will score two or better, 30% of students who scored two out of four on the pre-assessment will score a three or better, and 60% of students who scored three out of four on the pre-assessment will score a four by June, 2017" (N)

(6) "All eighth grade band students will increase their score in music literacy to 60% or better on Eternal Peaks. This is administered with the use of Smart Music" (N)

(7) "Sixty to seventy percent of students who play wind instruments will score at least a three on tone quality 70-80%% of students will score at least a three on steady beat 80%-90% of students will score at least a three on rhythm accuracy 80%-90% of students will score at least a three on pitch/fingering accuracy" (N)

(8) "All eighth grade students will advance from Iowa Tests of Music Literacy Three to Iowa Tests of Music Literacy Four. The 65% of 8th grade students will score within one standard deviation of the mean on Iowa Tests of Music Literacy Four.

> The Iowa Tests of Music Literacy is a standardized measure. Also Non-standardized assessments are used that have not been calibrated for reliability or validity... but are more formative in nature in that they help inform instruction" (S and N)

These samples were representative to the type of responses received. Of all these responses, only one was a standardized measure. As a point of interest, the one standardized IAGD identified was the Iowa Tests of Music Literacy discussed in Chapter Two (Gordon, 1971, 1991). This test is administered and scored in a standard manner. As aforementioned, the Iowa Tests of Music Literacy were designed to provide a diagnostic profile for individual students and are used to inform instruction (Boyle, 1973). An interesting fact to point out is the survey results for question 19 revealed that 39% of music teachers used standardized measures. This percentage did not correlate to the written responses provided by music teachers surveyed and Connecticut guidelines (Connecticut State Department of Education, 2011a). Perhaps the music teachers surveyed were unclear with regards to the difference between a standardized test or non-standardized test and require professional learning (James-Ward et al., 2013).

Finally, I probed deeper into the analysis of the written response data to uncover reasons 'why' music teachers perceived SLOs and IAGD as 'not being efficacious'. I began by organizing and coding participant open-ended responses as they related to both a two-dimensional Blooms revised taxonomy table and music learning activities that demonstrated a corresponding knowledge type and cognitive process attribute. The following five open-ended responses were examples of music teacher SLOs:

(1) Students will be able to play four scales.

(2) Students enrolled in sixth grade piano class will improve their knowledge of musical notation by 80%, same for terminology

(3) All violin students will demonstrate growth in their range and fingerings. Eight-five percent of strings players will demonstrate ability to read and play first position notes including F# and C#.

(4) Students will develop rhythmic awareness and literacy through the learning of guitar accompaniment skills.

(5) All middle school music students will demonstrate positive growth and increased understanding of content in relation to context with regards to tonality and meter through listening, reading, writing and performing with and without an instrument with enjoyment and good musicianship.

As a point of interest, Richardson (1990) and McPherson (1997), Schmidt (1980) all suggested three different skill areas that needed to be considered in determining musical giftedness: performance skills, creative ability (such as composition) and verbal and musical-perceptual skills. As a way to identify these musically gifted students, Schmidt suggested three procedures: a performance audition, analysis of student composition and evaluation of student writing. For the most part, responses one, two and three ignore these guidelines. Further, as they were written, responses one, two and three were examples of Blooms revised level one and possibly level three. Cognitive processes suggested – recall and execute/apply. In all three of these samples it was obvious that students were recalling exercises and or techniques that had been rehearsed or memorized and not initiating skill areas highlighted by Richardson (1990) and McPherson (1997), or Schmidt (1980). Further, they did not necessarily align with the Connecticut State Department of Education's definition of SLOs in that they were not broad statements about the

knowledge and skills or reflect content mastery, skill development, and reflect ambitious but attainable goals for student learning (Connecticut State Department of Education, 2015c).

Sample responses four and five suggested Blooms revised level one, two, three and four. Cognitive processes suggested – recall, inference, application, classify, evaluate and generate. In both these samples it was more obvious that students were moving past simple recall of facts or pre-rehearsed training and muscle memory. After evaluating and coding all the responses, the following bar graph was generated (see Figure 21).

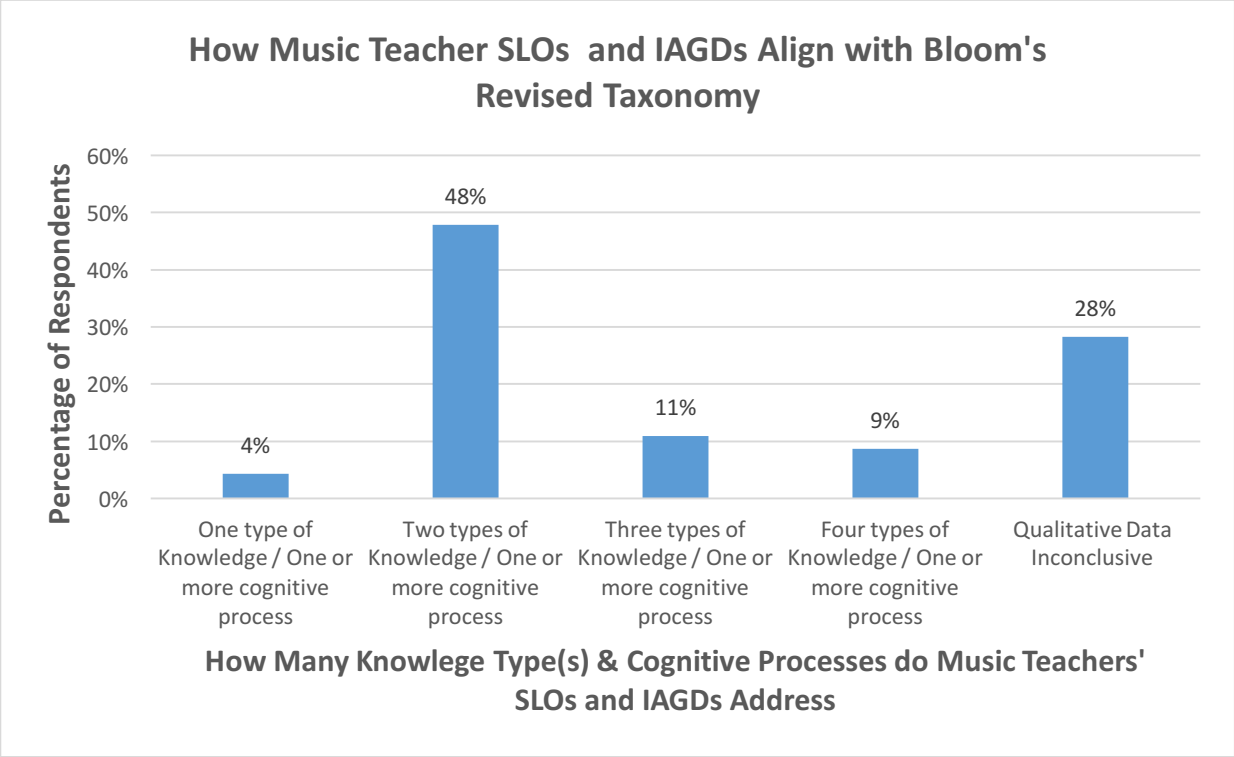

Figure 21. How Music Teacher SLOs and IAGDs Align with Bloom's Revised Taxonomy

As a point of interest, Figure 21 displayed a lack of SLOs and IAGD that addressed more than two knowledge/depth types. As a matter of fact, 80% of the music teacher surveyed provided either inconclusive information on open-ended survey questions and either addressed one or two types or depths of knowledge that aligned with Bloom's revised taxonomy or Webb's depth of knowledge in their SLOs and IAGDs (Hanna, 2007; Hess et al., 2009; Webb, 2002).

Comparatively, 20% of the respondents addressed three or four types of knowledge that aligned with Bloom's revised taxonomy and Webb's depth of knowledge with their SLOs and IAGDs. As I coded the data, I found that many of the cognitive processes related to low level skills of memory, recognition, recall and execution. Few SLOs and IAGDs represented higher order thinking skills (such as discrimination, inference, content in relation to context, analyze, generate, create, critique, and evaluate are a handful that come to mind).

Summary

In this chapter, the results for the research collected were presented in themes while discussion was provided. For my research question, how do music teachers perceive the efficacy of Connecticut State Department of Education's policies and guidelines for music teacher evaluation, the first theme to emerge was (1) music teachers perceive that SLOs and IAGDs 'are intended' to improve teaching, student learning, and measure teacher effectiveness. My quantitative and qualitative findings showed that a majority of the music teachers surveyed perceived that the intent of SLOs and IAGDs were positive and theoretically used to improve teaching and student learning. In addition, descriptive statistics and comparing modes of similar questions confirmed that that majority of participants also perceived that SLOs and IAGDs measure teacher effectiveness 'and' are used to evaluate teachers.

As for the second theme, that music teachers 'do not' perceive that SLOs or IAGDs as efficacious, the data collected revealed that music teachers' perception of SLOs and IAGDs – in their present state – were 'not efficacious.' As the research data revealed, in most cases, an overwhelming majority of music teachers disagree with all statements that ask if their SLOs and IAGDs provided useful data for improving teaching and student learning, inspire robust

collaboration for positive change, or provided data that is used to improve K-12 curriculum and evaluate music programs.

Finally, qualitative data was analyzed and coded by how well SLOs aligned with Bloom's revised taxonomy. This was done to help answer 'why' music teachers perceived the intent of SLOs and IAGDs to be beneficial, but in actuality, were seen as 'not' being useful or beneficial. The results from this process illustrated that the majority of SLOs provided, focused on lower levels of Bloom's revised taxonomy and perhaps a large population of music teachers lack the training and resources required to write and implement the desired type of SLO and related IAGD that would make the process more authentic, meaningful and 'efficacious'.

Chapter 5: Conclusions and Implications

Summary

This case study was driven by my concern for music education. This concern has been motivated by my perceptions surrounding the ideology of musical 'training' vs. music 'educating,' and how the differences between these two dogmas can be better understood for improving genuine teaching and student learning. Authentic life-long creators and appreciators of music are the result of a robust music education fueled by a dynamic music curriculum that embraces sequential units of study that are based on research based pedagogy. Consequently, reliable and valid measurement and evaluation of musical awareness and skill are critical to informing instruction so teachers are better equipped with the data needed to move student thinking forward. The process of measuring and evaluating higher-order thinking skills that correlate to music learning led me to explore more thoroughly the issues surrounding music assessment. This process provoked me to discuss the challenges surrounding objective assessments for subjects taught, such as music, that are particularly difficult to objectively assess because their learning outcomes are often measured and evaluated using language that involves subjective assessment of specific artistic processes.

Although I am optimistic that a plan to uncover ways to determine teacher effectiveness and authentic student learning is possible, I am also all too familiar with the facts and the culture of music teaching today. In order for SLOs and IAGDs to exemplify higher-order and critical thinking in music classrooms throughout Connecticut to take place, a paradigm shift that is driven by ambitious teachers and school leaders will need to occur. Until then, in their current state, Student Learning Objectives (SLOs) and Indicators of Academic Growth and Development

(IAGDs) will continue to ignore the limits imposed by the dead end results that many 'music training paradigms' produce in music classrooms today.

Chapter One discussed the state of Connecticut's motivation for linking teacher evaluation with teacher *effectiveness*. In addition, Chapter One provided a clear statement of the problems associated with the current state of SLOs and IAGD. With this in mind, the purpose of this research was to gather, examine and discuss the perceptions of music teachers in Connecticut regarding the efficacy of the *Connecticut Guidelines for Educator Evaluation*, Connecticut's System for Educator Evaluation and Development (SEED) and other district-developed guidelines for music teacher evaluation and support. This purpose drove the research to examine the alignment between perceptions, practice and policy. Also, this study sought to explore and uncover the relationship between the data collection tools used to evaluate music teacher effectiveness and their impact on teaching and student learning. Chapter One also included one research question and concluded by providing a definition of terms and a summary of all chapters.

Chapter Two presented a comprehensive review of the literature that highlighted the most relevant historical and current substantive findings related to my research purpose. The literature review provided a foundation of the fundamental underpinnings and relationships between themes found in literature. Additionally, chapter two explored the theoretical and pedagogical contributions related to music teaching, student learning, measurement and evaluation of instruction. To summarize, the literature review, identified and examined (a) factors that influence learning (b), how learning occurs, and (c) how learning principles apply and correlate to 'music education. Lastly, the literature review identified gaps in the research and offered recommendations for future study.

Chapter Three provided a description of characteristics of inquiry that revealed researcher bias. Chapter Three also specified the rationale for actions taken given the purpose and nature of the study. Further, Chapter Three described in explicit detail the structure, methodology and design used and explained why a mixed method case study best supported the research purpose. In addition, Chapter Three described the sample, the type of data that would be collected and the methods by which the data would be analyzed. In all, Chapter Three described how all the procedures of the research process fit together so that if proposed, a knowledgeable researcher could confidently replicate this study.

Chapter Four reported research findings and revealed the themes that emerged from the data. Descriptive statistics such as frequency distributions, means, modes, standard deviations and variances provided information that was used to interpret data meaningfully. Consequently, the themes generated by the data collected were (1) music teachers perceive that SLOs and IAGDs 'are intended' to improve teaching, student learning, and measure teacher effectiveness and (2) music teachers 'do not' perceive that SLOs or IAGDs as efficacious, the data collected revealed that music teachers' perception of SLOs and IAGDs, in their present state, are 'not efficacious'. Chapter Four systematically presented the results of the data collected in a scholarly fashion so that a robust analysis of the findings could be related to the research questions and interpretations of the data could be generated. Further, Chapter Four provided visual illustrations such as pie charts and bar graphs to offer additional perspectives of proportion as they related to all the data and variables. In all, Chapter Four answered the research questions presented.

In Chapter Five I will discuss the limitations of this study by addressing influences that I could not control and highlight the shortcomings I faced that may have affected outcomes of my research. Second, based on my analysis, I will discuss implication for practice by providing what

can or is being done to improve the process and outcomes of SLOs and IAGDs. Finally, I will make suggestions for future research that may in turn strengthen the literature and provide points that will inspire future researchers to explore.

Limitations of the Study

There were three main limitations of the study: the lack of prior research for the topic, the sample size, and the time allotted to complete the research. The first two limitations were related to each another. Since there were no pilot studies done before this research, deciding on what the sample size should be was not possible. The sample size in this study is relatively small. Creswell (2012) suggested that a small sample size could limit the generalizability of the results of a study. Albeit, larger sample sizes do increase the chance of finding a significant difference, a sample size of forty-six respondents did yield data that revealed clear trends and themes that answered the research questions.

In addition, since there was no prior research for this topic, no instruments such as surveys or interview questions were available that related to the research questions. Although on the surface these factors appeared to be a limitation, the absence of such instruments encouraged a robust and rigorous instrument creation exercise that in the end was tailored to efficiently and effectively address the research questions for this study (Fink, 2013).

Finally, the allotment of time allowed to complete this study was a significant limitation (Creswell, 2012; Mertens, 2014; Yin, 2009). Although I was able to create, pilot test and member check my survey, the process took over a month to complete. Albeit the surveys were electronically emailed to music teachers in Connecticut on, before and after October 15, creating, collecting, pilot testing and member checking the survey data within the two-month time period

allotted by course guidelines caused a methodological limitation that prevented a more robust data collection process and triangulation of the data.

Implications for Practice

The results of the quantitative data collected implicated that a majority of the music teachers surveyed perceived SLOs and IAGDs as not useful or *efficacious*. The comprehensive data collected suggest that although music teachers continue to create SLOs and collect data and use IAGD data, they are doing so to fulfill a mandate or district policy. Alternatively, although the qualitative data collected did not reveal perceptions of efficacy for either Connecticut State Department of Education's policies and guidelines, the data did uncover information that implicated a lack of quality SLOs and IAGDs. To clarify, an overwhelming number of the SLOs and IAGDs listed by the survey respondents did not address learning objectives that 'moved past' primary types/depths of knowledge and 'low level' cognitive processes (i.e., facts and recall/procedures and specific skill execution) (Hanna, 2007; Hess et al., 2009; Webb, 2002). As a matter of fact, the absence of SLOs integrating conceptual, metacognitive skills of inference, discrimination, analysis, collaboration, creation and self-evaluation contradicted research-based components for successful teaching and learning set forth by the frameworks of Danielson (2011) and Marzano, Pickering, and Pollock (2001) that identified accomplished and exemplary teaching. In addition, the qualitative responses collected implicated that music teachers and building leaders are either unaware of what a quality music SLO and IAGD looks like or simply do not consider their purpose a valid one. In all, implications to integrate higher levels of Bloom's revised taxonomy concepts or embed multi-layered understanding by design attributes into music SLOs and IAGDs is in most cases were non-existent in the data collected for this study.

Perhaps data generated by this research implicates a lack of quality professional development, lack of meaningful planning time, resources and lack of musically informed leaders and primary evaluators. Perhaps the research data collected implicates that there is a problem with the choice of data being collected that faithfully measures and evaluates authentic music learning. Further, perhaps targeted professional learning would help encourage more authentic requirements for demonstrating music learning as opposed to low-order training exercises (i.e., recalling a group of scales, a specific fingering, the isolated task of identifying letter names of pitches on a staff or the length of a duration expressed in numbers while ignoring musical context). Perhaps professional development that guides music teachers by assisting in the execution of music pedagogy that embeds more sequential learning progressions of logical cognitive skills similar to those embedded in Blooms revised taxonomy or Webb's depth of knowledge principles that illuminate understanding by design attributes will fill the gaps in music teaching and student learning.

Implications made by the data collected provoke the following: Are students being trained? Are students simply able to recall? According to the Connecticut State Department of Education, SLOs are to 'reflect ambitious but attainable goals'. Overall, if IAGD data is not reliable or valid, or it only measures low-level skills of recall, muscle memory and basic execution, data does little to inform instruction, move student thinking forward and answer the aforementioned questions. At this point, music learning becomes a game of 'hit or miss' and the struggle between all stakeholders to validate learning pervades. Further, what persists are a collection of either frustrated feelings or an unhealthy compliance between teachers, students and parents. These feelings typically contribute to stagnant or motionless music education rather than a vibrant, robust and engaging opportunity critical thinking, problem solving and life-long

authentic appreciation for music through understanding. Too often, a regurgitation of historical facts and theoretical musings that have nothing to do with higher order metacognition of musical content as it relates to musical context have become the measure by which musicianship is evaluated.

Suggestions for Future Research

On October 5, 2016, the new Connecticut Art Standards were unanimously adopted by the Connecticut State Department of Education after a fourteen-month stakeholder review and engagement process (State Education Agency Directors of Arts Education, 2016). According to the National Core Art Standards Coalition (2016), the conceptual learning of music will be guided by eleven carefully crafted common anchor standards that align to the core standards: creating performing, presenting, producing, responding and connecting. In addition, the same arts coalition has informed that the National Core Arts Standards have been written using understanding by design principles. With this in mind, future research regarding the implications that the newly adopted core and anchor standards will have on music education and the quality of music teacher SLOs and IAGDs is recommended. This may uncover whether SLOs and IAGDs will become more meaningful and efficacious to music teachers in Connecticut in light of these newly adopted standards and related procedures.

In addition, collecting perceptions of Connecticut State Department of Education's guidelines for teacher evaluation from other teachers that teach subjects where it is particularly difficult to objectively assess students because their learning outcomes are often measured and evaluated using language that involves subjective assessment of specific artistic processes would provide additional perspective to the research question that drove this study. Further, comparing teachers that are required to use standardized IAGDs with those who exercise the option to only

use non-standardized IAGDs would provide valuable insight related to current best practice models for music teacher evaluation.

Investigating music teacher perceptions about nationally recognized and commercially produced standardized music aptitude and achievement tests would contribute significantly to the literature. More research is needed regarding teacher and student perceptions of music aptitude testing and standardized music achievement tests that measure students' ability to discriminate and infer between different tonalities and meters are recommended. Also, research regarding perceptions of the ways music teachers measure and evaluate a student's ability to generate, develop, refine and share in all the artistic processes is greatly needed.

Gathering perceptions of stakeholders regarding the efficacy of introducing ways objectively measure teaching and student learning for subjects that evaluate learning outcomes most often evaluated using language that involves subjective assessment of specific artistic processes may provide answer to many 'why', 'how' and 'what' questions that remain unanswered by this study. Research regarding music teacher perceptions of research based music learning, authentic data collection and their effect on pedagogy would be a valuable contribution to the existing literature.

The development and research of continuous and additive rating scales that accurately measure music performance and accounts for tonal, rhythmic, expressive and technical dimensions would also provide a valuable contribution to the literature. Also, more research is needed regarding the perception of administrators more or less familiar with how the depths/types of knowledge and the cognitive process correlate with authentic music teaching and music learning. Finally, more research on student perceptions of music learning as a whole and what they consider to be 'meaningful measurement and evaluation' of their musicianship would

contribute significantly and perhaps provide data that will move all stakeholder thinking forward and improve teaching and student 'music' learning forward.

References

Ainsworth, L. (2011). *Rigorous curriculum design: How to create curricular units of study that align standards, instruction, and assessment*. Englewood, CO: Lead+ Learn Press.

Allan, S. D. (1991). Ability grouping research reviews: What do they say about grouping and the gifted. *Educational Leadership*, *48*(6), 60–65. Retrieved from http://www.donet.com/~eprice/sdallan.htm

Ames, C. (1992). Classrooms: Goals, structures, and student motivation. *Journal of Educational Psychology*, *84*(3), 261. Retrieved from http://psycnet.apa.org/journals/edu/84/3/261/

Ary, D., Jacobs, L. C., Sorensen, C., & Razavieh, A. (2010). *Introduction to research in education.* Belmont, CA: Wadsworth Cengage Learning.

Asmus, E. P., & Harrison, C. S. (1990). Characteristics of motivation for music and musical aptitude of undergraduate non music majors. *Journal of Research in Music Education*, *38*(4), 258- 268. Retrieved from http://jrm.sagepub.com/cgi/doi/10.2307/3345223

Azzam, A. M. (2014). Motivated to learn: A conversation with Daniel Pink. *Educational Leadership*, *72*(1), 12–17. Retrieved from http://www.steveclarkprincipal.com/uploads/1/6/5/2/16527520/motivated_to_learn.pdf

Azzara, C. D. (1993). Audiation-based improvisation techniques and elementary instrumental students' music achievement. *Journal of Research in Music Education*, *41*(4), 328 - 342. Retrieved from http://jrm.sagepub.com/cgi/doi/10.2307/3345508

Beall, G. (1991). Learning sequences and music learning. *The Quarterly Journal of Music teaching and Learning II, 1,* 87-96

Bender, W. N. (2012). *Project-based learning: Differentiating instruction for the 21st century*. Thousand Oaks, CA: Corwin Press.

Benedict, C. L. (2012). Critical and transformative literacies: Music and general education. *Theory into Practice*, *51*(3), 152–158. Retrieved from http://www.tandfonline.com

Betts, G. T., & Neihart, M. (1988). Profiles of the gifted and talented. *Gifted Child Quarterly*, *32*(2), 248–253. Retrieved from http://gcq.sagepub.com/content/32/2/248.short

Bolduc, J. (n.d.). *How can we objectively rank and rate musicianship*. Boston, MA: The Massachusetts Judges Association. Retrieved from http://www.massjudge.org/app/download/7117466472/Assessing+Musicianship.pdf

Boyle, J.D. (1973). Iowa Tests of Music Literacy. *Journal of Research in Music Education, 21*(3), 281-283

Brualdi, A. (1996). Multiple intelligences: Gardner's theory. *Practical Assessment, Research & Evaluation*, *5*(10), 1-6. Retrieved from Retrieved from http://PAREonline.net/getvn.asp?v=5&n=10

Bruner, J. (1985). Models of the learner. *Educational Researcher*, *14*(6), 5–8. Retrieved from http://www.jstor.org/stable/1174162

Bugos, J. A. (2015). Greasing the skids of the musical mind: Connecting music learning to mind brain education. *General Music Today*, *29*(1), 5–11.

Burak, S. (2014). Motivation for instrument education: A study from the perspective of expectancy-value and flow theories. *Eurasian Journal of Educational Research, 55,* 123–136. Retrieved from http://www.ejer.com.tr/index.php?git=22&kategori=104&makale=933

Burris, C. C., & Garrity, D. T. (2008). *Detracking for excellence and equity*. Alexandria, VA: Association for Supervision and Curriculum Development.

Cogdill, S. H. (2015). Applying research in motivation and learning to music education: What the experts say. *Update: Applications of Research in Music Education*, *33*(2), 49–57.

Connecticut's System for Educator Evaluation and Development (SEED). (n.d.). *[Connecticut guidelines for educator evaluation.* Hartford, CT: Author. Retrieved from http://www.connecticutseed.org/?page_id=449

Connecticut State Department of Education. (2003). *Code of professional responsibility for teachers*. Hartford, CT: Author. Retrieved from https://eregulations.ct.gov/eRegsPortal/Browse/RCSA/%7BB288982B-3ECF-4223-A9E6-45C5A2CFECE6%7D

Connecticut State Department of Education. (2006). *District reference groups, 2006*. Hartford, CT: Author. Retrieved from http://www.sde.ct.gov/sde/LIB/sde/PDF/dgm/report1/cpse2006/appndxa.pdf

Connecticut State Department of Education. (2011a). *CALI: Connecticut accountability for learning initiative*. Hartford, CT: Author. Retrieved from http://www.sde.ct.gov

Connecticut State Department of Education. (2011b). *CSDE: Using Differentiated Instruction to Implement the Common Core State Standards*. Hartford, CT: Author. Retrieved from http://www.sde.ct.gov/sde/cwp/view.asp?a=2618&q=333594

Connecticut State Department of Education. (2012). *Connecticut school leadership standards*. Hartford, CT: Author. Retrieved from http://www.sde.ct.gov/sde/lib/sde/pdf/educatorstandards/ccl-csls.pdf

Connecticut State Department of Education. (2015a). *2015 SEED Handbook Connecticut's system for educator evaluation and development*. Hartford, CT: Author. Retrieved from

http://www.sde.ct.gov/sde/lib/sde/pdf/talent_office/plans_2015_2016/education_connection_evaluation_plan.pdf

Connecticut State Department of Education. (2015b). *Connecticut guidelines for educator evaluation*. Hartford, CT: Author. Retrieved from http://www.connecticutseed.org/wp-content/uploads/2015/09/CT_Guidelines_for_Educator_Evaluation_Updated_2015.pdf

Connecticut State Department of Education. (2015c). *Educator effectiveness and professional learning, guidelines for educator evaluation 2015*. Hartford, CT: Author. Retrieved from http://www.connecticutseed.org/wp-content/uploads/2015/09/CT_Guidelines_for_Educator_Evaluation_Updated_2015.pdf

Connecticut State Department of Education. (2016). *Rubric and Effective Service Delivery 2015*. Hartford, CT: Author. Retrieved from http://www.connecticutseed.org/wp-content/uploads/2015/07/CCT_Rubric_for_Effective_Service_Delivery_2015.pdf

Connecticut State Department of Education. (n.d.). *Day One Powerpoint Presentation: Differentiation*. Hartford, CT: Author. Retrieved from http://www.sde.ct.gov/sde/cwp/view.asp?a=2618&q=333594

Creswell, J. W. (2012). *Educational research: planning, conducting, and evaluating quantitative and qualitative research* (4th ed). Upper Saddle River, NJ: Pearson Education, Inc.

Creswell, J. W. (2013). *Qualitative inquiry and research design: Choosing among five approaches*. Boston, MA: SAGE Publications, Inc.

Creswell, J. W., & Miller, D. L. (2000). Determining validity in qualitative inquiry. *Theory into Practice*, *39*(3), 124–130.

Dalby, B. (1999). Teaching audiation in instrumental classes. *Music Educators Journal*, *85*(6), 22-25.

Danielson, C. (2011). *Enhancing professional practice: A framework for teaching*. Alexandria, VA: Association for Supervision and Curriculum Development.

Davis, G. A., & Rimm, S. B. (1989). *Education of the gifted and talented*. Englewood Cliffs, NJ: Prentice-Hall, Inc. Retrieved from http://psycnet.apa.org/psycinfo/1989-97402-000

Fink, A. (2013). *How to conduct surveys: A step-by-step guide* (5th ed.). Los Angeles, CA: SAGE Publications, Inc.

Fox, D. (2013). The principal's mind-set for data. *Leadership*, *42*(3), 12–36. Retrieved from http://eric.ed.gov/?id=EJ1004500

Gagné, F. (1985). Giftedness and talent: Reexamining a reexamination of the definitions. *Gifted Child Quarterly*, *29*(3), 103–112. Retrieved from http://gcq.sagepub.com/content/29/3/103.short

Garner, A. M. (2009). Singing and moving: Teaching strategies for audiation in children. *Music Educators Journal*, *95*(4), 46–50.

Garnett, J. (2013). Beyond a constructivist curriculum: A critique of competing paradigms in music education. *British Journal of Music Education*, *30*(2), 161–175.

Gordon, E. (1961). A study to determine the effects of training and practice on drake musical aptitude test scores. *Journal of Research in Music Education*, *9*(1), 63-74. Retrieved from http://jrm.sagepub.com/cgi/doi/10.2307/3344396

Gordon, E. (1967). The musical aptitude profile. *Music Educators Journal*, *53*(6), 52-54. Retrieved from http://mej.sagepub.com/cgi/doi/10.2307/3390915

Gordon, E. (1969). Intercorrelations among musical aptitude profile and Seashore measures of musical talents subtests. *Journal of Research in Music Education*, *17*(3), 263- 271. Retrieved from http://jrm.sagepub.com/cgi/doi/10.2307/3343874

Gordon, E. (1971). *The psychology of music teaching*. Englewood Cliffs, NJ: Prentice Hall.

Gordon, E. (1974). Toward the development of a taxonomy of tonal patterns and rhythm patterns: Evidence of difficulty level and growth rate. *Experimental Research in the Psychology of Music: Studies in the Psychology of Music*, *9*, 39–232. Retrieved from http://library.sc.edu/music/gordon/331.pdf

Gordon, E. (1981). *The manifestation of developmental music aptitude in the audiation of "same" and "different" as sound in music*. Chicago, IL: GIA Publications.

Gordon, E. (1990). *Predictive validity of AMMA*. Chicago, IL: GIA Publications, Inc.

Gordon, E. (2001a). *Preparatory audiation, audiation, and music learning theory: A handbook of a comprehensive music learning sequence*. Chicago, IL: GIA Publications.

Gordon, E. (2001b). *Test validity and curriculum development: Three longitudinal studies in music*. Chicago, IL: GIA Publications.

Gordon, E. (2004). *Continuing studies in music aptitudes*. Chicago, IL: GIA Publications.

Gordon, E. (2005). *Music education research: Taking a panoptic measure of reality*. Chicago, IL: GIA Publications.

Gordon, E. (2008). *Clarity by comparison and relationship: A bedtime reader for music education*. Chicago, IL: GIA Publications.

Gordon, E. (2010). *Essential preparation for beginning instrumental music instruction*. Chicago, IL: GIA Publications.

Gordon, E. (2011). *Untying gordian knots*. Chicago, IL: GIA Publications, Incorporated.

Gordon, E. (2012). *Learning sequences in music: A contemporary music learning theory*. Chicago, IL: GIA Publications.

Gordon, E., & Woods, D. G. (2001). *Jump right in: The music curriculum*. Chicago, IL: GIA Publications, Inc.

Green, L. (2008). *Music, informal learning and the school: a new classroom pedagogy*. Hampshire, England: Aldershot/Burlington, VT: Ashgate.

Hallam, S., Rogers, L., & Ireson, J. (2008). Ability grouping in the secondary school: attitudes of teachers of practically based subjects. *International Journal of Research & Method in Education*, *31*(2), 181–192. Retrieved from http://www.tandfonline.com/doi/abs/10.1080/17437270802124657

Hall, T. (2009). *Differentiated instruction*. Wakefield, MA: National Center on Accessing the General Curriculum. Retrieved from https://web.archive.org/web/20100117230006/http://www.cast.org/publications/ncac/ncac_diffinstruc.html

Hanna, W. (2007). The new Bloom's taxonomy: Implications for music education. *Arts Education Policy Review*, *108*(4), 7–16. Retrieved from http://www.tandfonline.com/doi/abs/10.3200/AEPR.108.4.7-16

Harrison, C. S. (1990). Predicting music theory grades: The relative efficiency of academic ability, music experience, and musical aptitude. *Journal of Research in Music Education*, *38*(2), 124. Retrieved from http://jrm.sagepub.com/cgi/doi/10.2307/3344932

Harrison, C. S., Asmus, E. P., & Serpe, R. T. (1994). Effects of musical aptitude, academic ability, music experience, and motivation on aural skills. *Journal of Research in Music Education*, *42*(2), 131-144. Retrieved from http://jrm.sagepub.com/cgi/doi/10.2307/3345497

Heavner, T. (2005). The Applied Music Lesson: Teaching Gifted and Talented Students Utilizing Principles of Comprehensive Musicianship. *International Education Journal*, *6*(2), 170–174. Retrieved from http://eric.ed.gov/?id=EJ854967

Holahan, J. M., Saunders, T. C., & Goldberg, M. D. (2000). Tonal cognition in pattern discrimination: Evidence from three populations. *Journal of Research in Music Education*, *48*(2), 162- 177. Retrieved from http://jrm.sagepub.com/cgi/doi/10.2307/3345574

Illinois State Board of Education. (2016). *Guidebook on student learning objectives for type III assessments*. Chicago, IL: Author.

Ireson, J., & Hallam, S. (2001). *Ability grouping in education*. Newbury Park, CA: SAGE.

Isbell, D. (2012). Learning theories: Insights for music educators. *General Music Today*, *25*(2), 19–23.

Jackson, R., & Zmuda, A. (2014). 4 (secret) keys to student engagement. *Educational Leadership*, *72*(1), 18–24.

James-Ward, C., Fisher, D., & Frey, N. (2013). *Using data to focus instructional improvement*. Alexandria, VA: Association for Supervision and Curriculum Development.

Jensen, E. (1998). *Teaching with the brain in mind*. Alexandria, VA: Association for Supervision and Curriculum Development. Retrieved from http://eric.ed.gov/?id=ed434950

Keast, D. A. (2009). A constructivist application for online learning in music. *Research and Issues in Music Education*, *7*(1), 1-8.

Krathwohl, D. R., Bloom, B. S., & Masia, B. B. (1964). *Taxonomy of educational objectives: The classification of educational goals: Handbook II: Affective domain*. New York: David Mckay. Retrieved from http://library.wur.nl/WebQuery/clc/982120

Kulik, J. A. (1992). *An analysis of the research on ability grouping: Historical and contemporary perspectives (Research-based monograph No. 9204)*. Storrs, CT: National Research Center on the Gifted and Talented, University of Connecticut. Retrieved from http://eric.ed.gov/?id=ED350777

Kulik, J. A. (1993). An analysis of the research on ability grouping. *NRC/GT Newsletter*, *3*(1), 8–9. Retrieved from http://eric.ed.gov/?id=ED367095

Lachlan-Hache, L., Cushing, E., & Bivona, L. (2012). *Student learning objectives: Benefits, challenges, and solutions*. Washington, DC: American Institute for Research.

Lacireno-Paquet, N., Morgan, C., & Mello, D. (2014). *How states use student learning objectives in teacher evaluation systems: A review of state websites*. Washington, DC: US Department of Education. Retrieved from https://ies.ed.gov/ncee/edlabs/regions/northeast/pdf/REL_2014013.pdf

Larmer, J. (2014). Boosting the power of projects. *Educational Leadership*, *72*(1), 42–46.

Lincoln, Y., & Guba, E. (1985). *Naturalistic inquiry*. Newbury Park, CA: Sage Publications.

Martin, M. R., & Pickett, M. T. (2013, May). *The effects of differentiated instruction on motivation and engagement in fifth-grade gifted math and music students* (Unpublished doctoral dissertation). Saint Xavier University, Chicago, IL.

Marzano, R. J., Pickering, D., & Pollock, J. E. (2001). *Classroom instruction that works: Research-based strategies for increasing student achievement*. Alexandria, VA: Association for Supervision and Curriculum Development.

Mayer, R. E. (2002). *Designing a new taxonomy of educational objectives*. Washington, DC: American Psychological Association.

McPherson, G. E. (1997). Giftedness and talent in music. *Journal of Aesthetic Education*, *31*(4), 65–77. Retrieved from http://www.jstor.org/stable/3333144

Mertens, D. M. (2014). *Research and evaluation in education and psychology: Integrating diversity with quantitative, qualitative, and mixed methods*. Thousand Oaks, CA: SAGE Publications, Inc.

Meumann, E. (1913). *The psychology of learning: An experimental investigation of the economy and technique of memory*. New York: D. Appleton and Company.

National Association for Gifted Children. (2010). *Redefining giftedness for a new century: Shifting the paradigm*. Washington, DC: Author. Retrieved from http://www.nagc.org/sites/default/files/Position%20Statement/Redefining%20Giftedness%20for%20a%20New%20Century.pdf

National Association for Gifted Children. (2016). *State definitions of giftedness*. Washington, DC: Author. Retrieved from http://www.nagc.org/sites/default/files/Gifted-by-State/State%20definitions%20%281-13-16%29.pdf

National Association for Gifted Children. (n.d.-a). *Glossary of terms*. Washington, DC: Author. Retrieved from https://www.nagc.org/resources-publications/resources/glossary-terms

National Association for Gifted Children. (n.d.-b). *Who we are*. Washington, DC: Author. Retrieved from https://www.nagc.org/about-nagc/who-we-are

National Association for Music Education. (n.d.). *Want to incorporate the new music standards in your classroom?* Reston, VA: Author. Retrieved from http://www.nafme.org/want-to-incorporate-the-new-music-standards-in-your-classroom/

National Governors Association and Council of Chief State School Officers. (2016a). *English language arts standards*. Washington, DC: Author. Retrieved from http://www.corestandards.org/ELA-Literacy/

National Governors Association and Council of Chief State School Officers. (2016b). *Myths vs. facts*. Washington, DC: Author. Retrieved from http://www.corestandards.org/about-the-standards/myths-vs-facts/

National Governors Association and Council of Chief State School Officers. (2016c). *Standards in your state*. Washington, DC: Author. Retrieved from http://www.corestandards.org/standards-in-your-state/

New York State Education Dept. (2002). *Music-A resource guide for standards-based instruction*. Albany, NY: Author. Retrieved from http://files.eric.ed.gov/fulltext/ED477155.pdf

Niland, A. (2009). The power of musical play: The value of play-based, child-centered curriculum in early childhood music education. *General Music Today*, *23*(1), 17–21.

O'Donnell, C. (2011). *An investigation of the effect of instruction in Edwin Gordon's tonal and rhythm patterns on secondary students' advanced measures of music audiation scores* (Unpublished doctoral dissertation). University of Oklahoma, Norman, OK.

Perks, K., & Middleton, M. (2014). Navigating the classroom current. *Educational Leadership*, *72*(1), 48–52.

Price, D. (2011). Learning futures: Rebuilding curriculum and pedagogy around student engagement. *FORUM: For Promoting 3-19 Comprehensive Education*, *53*(2), 273–284.

Quate, S., & McDermott, J. (2014). The just-right challenge. *Educational Leadership*, *72*(1), 61–65.

Richardson, C. P. (1990). Measuring musical giftedness. *Music Educators Journal*, *76*(7), 40-45. Retrieved from http://mej.sagepub.com/cgi/doi/10.2307/3401036

Rinn, A. N., & Bishop, J. (2015). Gifted adults: A systematic review and analysis of the literature. *Gifted Child Quarterly*, *59*(4), 213–235.

Robinson, M. (2015). The inchworm and the nightingale: On the (mis)use of data in music teacher evaluation. *Arts Education Policy Review*, *116*(1), 9–21.

Salvador, K. (2011). *Individualizing elementary general music instruction: Case studies of assessment and differentiation.* (Unpublished doctoral dissertation). Michigan State University, East Lansing, MI.

Sang, R. (1998, May). *A four-year study of the predictive validity of the "advanced measures of music audiation"(AMMA).* A paper presentation at the Southeastern Music Education Symposium, Athens, GA.

Schade, A. (2015). *Pilot testing: Getting it right (before) the first time*. Fremont, CA: Nielsen Norman Group. Retrieved from https://www.nngroup.com/articles/pilot-testing/

Schmidt, L. (1980). Gifted programs in music: A nuclear model. *Roeper Review*, *3*(3), 31–34. Retrieved from http://www.tandfonline.com/doi/pdf/10.1080/02783198109552531

Schunk, D. H. (2012). *Learning theories: An educational perspective* (6th ed). Boston, MA: Pearson.

Seashore, C. (1915). The measurement of musical talent. *The Musical Quarterly*, *1*(1), 129–148. Retrieved from http://www.jstor.org/stable/738047

Seashore, C. (1919). *Psychology of music talent*. Boston, MA: Silver, Burdett and Company.

Seashore, C., Lewis, D., & Saetveit, J. G. (1960). *Seashore measures of musical talents*. New York: Psychological Corporation.

Shulman, L. (1986). Those who understand: Knowledge growth in teaching. *Educational Researcher*, *15*(2), 4-14. Retrieved from http://links.jstor.org/sici?sici=0013-189X%28198602%2915%3A2%3C4%3ATWUKGI%3E2.0.CO%3B2-X&origin=crossref

Shulman, L. (1987). Knowledge and teaching: Foundations of the new reform. *Harvard Educational Review*, *57*(1), 1–23. Retrieved from http://www.hepgjournals.org/doi/abs/10.17763/haer.57.1.j463w79r56455411

Slavin, R. E. (1990). Achievement effects of ability grouping in secondary schools: A best-evidence synthesis. *Review of Educational Research*, *60*(3), 471–499. Retrieved from http://rer.sagepub.com/content/60/3/471.short

Smith, F. (2012). *Understanding reading: A psycholinguistic analysis of reading and learning to read* (6th ed.). Mahwah, NJ: Routledge.

Southern Regional Education Board. (2011). *Research-proven instructional strategies engage, motivate and support students in meeting higher standards*. Louisville, KY: Southern Regional Education Board (SREB).

Stake, R. E. (1995). *The art of case study research*. Thousand Oaks, CA: SAGE Publications, Inc.

Standerfer, S. L. (2011). Differentiation in the music classroom. *Music Educators Journal*, *97*(4), 43–48.

State Education Agency Directors of Arts Education. (2016). *National core arts standards: A conceptual framework for arts learning*. Dover, DE: Author. Retrieved from http://www.corestandards.org/about-the-standards/myths-vs-facts/

Steele, J. L., & Boudett, K. P. (2008a). Leadership lessons from schools becoming "data wise." *Harvard Education Letter*, *24*(1), 1–3. Retrieved from http://hepg.org/HEPG/Media/Documents/hel_datawiseinaction.pdf

Stevens, F. (1993). *User-friendly handbook for project evaluation: Science, mathematics, engineering, and technology education.* Washington, DC: National Science Foundation. Retrieved from http://files.eric.ed.gov/fulltext/ED366511.pdf

Sundberg, M. L. (2013). Thirty points about motivation from Skinner's book verbal behavior. *The Analysis of Verbal Behavior*, *29*(1), 13–40. Retrieved from http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3659498/

Taylor, S. (1908). Becoming Data Wise. *Educational Leadership*, *12*, 15.

Tobias, E. S., Campbell, M. R., & Greco, P. (2015). Bringing curriculum to life. Enacting project-based learning in music programs. *Music Educators Journal*, *102*(2), 39–47.

Tomlinson, C. (2014). *Differentiated classroom: Responding to the needs of all learners* (2nd ed.). Alexandria, VA: Association for Supervision and Curriculum Development.

Tomlinson, C., & Strickland, C. (2005). *Differentiation in practice: a resource guide for differentiating curriculum, grades 9-12*. Alexandria, VA: Association for Supervision and Curriculum Development.

Travers, R. M. (1980). Taxonomies of educational objectives and theories of classification. *Educational Evaluation and Policy Analysis*, *2*(2), 5–23. Retrieved from http://www.jstor.org/stable/1163930

Vada, C. (2013). *National music education standards and adherence to Bloom's revised taxonomy.* (Unpublished doctoral dissertation). Walden University, Minneapolis, MN.

Veal, W., & MaKinster, J. (1999). Pedagogical content knowledge taxonomies. *Electronic Journal of Science Education*, *3*(4). Retrieved from http://ejse.southwestern.edu/article/view/7615/5382/

Vygotsky, L. (1978). *Readings on the development of children*. Cambridge, MA: Harvard University Press. Retrieved from http://www.faculty.mun.ca/cmattatall/Vygotsky_1978.pdf

Webb, N. L. (2002). Depth-of-knowledge levels for four content areas. *Language Arts*. Retrieved from http://www.hed.state.nm.us/uploads/files/ABE/Policies/depth_of_knowledge_guide_for_all_subject_areas.pdf

Williams, H. S. (2009). Leadership capacity-a key to sustaining lasting improvement. *Education*, *130*(1), 30-41. Retrieved from http://search.proquest.com/openview/d020cf9cce05c3408426725755875b40/1?pq-origsite=gscholar

Woodford, P. G. (1996). Evaluating Edwin Gordon's music learning theory from a critical thinking perspective. *Philosophy of Music Education Review*, 83–95. Retrieved from http://www.jstor.org/stable/40495420

Woolfolk, A., Winne, P. H., & Perry, N. E. (2015). *Educational psychology*. Don Mills, ON: Pearson Canada.

Wormeli, R. (2014). Motivating young adolescents. *Educational Leadership*, *72*(1), 26–31. Retrieved from http://www.duarteusd.org/cms/lib09/CA01900906/Centricity/Domain/344/Motivating%20Young%20Adults.pdf

Yin, R. K. (2009). *Case study research: Design and methods* (4th ed.). Los Angeles, CA: SAGE Publications, Inc.

Appendix A

A Survey on the Perceptions of Music Teachers Regarding the Efficacy of the Connecticut State Department of Education's Guidelines for Educator Evaluation

(1) Please select / fill in all that apply:

a. I hold a valid 049 Professional or Provisional Educator, Music, PreK - 12 Certificate

b. I have been teaching music in a Connecticut public school for a minimum of 2 years

c. Other _____

(2) Years of Experience as a Connecticut public school music teacher.

a. 2 – 5

b. 6 – 10

c. 11 - 15

d. 16 - 20

e. Over 21 years

(3) I currently teach in the one of the following District Regional Group (DRG).

a. A – C

b. D – F

c. G – I

d. Other _____

(4) The core intent of SLOs and IAGDs is to improve teaching and student learning.

a. Strongly Disagree

b. Disagree

c. Agree

d. Strongly Agree

(5) The core intent of SLOs and IAGDs is to measure teacher effectiveness.

a. Strongly Disagree

b. Disagree

c. Agree

d. Strongly Agree

(6) In my district, SLOs and IAGDs provide an accurate and fair measure of music teacher effectiveness for all music teachers.

a. Strongly Disagree

b. Disagree

c. Agree

d. Strongly Agree

(7) The SLOs used for my district's teacher evaluation plan are beneficial and help to align relevant music learning goals with day to day music teaching assignments and the district K-12 music curriculum.

a. Strongly Disagree

b. Disagree

c. Agree

d. Strongly Agree

(8) The SLOs used for my teacher evaluation plan are beneficial and help to align relevant music learning goals with core art standards and 21st century learning such as critical thinking, problem solving and creativity.

a. Strongly Disagree

b. Disagree

c. Agree

d. Strongly Agree

(9) IAGD data generated for my district's teacher evaluation plan is useful and provides information that helps to align my music teaching assignments WITH the district K-12 music curriculum.

a. Strongly Disagree

b. Disagree

c. Agree

d. Strongly Agree

(10) IAGD data generated for my district's teacher evaluation plan is an accurate reflection of the day to day teaching of relevant music skills AND aligns learning goals with core art standards and 21st century learning such as critical thinking, problem solving and creativity.

a. Strongly Disagree

b. Disagree

c. Agree

d. Strongly Agree

(11) IAGD data generated for my district's teacher evaluation plan provides information that is used to improve my district's K-12 music curriculum.

a. Strongly Disagree

b. Disagree

c. Agree

d. Strongly Agree

(12) In the space below, please write example(s) of your SLOs:

a. _____

b. _____

c. _____

(13) In the space below, please provide example(s) of Indicators of Academic Growth and Development (IAGDs) or Common Formative Assessments (CFAs) you have used AND please identify it (or them) as standardized or non-standardized:

a. _____

b. _____

c. _____

(14) My district uses the data generated from IAGD assessments to evaluate K-12 music programming. In fact, my district uses the IAGD data to initiate conversations aimed to improve music course offerings in my district.

a. Strongly Disagree

b. Disagree

c. Agree

d. Strongly Agree

(15) My district uses the data generated from IAGD assessments to evaluate K-12 music programming. In fact, my district uses the IAGD data to initiate conversations aimed to improve music course offerings in my district.

a. Strongly Disagree

b. Disagree

c. Agree

d. Strongly Agree

(16) In the space below describe how you collect IAGD data.

a. _____

b. _____

c. _____

(17) SLO and IAGD data results influence collaborations between K-12 music teachers in my district. These collaborations have historically generated positive and unified change to improve music teaching, student learning and 21st century skill development.

a. Strongly Disagree

b. Disagree

c. Agree

d. Strongly Agree

(18) Choose from the following: My district teacher evaluation plan is ...

a. SEED

b. District Developed

c. I am not sure

(19) I use standardized IAGDs or CFAs to measure and evaluate music skills that support my music teacher SLOs. (Standardized means - administered and scored in a consistent manner, are aligned to a set of performance standards, administered nation or state-wide, commercially produced, and are often administered 1 or 2 times a year)

a. Strongly Disagree
b. Disagree
c. Agree
d. Strongly Agree

(20) I use non-standardized IAGDs or CFAs to measure and evaluate music skills that support my music teacher SLOs. (Non-Standardized means - performance rated against a rubric, portfolios rated against a rubric, curriculum - based assessments constructed by a teacher or a team of teachers, teacher developed tests, formative assessments, and or diagnostic assessments)

a. Strongly Disagree
b. Disagree
c. Agree
d. Strongly Agree

(21) Please complete the following sentence. I collect IAGD / CFA data that support my SLOs ...

a. Weekly
b. Monthly
c. Every 3 months
d. 2 times a year

Appendix B

	Cognitive Process					
Types of Knowledge	**1** *Remember Recognize Recall*	**2** *Understand Interpret Infer Explain*	**3** *Apply Execute Implement*	**4** *Analyze Differentiate Organize Attribute*	**5** *Evaluate Check Critique*	**6** *Create / Generate Plan Produce*
1.) Factual • **Terminology** • **Basic Elements**	Music vocabulary Symbols Pitch Names Pitch Durations Instrument Parts	Music Terminology Time periods Styles Pedagogical concepts	Apply basic musical knowledge	Analyze basic musical elements	Evaluate music by checking for correct pitches, durations and other basic elements of music	Improvise, compose and perform music by using basic elements
2.) Conceptual *Interrelationships among the basic elements* ***within a larger structure*** • **Classifications and category** • **Principals and generalization** • **Theories, model and structure**	Theory Time Periods Musical Styles Specific Composers	Explain and discuss music concepts and music's relationships in other areas both within and outside music	Apply music concepts to the performing, composing, improvising or listening to music	Analyze musical concepts in a variety of ways such as music theory analysis, ethnomusicology, philosophy, music education, transcription …	Evaluate music through conceptual critique	Improvise, compose and perform music by using principles theories and musical concepts
3.) Procedural Skills • **Techniques and methods** • **Performance Criteria**	Notation procedures Instrumental & Vocal performance skills Methods / Techniques	Understand, explain, discuss and articulate performing, composing, improvising or listening to music meaningfully	Apply specific skills, methods, techniques and performance criteria to music	Analyze how to apply specific types of skills, methods and techniques to music	Evaluate music through checking and critiquing whether certain techniques, methods and skills were used correctly	Improvise, compose and perform music by using a variety of skills
4.) Metacognitive • ***Knowledge of self and personal cognition of music*** • **Strategic knowledge** • **Knowledge of cognitive demands** • **Self-knowledge**	Developed strategies for remembering musical symbols, notation, procedures, facts, techniques	Understand, explain and discuss self-knowledge and personal cognition of music. Personal strategies for listening and 'audiation'	Apply meta-cognition ability to musical tasks	Analyze how metacognition assists in understanding a given piece of music or analyzing a musical problem	Critique and self-evaluation of performances, how music is personally perceived	Improvise, compose and perform music by using self knowledge and personal cognition