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Behavioral, Affective, and Cognitive Engagement of High School Music Students: Relation to Academic Achievement and Ensemble Performance Ratings

Joel E. Pagán

University of South Florida, paganjoel@me.com

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Behavioral, Affective, and Cognitive Engagement of High School Music Students:
Relation to Academic Achievement and Ensemble Performance Ratings

by

Joel E. Pagán

A dissertation submitted in partial fulfillment
of the requirements for the degree of
Doctor of Philosophy in Music
with a concentration in Music Education
School of Music
College of the Arts
University of South Florida

Co-Major Professor: C. Victor Fung, Ph.D.
Co-Major Professor: David A. Williams, Ph.D.
Jennifer A. Bugos, Ph.D.
Darlene DeMarie, Ph.D.

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ABSTRACT

The purpose of the study was to determine the relation between student engagement, academic achievement, and music ensemble performance ratings. The study was guided by two research questions: how do students' varying degrees of student engagement relate to their academic achievement and their ensemble's performance rating, and to what extent do behavioral, affective, and cognitive engagement predict ensemble performance ratings? Participants were 259 high school band students who completed the Classroom Engagement Inventory in Music. They were also asked to report their GPA, and the researcher recorded their ensemble's performance rating. Results suggested that higher levels of student engagement were associated with higher levels of ensemble performance ratings (superior and excellent versus good), with a clear demarcation found between lower rated and higher rated ensembles. Although no significant correlation was found between academic achievement and student engagement, affective engagement was found to predict overall music performance outcomes.

CHAPTER ONE:

Introduction

Teachers have an important role in facilitating student success in the classroom. The various instructional strategies they use to motivate students and to cultivate their learning in the classroom can have an influence on how well students succeed both academically and socially. However, the act of teaching is a complex and multifaceted activity. Student success in the classroom may be dependent on different variables (e.g., socioeconomic status, teacher instructional strategies, classroom environment, student-teacher relationships, student engagement, etc.). An investigation of these variables may provide stakeholders with instructional best practices, which may facilitate student success in the classroom.

One area that has received much attention in educational research is how student engagement is related to several facets of teaching including academic achievement, school-related discipline, dropout rates, in addition to student affect toward their school, classes, teachers, and peers. The relation between student engagement and various student outcomes may provide stakeholders with pertinent information regarding pedagogical best practices.

There are many pedagogical strategies used by effective music teachers. These include the amount of time used in conceptual teaching (Blocker, Greenwood, & Shellahamer, 1997), sequential patterns of instruction (Price, 1992; Yarbrough & Price, 1989; Yarbrough, Price, & Bowers, 1991), the use of teacher intensity (i.e., sustained control of teacher/student interaction combined with enthusiastic affect and pacing); (Madsen, Standley, & Cassidy, 1989), along with

effective communication and social skills (Hamann, Lineburgh, & Paul, 1998; Juchniewicz, 2010). Peer-teacher evaluations, administrator evaluations, student perceptions, or a combination of these often influence the effectiveness of these strategies. However important the evaluation of these effective teaching strategies may be, it is just as important to determine how any teaching strategy is related to various student outcomes. Incorporating a measure of student engagement provides validity for the various instructional strategies and their effectiveness.

On the one hand, music teachers may utilize several approaches identified by researchers as effective teaching strategies in the classroom only to discover that their students have not made any musical gains. They could attempt different strategies or a different combination of strategies only to find similar results. On the other hand, had they used a student engagement measure, they may have discovered that the students had high levels of behavioral engagement, but very low levels of affective engagement (e.g., bored in class). Equipped with this knowledge they can now adjust their teaching strategies to address the affective disengagement of their music students. Student engagement may therefore broaden the potential of student outcomes.

Many scholars have argued that one of the strengths of student engagement is that it not only describes the characteristics of individuals, but it may also serve to focus a teacher's attention to the potentially malleable contextual factors that can be targeted in interventions (Appleton, Christenson, & Furlong, 2008; Fredricks, Blumenfeld, & Paris, 2004; Sinclair, Christenson, Lehr, & Anderson, 2003). A basic understanding of how student engagement is related to a variety of musical outcomes could help music teachers address specific engagement shortcomings in their students. This would allow them to differentiate and tailor their instruction for each class and specific students within each class, as opposed to using the same instructional

strategies for all of their classes. This could result in the use of effective instructional strategies for students displaying a variety of behavioral, affective, and cognitive engagement.

Purpose

Student engagement, broadly defined as the student's commitment and active participation in school-related activities, is a concept that has been widely investigated by educators, researchers, and policymakers. Students who exhibit low levels of academic achievement, high dropout rates, boredom in class, and alienation have provided a backdrop for stakeholders interested in the relationship between these undesired student outcomes and student engagement (Fredricks *et al.*, 2004). Researchers have also found that increased levels of student engagement are related to higher academic achievement (Marks, 2000; Skinner, Wellborn, & Connell, 1990), lower dropout rates (Archambault, Janosz, Morizot, & Pagani, 2009), and lower levels of disciplinary issues at school (Finn & Rock, 1997) across different academic subjects and grade levels. Although there are numerous research articles addressing student engagement across several academic disciplines (e.g., math, science, and social studies), there is a gap in the research on the engagement of high school students enrolled in music classes.

The present study addressed a gap in the literature regarding the student engagement of high school music students enrolled in performance-based music classes. The purpose of the study was to investigate the relationship between student engagement and two specific outcomes, academic achievement and ensemble performance ratings. The study was guided by the following research questions:

1. How do students' varying degrees of student engagement relate to their academic achievement and their ensemble's performance rating?

2. To what extent do behavioral, affective, and cognitive student engagement predict ensemble performance ratings?

Construct Definitions

Student Engagement. Most contemporary researchers have agreed that student engagement is a metaconstruct encompassing multiple dimensions of involvement in school or commitment to learning (Appleton, Christenson, & Furlong, 2008; Fredricks *et al.*, 2004; Jimerson, Campos, & Greif, 2003; Wang, Willet, & Eccles, 2011). The present study measured student engagement using the three most common dimensions identified by researchers, which included behavioral, affective, and cognitive engagement. Behavioral engagement refers to the student's compliance in class-related activities and work (e.g., listening carefully and completing assignments), and the student's effortful class participation (e.g., working with other students and being actively involved in class discussions). Affective engagement refers to how the students feel (e.g., amused, happy, proud) in their respective class. Cognitive engagement refers to metacognitive and self-regulatory strategies employed by students to better comprehend the instructional material. A classroom-level student self-report instrument was used to ascertain the level of student engagement in each music class.

Academic Achievement. Researchers have suggested that higher levels of student engagement are positively related to higher levels of academic achievement. Fincham, Hokoda, and Sanders (1989) noted that students who completed more schoolwork than required or who initiated class discussions were documented as having higher academic achievement. Higher levels of cognitive engagement have also been associated with higher academic achievement. Children who used metacognitive strategies (e.g., regulating their attention and effort) were

found to do better on various indicators of academic achievement (Boekarts, Pintrich, & Zeidner, 2000; Zimmerman, 1990).

The present study examined the relation between behavioral, affective, and cognitive engagement of high school students enrolled in performance-based music classes to their academic achievement as measured by each student's school-wide self-reported cumulative un-weighted grade point average (GPA).

Ensemble Performance Ratings. The ensemble performance ratings are defined as the labels assigned to each high school music performance-based ensemble at their district Music Performance Assessment (MPA). Each performing ensemble is assigned a performance rating. A Roman numeral system is used to denote a particular rating (i.e., I, II, III, IV, V), which translates to Superior, Excellent, Fair, Good, and Poor, respectively. Trained music teachers adjudicate and assign a rating based on predetermined set of criteria that include tone quality, performance fundamentals, technical preparation, musical effect, and musicianship for each performing ensemble. The relationship between student engagement and the respective class's performance rating was investigated.

CHAPTER TWO:

Literature Review

This chapter contains information relevant to the current study. Student engagement is defined, and the different conceptualizations of student engagement are explored. There is a section on the different methods used to measure engagement, followed by a section investigating the relationship between engagement and academic achievement. Finally, gaps in the literature pertinent to the research purpose are explored.

Student Engagement

Student engagement in the classroom is a topic widely researched in the educational literature. Researchers have investigated student outcomes associated with different types of student engagement. Some examples include positive (e.g., higher academic achievement) and negative (e.g., disruptive in-school behavior) outcomes associated with student's effort, persistence, and concentration in learning and academic tasks (Birch & Ladd, 1997; Finn, Pannozzo, & Voelkl, 1995; Skinner & Belmont, 1993), and students' affective reactions (e.g., interest, boredom, happiness) in the classroom (Connell & Wellborn, 1991; Skinner & Belmont, 1993).

Although most contemporary researchers have agreed that student engagement is a metaconstruct encompassing multiple dimensions of involvement in school or commitment to learning (Appleton *et al.*, 2008; Fredricks *et al.*, 2004; Jimerson *et al.*, 2003; Wang *et al.*, 2011), there is still considerable variation in the definition of engagement (Fredricks & McCloskey, 2012). The dimensions that ostensibly define engagement can also vary across studies. Finn

(1989) explored behavioral and affective engagement of students' involvement in schooling. The same two engagement dimensions were explored in Mark's (2000) study that examined several theoretical perspectives that attempted to explain student engagement. Appleton, Christenson, Kim, and Reschly's (2006) validation of their Student Engagement Instrument measured cognitive and psychological engagement, whereas Reschly and Christenson's (2006) study on the prediction of dropout among students with mild disabilities measured four dimensions of engagement (i.e., academic, psychological, behavioral, and cognitive).

Broadly defined as the student's commitment and active participation in school-related activities, student engagement has been widely accepted as having three dimensions that include behavioral engagement, affective engagement, and cognitive engagement (Fredricks & McCloskey, 2012). However, there is still variation on how researchers define each of these dimensions.

Behavioral engagement can refer to aspects related to student attention, attendance, class participation, concentration, effort, adherence to class rules, risk and behaviors, and participation in school-based activities. Affective engagement can include student feelings toward school, expressing interest, reporting fun and excitement, feeling safe, having positive relationships with teachers and peers, having a supportive family, expressing feelings of belonging, and perceiving school as valuable. Cognitive engagement can include the student's use of cognitive, self-regulatory, or metacognitive strategies, and doing extra work beyond the requirements of school.

How each dimension of engagement is operationalized depends on what the researcher is intending to measure. Block (2000) applied traditional psychology terms of jingle (Thorndike, 1904) and jangle (Kelly, 1927) to describe the confusing way terms and concepts were used in personality psychology. The measurement of engagement has experienced similar issues.

Researchers often use the same term to refer to different things (jingle) and use different terms for the same construct (jangle). For example, one researcher may use an item related to student concentration to measure behavioral engagement, while another researcher may use a similar item of concentration to measure cognitive engagement. A thorough understanding of the different measures of engagement is needed to validly measure student engagement.

Measuring Engagement. There are various methods that are used to measure engagement including student self-reports, experience sampling, teacher ratings of students, interviews, and observations. The most commonly used method in the literature is the use of self-reports. They are relatively easy to administer to a group of students in a class setting, and they typically take a shorter amount of time to complete. However, some self-reports may only be appropriate for older students (i.e., upper middle school to college students). Younger students with limited reading skills may have issues with comprehending the written statements on the self-report measures. Another issue with some self-reports is that the items may be worded broadly (e.g., I work hard in school), rather than with much more specificity (e.g., I work hard on my take-home assignments from classes I like the least).

Some of the less commonly used methods to measure engagement usually require more time to complete. Experience sampling requires students to wear a pager or an alarm watch that alerts them periodically throughout the day. When alerted, the student must record how they are feeling at that moment. However, students must be alerted several times a day over a long period of time to collect enough meaningful data to analyze. Teacher ratings of students are a great alternative for younger students who may have difficulty completing self-reports. One drawback with teacher ratings is the validity of the teacher's assessment of cognitive and emotional engagements. These two latent constructs are highly inferential and not as overt as behavioral

engagement. Interviews and observations can provide a rich source of thick qualitative data for researchers to analyze, but these two methods are typically very time consuming (e.g., interviewing all individuals in a classroom of 25 students).

The ubiquitous nature of student engagement measures was evidenced by a literature review conducted by Fredricks and McCloskey (2012). The researchers were interested in identifying measures of student engagement available for use in upper elementary through high school years. Their focus was on student self-report measures. Their search was restricted to studies published between 1979 and May of 2009. A total of 156 instruments were identified from the citations, each measuring the dimensions of student engagement in different combinations. Although all measures purported to measure at least one dimension of engagement, or a combination of two or three dimensions, the subscales used to define their dimensions varied. Table 1 provides information for a sample of the measures reviewed by Fredricks and McCloskey (2012), along with the subscales for each measure.

Each instrument purportedly measured a different dimension of student engagement. The Attitudes Towards Mathematics Survey (Miller, Greene, Montalvo, Ravindran, & Nichols, 1996) measured behavioral, emotional, and cognitive engagement; the Student Engagement Instrument (Appleton *et al.*, 2006) measured emotional and cognitive engagement; the Identification with School Questionnaire (Voelkl, 1996) and Motivated Strategy and Learning Use Questionnaire (Pintrich & DeGroot, 1990) both purportedly measured student engagement as a unidimensional construct. It is important for researchers to identify and operationally define their construct of student engagement. Then they can select a measure that best aligns with their operational definition. Another consideration is whether the student engagement measure is assessing general engagement at the school level, or the subject/class-level of engagement.

Table 1. *Sample Measures of Engagement with Subtests (Fredricks & McCloskey, 2012)*

Name of measure	Subtest	Author(s)
Attitude Toward Mathematics Survey	Self-regulation	Miller, Greene, Montalvo, Ravindran, and Nichols (1996)
	Deep cognitive strategies	
	Shallow cognitive use	
	Persistence	
Identification with School Questionnaire	Belongingness	Voelk (1996)
	Valuing of school	
Motivated Strategy and Learning Use Questionnaire	Self-regulation	Pintrich and DeGroot (1990)
	Cognitive strategy use	
Student Engagement Inventory	Affective and cognitive engagement	Appelton, Christenson, Kim, and Reschly (2006)

Some measures of student engagement are designed to measure specific subjects. The Attitude Toward Mathematics Survey (Miller *et al.*, 1996) is tailored to math. Other instruments measure the overall school environment. The Identification with School Questionnaire (Voelkl, 1996) was designed to capture a student's engagement at the school-level. The environmental context in which a researcher is interested in collecting data from is important to consider. Engagement cannot be separated from the environment. Engagement is malleable and is responsive to variations in the context that schools can target in interventions (Fredricks & McCloskey, 2012).

Researchers use these measures not only to ascertain the level of engagement exhibited by students, but how that engagement is related to student success in school. Some researchers argue that active engagement in school is critical in fostering student learning and academic success (e.g., Wang, Willet, & Eccles, 2011). Lei, Chui, and Zhou (2018) conducted a meta-analysis of 69 independent studies on the relationship between student engagement and academic achievement. They found a moderately strong and positive correlation between overall engagement and academic achievement ($r = .269, z = 46.095, p = < .001, k = 30, 95\% \text{ CI} = .258, .279$). Student engagement is therefore an important construct to relate to academic achievement.

Student Engagement and Academic Achievement. Researchers who have investigated the relationship between student engagement and academic achievement have found a positive correlation between these two variables. Students who have demonstrated higher engagement received higher grades and performed well on standardized tests (Ladd & Dinella, 2009; Schunk & Pajares, 2005). Archambault and others (2009) have found that student achievement in school was associated with higher motivation and engagement. Overall school engagement has also shown to have a significant impact on student academic performance (Wang & Holcombe, 2010). These results are not surprising, especially considering that students in school who are more behaviorally engaged (e.g., putting forth effort and persistence in schoolwork, actively participating in class discussions and activities, always in attendance at school), cognitively engaged (e.g., participate in deep cognitive processing and have better understanding and retention of meaningful material), and affectively engaged (e.g., positive feeling about learning, their school, their teachers, and their peers) are more inclined to perform better in schools than students who are disengaged in one or more of these dimensions.

It is important to note that although students with higher levels of engagement typically are associated with having higher levels of academic achievement, one should not infer causality from this association. Researchers have also discovered that more academically successful students show higher levels of engagement at school (Lee & Smith, 1993). It is possible that other variables (e.g., more involved parents) are associated with both higher student engagement and better academic achievement. The quality of student engagement is also associated with academic achievement. Arghode, Wang, and Lathan (2017) found that students were more engaged when they had teachers who not only possessed pertinent knowledge, skills, and a positive social disposition, but also when connections were made to the experiences of the students. That is, students were more engaged and found learning to be most effective when their teachers possessed a positive social disposition, which led to an environment that students found conducive for learning. The study by Arghode and others (2017) suggested a relation between positive teacher-student interaction and a higher quality of student engagement; which in turn was associated with higher levels of achievement. Allen and others (2011) discovered a similar finding when they stated that improvements in teacher-student relationships accounted for the positive effects on academic achievement.

Student engagement and its relation to academic achievement has been explored in the differences among the varied ways academic achievement is reported. Willingham, Pollack, and Lewis (2002) were interested in determining the factors that accounted for the difference between teacher-assigned grades and summative test scores (e.g., high stake tests, end-of-unit/course tests, etc.). They discovered that scholastic engagement (i.e., behavioral engagement) was a major contributing factor that accounted for the difference between grades and test scores. Moreover, student engagement showed promise as an organizing principle in studying and

improving school achievement. Students who were engaged in more than one way (e.g., behaviorally and affectively engaged, rather than only being behaviorally engaged) have exhibited higher levels of achievement. Fung, Tan, and Chen (2018) found that students who were highly engaged in two domains of engagement had higher mathematics achievement levels than peers who were engaged in only one domain.

Student Engagement and Music Performance. To the best of the PI's knowledge, there has not been any research that has investigated how behavioral, affective, and cognitive engagement is associated with music performance outcomes. Researchers have investigated expert performance and deliberate practice strategies (Lehmann & Ericsson, 1997) and music-specific rehearsal techniques to improve overall music performance (e.g., Blocker *et al.*, 1997; Hamann *et al.*, 1998; Madsen *et al.*, 1989; Price, 1992; Yarbrough *et al.*, 1991), but no data were collected with regard to the three domains of student engagement. The study of behavioral, affective, and student engagement and its relation to music performance could provide music educators with non-music-specific strategies, in addition to the readily available music-related strategies, that may help to increase overall music performance outcomes.

Bridging the Gap

Much of the student engagement literature has focused on the definition of student engagement, the construction of engagement instruments, and the positive/negative outcomes associated with engagement/disengagement in schools and classrooms. Some researchers have focused on the relation of school-level engagement and student outcomes across different grade levels, while other researchers focused on subject- or class-specific levels of engagement.

Researchers have investigated student engagement in a variety of educational levels and subjects. Examples of subject-specific studies include student engagement in math and social

studies (Marks, 2000), English and history (Shernoff, Csikszentmihalyi, Shneider, & Shernoff, 2003), and science (Ainley & Ainley, 2011). However, music is a subject that has been relatively neglected in the literature on student engagement. Most studies on engagement make a cursory mention of music, alongside other extracurricular activities (e.g., sports). For example, Fullarton (2002) examined the engagement of young people at their school, and in particular, the level of participation in extracurricular activities. Music was listed as one of the extracurricular activities.

The current study, to the best of the principal investigator's knowledge, is the first study that specifically addresses behavioral, affective, and cognitive engagement in high school students enrolled in performance-based music classes. The purpose of the study was to discover the relation between high school music students' engagement and academic achievement, and engagement across different ensemble performance ratings. This study not only adds to the existing knowledge base on student engagement, but it also serves to fill a research gap that exists on the relation between ensemble performance ratings of high school music students enrolled in performance-based music classes and the three domains of student engagement.

Previous researchers have already established that a positive relation exists between student engagement and overall student performance across diverse populations (Finn, 1989, 1993; Finn & Rock, 1997). Moreover, a lack of student engagement has been shown to adversely affect student achievement, which may have led to dysfunctional school behavior that tends to culminate in students dropping out of school (Finn, 1989; Newmann, 1981, 1992; Steinberg, 1996; Wehlage, Rutter, Smith, Lesko, & Fernandez, 1989). It was hypothesized that the findings of the current study could further corroborate the results of previous studies that show a positive relation between increased levels of student engagement and academic achievement. It was also

hypothesized that increased levels of behavioral, affective, and cognitive student engagement could translate into higher performance-based ensemble ratings.

CHAPTER THREE:

Method

This chapter details the methodology and its rationale for the current study. The research design is presented along with the rationale for the approach. Demographics of the participants are then reported. Variables and measures are also identified and described. Support for the quality of data (i.e., reliability, validity) is reported. Next, details of the data collection process are presented. Finally, a detailed analysis procedure for each research question is discussed under the data analysis section.

Research Design

This was a quantitative descriptive study which used a student self-report survey, students' existing academic records, and ensemble ratings. The first research question addressed the relation between the three dimensions of student engagement, academic achievement, and ensemble performance ratings. The variables identified from the first research question were the three dimensions of student engagement (i.e., behavioral, affective, and cognitive engagement), academic achievement (i.e., GPA), and ensemble performance ratings. Student engagement and academic achievement were measured as a continuous non-manipulated variable. Ensemble performance ratings were reported as ordinal variables, labeled as Superior, Excellent, and Good/Fair/Poor. The decision to combine ratings of Good, Fair, and Poor together was due to the relatively small number of ensembles that collectively received that rating. Fourteen percent of all high school ensembles that participated at their concert music performance assessment in the Spring of 2017 received a rating of Good, Fair, or Poor (FBA MPA, n.d.). The second research

question addressed how well the three domains of student engagement predicted ensemble performance ratings. The three domains of student engagement were the predictor variables. The criterion variable was the ensemble rating.

Participants

The current study focused on the engagement of high school students enrolled in a performance-based music class (i.e., high school band). The sampled participants recruited for the study were from one of the largest school districts in Florida that contained schools in urban, suburban, and rural locations. Schools involved in this study were located in large urban and suburban areas. According to the Florida Department of Education, the total student enrollment for the school district is 214,402 students, of which 62,434 are high school students in grades 9-12. Each county in Florida constitutes an independent school district. Inclusion criteria for the participants included high school band students in grades 9-12 whose teachers were a member of the Florida Bandmasters Association, and whose bands performed at their district concert music performance assessment. The prevalence of the Florida Bandmasters Association membership is evidenced by the total number of directors involved in the association. Over 83% of all middle and high school band directors in the State of Florida were active members of the Florida Bandmasters Association in 2017. Those members were required to participate in their concert music performance assessment. High school bands who participated in the assessment received a rating based on their overall music performance. Each high school band received one of five possible overall ratings: superior, excellent, good, fair, or poor. Public records of all high school band ratings were available on the state's music education association website.

The principal investigator (PI) sent an email to all high school band directors in the county who fit the inclusion criteria. Emails were sent to 29 band directors that represented a

total of 2,267 high school band students. The band directors were all members of the FBA. The overall band director response rate was approximately 17%, which included $N = 259$ high school band students nested within eight bands across five high schools. There were a total of $n = 143$ male and $n = 116$ female band students. The majority of the students reported their ethnicity as Caucasian (56%), with the next highest percentage reported as Hispanic/Latino (22.8%). Ethnicity percentages for African American, Asian, Pacific Islander, and Other were 6.9%, 5.4%, 5.8%, and 3.1%, respectively. Table 2 contains frequencies and percentages of the sample's class standing and age.

Table 2. *Main Study Student Sample Class Standing and Age (N = 259)*

Class	Frequency	%		
Freshman	70	27		
Sophomore	71	27.4		
Junior	80	30.9		
Senior	38	14.7		
Age	Frequency	%	<i>Mean</i>	<i>Standard Deviation</i>
			15.97	1.18
14	31	12		
15	66	25.5		
16	67	25.9		
17	70	27		
18	25	9.7		

Although the PI recruited all high school bands that fit the inclusion criteria, a concerted effort was made to have a sample of bands within the county that represented the state’s total percentage of bands who received each of the five ratings. Prior to the main study, a random sample of nine band association districts, out of the state’s total 21, was analyzed to determine the distribution of bands receiving each of the five ratings. The results showed that out of the total sampled band ensembles ($n = 225$), 42% received a superior rating, 41% received an excellent rating, and only 17% received either a good, fair, or poor rating (12%, 4%, and 1%, respectively). This indicated that there would be a much smaller percentage of good-, fair-, and poor-rated bands to sample from for the current study. As a result, the decision was made to recruit ensembles that received a good, fair, or poor rating into a single category of Good/Fair/Poor. Table 3 displays the differences between the percentages of the random sample taken prior to the study and the actual percentages of the eight bands used for the current study.

Table 3. *Comparison of Band Ratings between Pre-Study Sample and Current Study Sample*

Band Rating	% of Pre-Study Sample	% of Current Study Sample
Superior	42	37.5
Excellent	41	37.5
Good/Fair/Poor	17	25

Although there are differences between the percentages of the pre-study sample and the current study sample, the PI felt that the current study sample was a good representation of the state’s sample of bands that received a superior, excellent, and good/fair/poor rating. It is important to note that the sampled participants of the current study were a relatively homogeneous group.

Although demographic variation was present in the sampled participants of the current study, the

state band association associated with the current study prescribed and promoted a particular philosophy of music teaching and learning. That philosophy states that music holds a unique place in human existence, helping individuals develop thinking capacities, motor skills, and affective responses. The performance of music also fosters performance skills and musical creativity. There may be an argument for the invariance of this music teaching philosophy across all states, but any generalization of the results for the current study should only be limited to bands within the State of Florida.

Instruments

Student Engagement. Most contemporary researchers have agreed that student engagement is a metaconstruct encompassing multiple dimensions of involvement in school or commitment to learning (Appleton *et al.*, 2008; Fredricks *et al.*, 2004; Jimerson *et al.*, 2003; Wang *et al.*, 2011). The current study explored the three most common dimensions of student engagement (i.e., behavioral, affective, and cognitive) of high school band students enrolled in performance-based music class (i.e., band). Behavioral engagement refers to the students' effortful participation along with their compliance in completing assignments and paying attention in class. Affective engagement refers to the students' affective feelings in class (e.g., feeling happy, amused, and proud). Cognitive engagement refers to self-regulatory skills and/or metacognitive strategies that students employ to better comprehend the classroom instruction and material presented by the teacher.

A modified version of Wang, Bergin, and Bergin's (2014) Classroom Engagement Inventory (CEI) was used to measure the three dimensions of student engagement. The original CEI is a 24-item student self-report instrument that measures multiple dimensions of student engagement at the classroom level using a 5-point Likert-type scale. The CEI measures five

specific factors of student engagement: behavioral engagement-effortful class participation, behavioral engagement-compliance, affective engagement, cognitive engagement, and disengagement. Validity of the original CEI was examined by correlating factor scores from a five-factor confirmatory factor analysis model with variables that research and theory predicted would be linked to classroom engagement (Wang *et al.*, 2014). Table 4 shows the CEI reliability information reported as McDonald's (1999) *omega* and intraclass correlation. Table 5 includes sample items from each factor of the original CEI.

Table 4. *Pattern Coefficients of Five-Factor Confirmatory Factory Analysis for Original CEI*

Engagement	ω	ICC
Affective	.90	.16
Behavioral Compliance	.82	.10
Behavioral Effort	.82	.20
Cognitive	.88	.15
Disengagement	.82	.18

ω = McDonald's *omega*; ICC = Intraclass correlation

Table 5. *Sample Items from the Original CEI*

Engagement Domain	Sample Item
Behavioral Effort	I get really involved in class activities
Behavioral Compliance	I listen carefully
Affective	I feel interested
Cognitive	I think deeply when I take quizzes
Disengagement	I just pretend like I'm working

A revised version of the original CEI was developed for use in the current study. Some of the items of the original CEI were reworded to better reflect what a student experienced in a band class as opposed to a general academic classroom. For example, one original CEI item stated, “I actively participate in class discussions”. The revised item stated, “I actively participate in rehearsals”. The latter revised statement was a more accurate reflection of a student’s engagement in a band class. The new inventory was named Classroom Engagement Inventory in Music (CEI-M). A pilot study was conducted using the CEI-M to test the validity and reliability of the revised inventory.

Pilot Study. The purpose of the pilot study was to test the reliability and validity of the CEI-M, and to report on the administration of the inventory. The CEI-M was administered to a high school band class ($n = 42$) in the spring of 2017 (see Table 6 for class demographics). The purpose of the pilot study was explained to the students, along with instructions on how the CEI-M would be administered. Students were then given the opportunity to ask any questions to ensure that everyone had a clear understanding of the administration process.

All materials were provided for the students (i.e., hard copies of the CEI-M and pencils). Students were asked to carefully read the directions and to complete the CEI-M. The administration took place in the school’s band rehearsal room, and students were seated in their assigned seats. The principal investigator or a designated band director distributed hard copies of the CEI-M to every student. A student was then assigned to collect the completed inventories. The total administration time for the CEI-M took less than six minutes.

Table 6. Pilot Study Class Demographics

	<i>n</i>	%	<i>Mean</i>
Gender			
Male	25	59.5	
Female	17	40.5	
Age			17
15	2	4.8	
16	8	19	
17	20	47.6	
18	12	28.6	
Ethnicity			
Caucasian	32	76.2	
African American	1	2.4	
Hispanic/Latino	6	14.3	
Asian	1	2.4	
Other	2	4.7	
Class			
Sophomore	6	14.3	
Junior	12	28.6	
Senior	24	57.1	
GPA			3.54
2.40-2.69	2	4.7	
3.00-3.55	14	33.3	
3.60-3.85	21	50.1	
3.90-4.00	5	11.9	

Students were then asked to complete Zelenak’s (2011) Music Performance Self-Efficacy Scale (MPSES). The purpose of the MPSES was to validate the CEI-M. The authors of the original CEI (Wang *et al.*, 2014) stated that academic self-efficacy predicted interest and achievement and should be related to engagement. Table 7 includes the correlations between the original CEI engagement factors and self-efficacy (Wang *et al.*, 2014). It was hypothesized that a similar correlation would emerge between musical self-efficacy, as measured by the MPSES, and student engagement, as measured by the modified CEI-M. The results of the pilot study indicated a similar correlation between the CEI-M engagement factors and Zelenak’s (2011) MPSES, albeit not as strong as the correlation reported by Wang and others (2014).

Table 7. *Correlations Between Engagement Factors and Self-Efficacy for Original CEI*

	Affective	Behavioral Compliance	Behavioral Effort	Cognitive	Disengagement
Academic Self-Efficacy	.55	.35	.44	.41	-.17

A total of 3,560 fourth to twelfth grade students were used to validate Wang, Bergin, and Bergin’s (2014) original CEI

It is important to note that Wang and others (2014) used academic self-efficacy to test their validity. On the other hand, a music performance self-efficacy measure was used for the pilot study. This may have explained the lower correlations found in the pilot study. The smaller sample size of the pilot study ($n = 42$) may have also accounted for the lower correlations. Table 8 contains the correlations between the five CEI-M factors and the four MSES factors.

Table 8. Pilot Study Correlations Between Five CEI-M Factors and the Four Music Performance Self-Efficacy Scale Factors

	Behavioral Compliance	Affective	Cognitive	Disengagement	Mastery Self-Efficacy	Vicarious Self-Efficacy	Verbal Self-Efficacy	Physiological Self-Efficacy
Behavioral Effort	.749**	.745**	.772**	-.574**	.237	.369	.103	.079
Behavioral Compliance	1	.730**	.605**	-.747**	.283	.262	.332*	.167
Affective		1	.697**	-.569**	.141	.322*	.145	-.001
Cognitive			1	-.373*	.244	.432**	.151	.102
Disengagement				1	-.134	-.183	-.036	.003
Mastery Self-Efficacy					1	.468**	.737**	.629**
Vicarious Self-Efficacy						1	.175	-.011
Verbal Self-Efficacy							1	.569**

** Correlation is significant at the .01 level (2-tailed)

* Correlation is significant at the .05 level (2-tailed)

The total pilot study sample size was $n = 42$

Additional statistics were computed to determine the overall reliability of the CEI-M. The overall reliability for the CEI-M used in the pilot study was very good with a Cronbach's Alpha of .928. Statistics were also computed on the main study data ($N = 259$). The overall reliability of the CEI-M used in the main study was good with a Cronbach's Alpha of .865. Although the reliability coefficient of the main study was less than the pilot study reliability coefficient, both coefficients were good overall.

Tables 9, 10, 11, 12, & 13 contain the main study correlation matrices between the individual items included within each factor, along with Cronbach's Alpha for each engagement factor. All of the correlations among the items in each engagement factor were significantly correlated with each other, with the exception of a few cognitive items. Non-significant correlations of .096, .117, and -.064 were reported in Table 13 for the cognitive item pairings of items 22 and 8, items 22 and 16, and items 24 and 13, respectively.

Table 9. *Main Study CEI-M Behavioral Effort Item Correlation (Cronbach's Alpha = .580)*

Item	4	5	14	18
1	.173**	.130*	.132*	.392**
4	1	.190**	.180**	.242**
5		1	.211**	.347**
14			1	.356**

* *Correlation is significant at the .05 level (2-tailed)*

** *Correlation is significant at the .01 level (2-tailed)*

Table 10. Main Study CEI-M Behavioral Compliance Item Correlation (Cronbach's Alpha = .389)

Item	11	19
6	.328**	.096
11	1	.174**

** Correlation is significant at the 0.01 level (2-tailed)

Table 11. Main Study CEI-M Affective Item Correlation (Cronbach's Alpha = .814)

Item	3	10	15	20
2	.704**	.563**	.479**	.527**
3	1	.475**	.381**	.404**
10		1	.365**	.440**
15			1	.356**

** Correlation is significant at the .01 level (2-tailed)

Table 12. Main Study CEI-M Cognitive Item Correlation (Cronbach's Alpha = .719)

Item	8	13	16	17	22	23	24
7	.323**	.148*	.264**	.434**	.292**	.465**	.277*
8	1	.171**	.307**	.345**	.096	.178**	.234**
13		1	.225**	.224**	.170**	.133**	-.064
16			1	.513**	.117	.192**	.411**
17				1	.152*	.280**	.302*
22					1	.374**	.177**
23						1	.218**

* Correlation is significant at the .05 level (2-tailed)

** Correlation is significant at the .01 level (2-tailed)

Table 13. *Main Study CEI-M Disengagement Item Correlation (Cronbach's Alpha = .770)*

Item	12	21
9	.660**	.444**
12	1	.472**

** *Correlation is significant at the .01 level (2-tailed)*

Academic Achievement. Academic achievement can be measured in many ways. Teacher-assigned grades and grade point averages (GPA) are the most commonly used measures of academic achievement (York, Gibson, & Rankin, 2015). GPA is easily accessible from all schools, which makes it a convenient method for ascertaining student academic achievement. However, it is important to note that grading practices can differ greatly within and between schools.

Some researchers argue that grades and GPA only measure a narrow scope of academic achievement. York and others (2015) suggested that academic achievement, as measured by grades and GPA, captured a student's overall performance ability and not necessarily their learning. Although some researchers have questioned the reliability of self-reported student GPA (e.g., Bahrlick, Hall, & Berger, 1996; Freeberg, 1988; Zimmerman, Caldwell, & Bernat, 2002), Kuncel, Crede, and Thomas (2005) found that self-reported GPAs of high school students were reasonably accurate reflections of actual grades obtained ($N = 44,176$, $k = 17$, $r = .86$). Student participants in the current study were asked to self-report their GPA as a measure of their academic achievement.

Ensemble Performance Ratings. Many state music education associations across the nation require school music ensembles (e.g., band, choir, and orchestra) to perform at a music festival or music assessment. In the current study, the FBA requires that all high school bands,

whose band directors are members of FBA, perform at a music performance assessment. The purpose of the music performance assessment is to provide the music teacher and the students within the ensemble the opportunity to receive written and verbal feedback on a musical performance consisting of teacher-selected music. The teacher selects music from a state-adopted music list that is ranked in difficulty from easy repertoire (Grade 1) to advanced repertoire (Grade 6). An ensemble's required level of musical repertoire depends on the overall school student enrollment; the larger the enrollment, the more difficult the music they are required to perform and vice versa. The ensembles perform their selected music for a panel of trained music adjudicators (usually three individuals) that rate the ensemble's performance on a five-point scale (I = Superior, II = Excellent, III = Good, IV = Fair, V = Poor). The adjudicators rate the ensemble's performance on a predetermined set of music criteria usually consisting of tone quality, performance fundamentals, technical preparation, and musical effect. Performance preparation time for the music performance assessment varies across ensembles and is solely dependent on the band director's preference. Some directors elect to begin work on their musical selections at the beginning of the school year, while others elect to spend a shorter amount of time (e.g., 2 months prior to their music performance assessment).

Most music performance assessments occur in the spring semester and also include a sight-reading component. The sight-reading portion of music performance assessment involves the students performing a musical selection they have ostensibly never performed in the past under the direction of their band director. The students and the director are given anywhere from three to five minutes to study a musical selection before they are required to perform it for the sight-reading adjudicator. The ensemble then receives a separate rating, utilizing the same five-point scale, for their sight-reading performance. At the conclusion of the music performance

assessment, each ensemble receives an overall rating based on their concert performance and their sight-reading performance. Ensembles are then assigned an aggregate rating of Superior, Excellent, Good, Fair, or Poor (see Appendix A for all possible rating combinations).

A limitation for the use of ensemble ratings is the lack of any reported reliability statistics or validity information. Although there are standardized forms used by the adjudicators with ostensibly objective criteria, the adjudication process is still relatively subjective. To address reliability, there are usually three or more adjudicators concurrently assessing the concert performance portion of the music performance assessment. Consequently, there is a level of interrater reliability built into the adjudication process. However, significant variance of the results has occurred. There have been reported occasions when three adjudicators have assigned three separate ratings to the same performance (e.g., Superior from Judge 1, Excellent from Judge 2, and a Good from Judge 3). As evidenced by this anecdotal account, there could be validity and reliability issues in the adjudication process. However, there has been agreement among the judges most of the time. Music judges must also go through a training process and meet certain criteria before becoming a music judge (e.g., minimum 6 years of teaching and must have received an overall Superior rating at their own concert music performance assessment at least three times out of the last five years).

The ensemble performance ratings reported in the current study are the official measures used for ensemble performance outcomes. These ratings were used in the current study to determine the relation between student engagement and ensemble performance ratings, along with how well student engagement predicted ensemble performance ratings.

Data Collection

Institutional review board approval (Pro00029675) was obtained prior the start of data collection (see Appendix B). The principal investigator personally collected the majority of the data for the current study. There were instances when the PI could not physically be present to administer the inventory and collect the data in person from the high school students. As a result, some of the data were collected by the music teachers of the high schools. A standardized administration procedure (i.e., step-by-step written instructions) was created and used by anyone who administered the inventory (see Appendix C). The recruitment email, which contained the purpose and rationale of the current study, was read aloud to all high school directors and students. It was clearly stated and reiterated that participation in the study was strictly voluntary, and that participants could opt out of the study at any point. Students and directors were then given the opportunity to answer any questions. Appropriate consent forms were then distributed to all students and directors. Since the majority of the students were 17 years old and younger, they received parental permission consent forms. Any students who were 18 years old or older received a separate form that allowed them to consent for themselves. The PI then allowed at least a week for students to obtain signed parental permission. Most of the high school students obtained signed parental permission prior to the end of the one-week time period. The PI then returned to the school to collect parental permission forms, distribute and collect signed student assent forms, and then distribute and collect the Classroom Engagement Inventory in Music (CEI-M). A total of 264 high school students completed the Classroom Engagement Inventory in Music. There were five inventories that were incomplete (i.e., students completed only half of the inventory). Those inventories were not used. A total number of $N = 259$ inventories were used for the current study.

Student Engagement. The Classroom Engagement Inventory in Music was administered collectively to each high school band ensemble in their rehearsal room. The standardized administration of the inventory was followed to the fullest extent possible. Every student was provided with a pencil and a single CEI-M that included 10 demographic questions along with the 24-item inventory. The students were asked to read the directions silently on their own while the PI read the directions aloud. Students were then given the opportunity to ask any questions before completing the CEI-M. Total administration time for the CEI-M was approximately 15 minutes.

Academic Achievement. Students were asked to self-report their cumulative unweighted grade point average on the Classroom Engagement Inventory in Music. GPA served as the measure of academic achievement.

Ensemble Performance Ratings. An online database maintained by the state music association from which the study was conducted, contained archived records of ensemble ratings going back to 1939. The online database of ensemble ratings was used to record the ratings for each ensemble included in the current study.

Demographic Information. Demographic information was collected from all study participants. Along with the 24 items that measured student engagement, the CEI-M (see Appendix D) also included 10 student demographic questions that asked students to self-report a variety of music and school-related information (e.g., private lessons, musical instrument, age, grade, GPA, race/ethnicity).

Data Analysis

All data were inputted into a data file and computed by the use of the IBM Statistical Package for the Social Sciences (SPSS). Descriptive statistics of all demographic information

were analyzed and reported (e.g., mean, standard deviation, skewness, kurtosis). In the first research question, the principal investigator set out to investigate how students' varying degrees of student engagement related to their academic achievement and their ensemble's performance rating. A multivariate analysis of variance (MANOVA) was used to determine whether there were differences in student engagement based on ensemble ratings. The three dimensions of student engagement were the dependent variables, and the different ensemble performance ratings served as the independent variables. A regression was then used to address the relation between the three dimensions of student engagement and academic achievement. The three dimensions of student engagement served as the predictor variables. Academic achievement, reported as GPA, served as the criterion variables.

The principal investigator also sought to investigate the extent that behavioral, affective, and cognitive student engagement predicted ensemble performance ratings. A regression was used to address this relation. The three dimensions of student engagement served as the predictor variables. Ensemble ratings served as the criterion variable.

CHAPTER FOUR:

Results

This chapter reports finding for the research questions. The first research question was whether students' varying degrees of student engagement related to their academic achievement and their ensemble's performance rating. Two statistical analyses were used to answer the first research question: a multivariate analysis of variance (MANOVA) and a regression analysis. A MANOVA was used to determine whether there was a difference in high school band student engagement based on the different band performance ratings. A regression analysis, using academic achievement as the criterion variable and the different dimensions of student engagement as predictor variables, was used to address the relation between academic achievement and student engagement. A regression analysis was also used to address the second research question which asked to what extent behavioral, affective, and cognitive student engagement predicted ensemble performance ratings. Performance ratings were coded with a three-point scale using the numbers 3, 4, and 5 to represent the ratings of Good, Excellent, and Superior, respectively. All data were inputted and computed by the use of the IBM Statistical Package for the Social Sciences (SPSS).

First Research Question

MANOVA Results. The Classroom Engagement Inventory in Music was used to record student's level of student engagement, which included two behavioral factors (behavioral-effort and behavioral-compliance), and an affective, cognitive, and disengagement factor. The disengagement factor was reverse coded in the analysis so that higher disengagement scores

corresponded with higher levels of student engagement. The five student engagement factors served as the dependent variables and the three levels of ensemble ratings (good, excellent, superior) served as the independent variable.

The principal investigator determined that the MANOVA assumptions of independence of observations, multivariate normality of the dependent variables within groups, and homogeneity of covariance matrices were within acceptable parameters to proceed with the MANOVA. All students completed dependent variable measures independently from each other. Descriptive statistics (i.e., mean, standard deviation, skewness, and kurtosis) were examined for multivariate normality (see Table 14). The skewness across the three groups ranged from -1.18 to .405; kurtosis ranged from -.783 to 1.39. Although the skewness suggests some non-normality among the dependent variables, the overall F test in MANOVA is fairly robust to the non-normality assumption. Box's Test of Equality of Covariance Matrices was used to test the assumption of the equality of group dispersions. Due to the power of the Box test, researchers have recommended that if the p value for the Box F test is higher than .005, it is appropriate to proceed with the MANOVA (Huberty & Petoskey, 2000). The Box's test result indicated that the equality of group dispersion assumption was satisfied (Box $M = 53.92$, $F[30, 34464] = 1.75$, $p = .008$). The inter-factor covariance matrix in Table 15 was also examined to further test the equality of group dispersion assumption. For example, the covariances between cognitive engagement and behavioral-compliance engagement, among the three performance rating groups, were roughly the same (.127, .133, and .131), which satisfied the homogeneity of variance assumption for MANOVA. The general low coefficients support the internal consistency of the measure also.

Table 14. *Descriptive Statistics for Student Engagement of High School Band Students by Ensemble Performance Rating*

Engagement	Mean	Standard Deviation	Skewness	Kurtosis
<u>Good</u>				
Behavioral Effort	3.69	.726	-1.02	.751
Behavioral Compliance	4.24	.535	-.514	-.460
Affective	3.85	.723	-.839	.137
Cognitive	3.50	.506	.405	-.158
Disengagement	3.26	.844	-.052	-.783
<u>Excellent</u>				
Behavioral Effort	4.24	.509	-.878	.475
Behavioral Compliance	4.53	.482	-1.18	1.34
Affective	4.42	.545	-1.08	1.00
Cognitive	4.04	.564	-.680	.317
Disengagement	3.51	.905	-.472	-.765
<u>Superior</u>				
Behavioral Effort	4.25	.449	-.560	.266
Behavioral Compliance	4.49	.459	-1.01	.595
Affective	4.46	.472	-1.00	.722
Cognitive	3.97	.600	-1.07	1.39
Disengagement	3.57	.906	-.550	-.520

Note: Lower mean score on Disengagement indicates higher level of student disengagement

Table 15. *Inter-Factor Covariance Matrix of the Five Student Engagement Factors Across Three Groups*

Rating		Behavioral Effort	Behavioral Compliance	Affective	Cognitive	Disengagement
Good (<i>n</i> = 34)	Behavioral Effort	.527	.189	.270	.214	-.249
	Behavioral Compliance		.286	.136	.127	-.286
	Affective			.523	.058	-.225
	Cognitive				.256	-.068
	Disengagement					.712
Excellent (<i>n</i> = 122)	Behavioral Effort	.259	.084	.188	.160	-.195
	Behavioral Compliance		.232	.084	.133	-.156
	Affective			.297	.124	-.196
	Cognitive				.318	-.183
	Disengagement					.820
Superior (<i>n</i> = 103)	Behavioral Effort	.201	.093	.105	.139	-.124
	Behavioral Compliance		.211	.089	.131	-.167
	Affective			.223	.078	-.178
	Cognitive				.359	-.114
	Disengagement					.820

An overall significant multivariate effect was found across the ensemble rating groups, Wilk's $\lambda = .830$, $F(10, 504) = 4.93$, $p < .001$, partial $\eta^2 = .089$. Univariate tests showed that there

were significant differences across band rating groups on behavioral-effort engagement, $F(2, 256) = 16.74, p < .001$, partial $\eta^2 = .116$; behavioral-compliance engagement, $F(2, 256) = 5.13, p < .001$, partial $\eta^2 = .039$; affective engagement $F(2, 256) = 17.45, p < .001$, partial $\eta^2 = .120$; and cognitive engagement $F(2, 256) = 12.08, p < .001$, partial $\eta^2 = .086$. No significant effect was found across rating groups in the disengagement factor.

Tukey HSD *post hoc* tests showed that both excellent- and superior-rated groups exhibited statistically significantly higher levels of behavioral-effort, behavioral-compliance, affective, and cognitive engagement compared to good-rated groups. No statistical difference was found between the excellent- and superior-rated groups. Furthermore, no significant difference was found in any comparison on the disengagement factor. Table 16 displays these *post hoc* multiple comparison results.

Regression Results. A multiple regression analysis was calculated to predict academic achievement (i.e., GPA) based on student engagement (i.e., behavioral-effort, behavioral-compliance, affective, cognitive, and disengagement). A non-significant regression equation was found ($F[5, 253] = 1.026, p = .403$), with an R^2 of .020. None of the five predictor variables were shown to have values significant at the .05 level (behavioral-effort = .402, behavioral-compliance = .192, affective = .062, cognitive = .988, disengagement = .919).

Second Research Question

Regression Results. The second research question was to what extent the five factors of student engagement predicted ensemble performance ratings. Performance ratings were coded with a three-point scale using the numbers 3, 4, and 5 to represent the ratings of Good, Excellent, and Superior, respectively.

Table 16. *Tukey Post Hoc Multiple Comparison Results Between Engagement Factors Among Ensembles*

Dependent Variable	Rating (I)	Rating (J)	Mean Difference (I-J)	Standard Error	Significance	95% Confidence Interval	
						Lower	Upper
Behavioral Effort	Good	Excellent	-.548	.101	.000	-.786	-.310
		Superior	-.560	.103	.000	-.803	-.318
	Superior	Excellent	.013	.070	.982	-.177	.152
Behavioral Compliance	Good	Excellent	-.297	.093	.005	-.516	-.077
		Superior	-.253	.095	.022	-.477	-.029
	Superior	Excellent	.043	.064	.780	-.108	.195
Affective	Good	Excellent	-.571	.106	.000	-.820	-.322
		Superior	-.611	.108	.000	-.865	-.357
	Superior	Excellent	-.041	.073	.844	-.212	.131
Cognitive	Good	Excellent	-.540	.111	.000	-.802	-.279
		Superior	-.468	.113	.000	-.734	-.201
	Superior	Excellent	.073	.076	.610	-.108	.253
Disengagement	Good	Excellent	-.241	.174	.351	-.651	.170
		Superior	-.300	.178	.210	-.719	.118
	Superior	Excellent	-.060	.120	.873	-.343	.223

A stepwise multiple regression analysis was computed with ensemble ratings as the criterion variable and the five factors of student engagement as the predictor variables. A significant regression was found ($F[1,257] = 20.73, p < .001$) with an R^2 of .075. Affective student engagement was the only statistically significant engagement factor that predicted ensemble rating; $Y = 2.869 + .320$ (affective engagement). Although statistically significant, affective engagement only explained 7.5 percent of the variance in performance rating.

Table 17 contains the Pearson correlations for all variables. All of the student engagement factors were positively correlated with each other, and most were significant at a .01 level. Academic achievement (i.e., GPA) had a low and non-significant correlation with engagement and band rating.

Table 17. *Pearson Correlations of All Variables*

	Behavioral Effort	Behavioral Compliance	Affective	Cognitive	Disengagement	GPA
Rating	.255**	.111	.273**	.171**	.095	-.030
Behavioral Effort	1	.439**	.634**	.577**	.382**	.021
Behavioral Compliance		1	.390**	.506**	.418**	.072
Affective			1	.378**	.404**	-.070
Cognitive				1	.288**	.036
Disengagement					1	.002

***Correlation is significant at the .01 level (2-tailed)*

The results of the study indicated that an association existed between higher levels of student engagement and higher music performance outcomes. This association was especially

salient for students in excellent- and superior-rated ensembles. That is, students who were a member of excellent- and superior-rated ensembles showed significantly higher levels of student engagement as compared to students in good-rated ensembles. Affective engagement was shown to predict music performance outcomes, albeit with low practical significance. Academic achievement, which has been reported by researchers as having a positive correlation with student engagement, was not found to have the same results in the current study.

CHAPTER FIVE:

Discussion

The present study explored the behavioral, affective, and cognitive engagement of high school band music students, and how that engagement was associated with students' academic achievement and ensemble performance ratings. The research was guided by asking how students' varying degrees of student engagement related to their academic achievement and their ensemble's performance rating; and to what extent behavioral, affective, and cognitive engagement predict ensemble performance ratings. High school students' levels of behavioral, affective, and cognitive engagement were obtained via a self-report inventory, which were then compared to students' self-reported GPA and their ensemble's music performance rating. This chapter first addresses the relation between student engagement and ensemble performance rating, followed by the relation between student engagement and academic achievement. Implications of the results are then explored, followed by suggestions for further research. The chapter ends with a conclusion section.

Student Engagement and Ensemble Performance Rating

In the first research question, the researcher was interested in determining how student engagement was related to ensemble performance ratings. The results suggested that there was no statistically significant difference found in student engagement between the excellent- and superior-rated ensembles. In other words, the students in both the excellent- and superior-rated ensembles exhibited very similar levels of student engagement across all five engagement factors.

There was a statistically significant difference among the levels of student engagement between good-rated ensembles and excellent-rated ensembles, as well as between good-rated ensembles and superior-rated ensembles. The significant differences were found in four of the five student engagement factors. That is, the students in the excellent- and superior-rated ensembles exhibited significantly higher levels of student engagement in behavioral-effort, behavioral-compliance, affective, and cognitive engagement when compared to good-rated ensembles. In other words, students in excellent- and superior-rated ensembles self-reported more frequent instances of positive affect in their rehearsals (e.g., feeling happy, proud, amused, excited, interested, etc.), they were more active thinkers in their music rehearsals, as opposed to passive participants (e.g., judging the quality of their musical performance during a rehearsal, problem-solving, going back over things they did not understand), and they were also more behaviorally engaged in the music making process (e.g., working with and learning from other students, listening carefully, not wanting to stop playing at the end of a music rehearsal).

It was interesting to find a clear demarcation in student engagement between good-rated ensembles and excellent-rated ensembles; yet very little differences between excellent- and superior-rated ensembles. These findings parallel a similar demarcation in the music adjudication process. From a musical standpoint, music adjudicators often discuss the fine line between an excellent-rated ensemble and superior-rated ensemble. The difference in assigning one rating over another rating (i.e., excellent versus superior) may be a subjective call by the adjudicators. While one adjudicator who assigned an excellent rating may feel strongly that the ensemble “played out of tune a bit too often”, or that their “blend and balance was not consistent throughout the performance”, another adjudicator may feel that the ensemble did just enough musically to warrant a superior rating. This subjective manifestation of different ratings is found

all too often at many concert music performance assessments. In other words, there are three adjudicators who assigned a final aggregate rating of superior: two superior ratings and one excellent rating. In this particular case it only takes one of the adjudicators who assigned a superior rating to change their rating to an excellent in order for the ensemble to now receive a final aggregate rating of excellent.

In the second research question, the principal investigator sought to determine how well student engagement predicted ensemble performance ratings. The results indicated that affective engagement was the only statistically significant predictor of ensemble performance rating. Affective engagement refers to how the students feel (e.g., amused, happy, proud) in their respective class. It may be that the interaction the students have with their teacher may determine their affect in that class and be a contributing factor to their overall affective engagement.

Skinner and Belmont (1993) discussed the construct of disaffection, which they defined as the opposite of engagement. They stated that disaffected children gave up easily in the face of a challenge and did not try hard in a given task. Moreover, they found that teachers responded to children that exhibited higher levels of engagement with more involvement and autonomy support. This seemed to fit well with the idea of “musical proactivity”, in which participants were cognitively involved, with great joy, interest, and a desire for more (Fung, 2018). The reciprocal was also true; teachers who had students with low levels of engagement treated their students in a way that exacerbated student passivity and withdrawal from learning, which paralleled the concepts of “musical passivity” and “musical avoidance” respectively (Fung, 2018). Perhaps students in good-rated ensembles exhibited lower levels of affective engagement due to negative teacher-student interactions. It was possible that students in good-rated ensembles were not properly prepared by their teachers (i.e., lack of competence), therefore

supporting an environment that caused students to not try hard or even give up. It was also possible that the student's perceived challenge of the task and their own competence was not in balance, which reflected a decrease in their overall engagement (Shernoff *et al.*, 2003).

Student Engagement and Academic Achievement

Researchers have found evidence that supports the positive correlation between student engagement and academic achievement (e.g., Ladd & Dinella, 2009; Schunk & Pajares, 2005; Wang & Holcombe, 2010). Essentially, students who exhibited higher levels of student engagement also exhibited higher levels of academic achievement. However, not all types of engagement are equal contributors to overall academic achievement. The context in which the engagement is found must be considered. Fung, Tan, and Chen (2018) found that it was more important for students to be cognitively than affectively or behaviorally engaged in regard to mathematics achievement. Ladd and Dinella (2009) found that students who exhibited a combination of higher behavioral and affective engagement across the primary grades exhibited higher academic achievement than those who displayed lower levels of behavioral and affective engagement. This was a longitudinal study that tracked students' progress from kindergarten through eighth grade. In the current study, the principal investigator conducted a cross-sectional study with music students enrolled in what some may define as an extra-curricular class.

For the purpose of discussion, an extra-curricular class can be defined as an optional class that is not required as part of the school's overall curriculum. A music ensemble class certainly falls within this definition, and as a result, students who elect to take a music ensemble class do so for reasons outside of curricular obligation. Many students enrolled in a music ensemble class find enjoyment in the musical performance aspect, enjoy the relatedness of interacting with other peers, and have some level of intrinsic and/or extrinsic motivation that keeps them enrolled in the

class for their tenure in secondary education. Some schools may require a particular GPA in order for involvement in an extra-curricular class to continue. Students' involvement in a music ensemble may therefore be extrinsically motivated by GPA. That is, students must maintain a certain GPA to perform and/or remain enrolled in a music ensemble.

In the current study, student engagement in music was not found to be a significant factor in predicting academic achievement. The mean self-reported academic achievement was very similar across students in good-, excellent-, and superior-rated ensembles (3.47, 3.52, and 3.46, respectively). Although other researchers have presented evidence of higher student engagement correlating to higher academic achievement (e.g., Ladd & Dinella, 2009; Schunk & Pajares, 2005; Wang & Holcombe, 2010), the findings in the current study suggests that all students performed academically well irrespective of their reported student engagement in band. However, one should be careful not infer any type of causality between music participation and academic achievement. Although there is an abundance of research linking music and academic achievement, one must consider the results of that research cautiously (Demorest & Morrison, 2000). Moreover, one must also consider that students with higher academic achievement are the ones who enroll in music programs.

The results of the current study indicated that higher levels of student engagement were associated with higher ensemble performance ratings to some extent. This association was most salient for students enrolled in lower rated ensembles. It is possible that band directors of lower rated ensembles (i.e., good-, fair-, and poor-rated ensembles) who focus their efforts on improving their students' behavioral, affective, and cognitive engagement may see improved musical performance manifested in higher ensemble ratings. Focusing those efforts specifically on affective engagement may help the overall effectiveness of the music performance. A more

thorough understanding of how and why improved student engagement is associated with improved ensemble rating is warranted. Using Deci and Ryan's (2000) theory of self-determination provides a lens to better understand the association between student engagement and overall better task achievement.

Student engagement and motivation may be two sides of the same coin. According to Ryan and Deci (2000),

To be motivated means to be moved to do something. A person who feels no impetus or inspiration to act is thus characterized as unmotivated, whereas someone who is energized toward an end is considered motivated. (p. 54)

Saeed and Zyngier (2012) went on to state that student motivation in the classroom refers to "the degree to which a student puts effort into and focus on learning in order to achieve successful outcomes" (p. 253). Most contemporary researchers have agreed that student engagement is a metaconstruct encompassing multiple dimensions of involvement in school or commitment to learning (Appleton, Christenson, & Furlong, 2008; Fredricks *et al.*, 2004; Jimerson, Campos, & Greif, 2003; Wang, Willet, & Eccles, 2011). Both motivation and student engagement involve effort and commitment with an ostensible outcome. Therefore, it would be appropriate to interpret student engagement via Deci and Ryan's (2000) self-determination theory (SDT).

SDT posits that understanding human motivation requires a consideration of innate psychological needs for competence, autonomy, and relatedness. An individual is therefore more motivated to participate in an activity when they have the appropriate skills (competence), have a sense of volition (autonomy), and feel connected with others (relatedness). Band students who are members of a good-rated ensemble collectively lack the requisite musical skills needed in order to perform at a level deemed appropriate for an excellent or superior rating. In other words,

they lack the competence to achieve a higher musical performance outcome. Students may associate this lack of competence to a lack of proper instruction from their teacher. As a result, a diminished sense of relatedness (i.e., lower levels of positive teacher-student interaction) may be manifested. Students, whose innate psychological needs of competence and relatedness are thwarted, may not feel motivated to work toward a particular goal.

The factors involved in student engagement and motivation can affect each other in a cyclical nature. Students who lack the competence to perform at a requisite level may end up performing at a subpar level (e.g., rating of good, fair, or poor). As a result, they may exhibit lower levels of affective engagement. This in turn may lower their level of motivation to continue their work within a music rehearsal setting, which may then lower their overall level of behavioral and/or cognitive engagement. The more disengaged students are, the less likely they are to learn and acquire skills necessary to succeed, which leads to under-achievement (i.e., lower performance); and the cycle continues.

Implications

A band director should consider teaching skills in an effective way to increase student competence and to do so in an environment that fosters positive student-teacher and student-student interactions (relatedness). Students will then be more motivated to work towards their goals, which increases their overall student engagement in the classroom. The results from the current study suggested that student affect may be a contributing factor to consider in predicting better overall musical performance outcomes. Students who possess competent skills are able to successfully complete tasks, which in turn may increase their overall positive affect. It is important for band directors to also ensure that skills students possess are in balance with the

student's perceived challenge of the task (Shernoff *et al.*, 2003). Without this balance, students may simply give up entirely on the given task.

Student engagement may be an important factor for band directors to consider when reflecting on overall musical performance outcomes. A student's effortful participation, their overall compliance, and their self-regulatory/meta-cognitive strategies are all factors researchers have suggested may improve overall performance. In regard to better overall musical performance outcomes, affective engagement may be a particular area of interest containing the most influence.

Limitations and Delimitations

The sample of the present study included performance-based music classes from the State of Florida. External validity was limited due to the relatively homogeneous sample. Caution must be taken when generalizing the findings of this study. Furthermore, it is important to note the demographic characteristics at the student, classroom, and school level when attempting to make any generalizations.

Another limitation of this study was the dependent measures. Academic achievement was measured using student self-reported grade point average (GPA). Although it is a widely used measure of academic achievement, GPAs are not as objective as standardized tests. GPAs are also a direct result of teacher-generated grades. Wide variations are inevitable on how teachers assign grades across classrooms and schools.

Student self-report instruments were the primary source of data. Although students were asked to respond to the self-report as honestly as possible, there may have been instances when students attempted to mark the perceived correct answer, or "faking" good (Meehl & Hathaway, 1946). Students may have been susceptible to "unconscious self-deception and role-playing on

the part of individuals who may be consciously quite honest and sincere in their responses.” (Meehl & Hathaway, 1946, p. 525).

The current study was a cross-sectional study. One restriction to that design is not having the ability to track the progress and trends of student engagement over a longer period of time (i.e., longitudinal study design). This may have provided a better sense of how engagement was related to ensembles which consistently rated on the lower end of the musical scale, versus ensembles who have slowly improved their musical performance rating over time. The overall sample size was proportional to the number of lower rated ensembles found across the State of Florida, but these results only represented one county in one state in the United States. Caution must be taken when considering the overall generalizability of the results. A larger and varied sample from more states would have increased generalizability to many ensembles across the United States. A larger and more varied sample from across the United States would be required for generalizability outside the State of Florida.

Suggestions for Further Research

Band directors review written and orally recorded adjudicator feedback after performing at a music performance assessment. This feedback provides constructive criticism and suggestions for future musical growth and improvement. In the case of an ensemble that received an excellent rating, the band director may be interested in determining what specific musical concerns they need to address in order to cross the musical threshold that demarcates an excellent-rated ensemble from a superior-rated ensemble. Perhaps a closer examination of their student’s level of engagement in their music rehearsal would be in order. Although the results of the current study suggested that students in excellent- and superior-rated ensembles were merely marginally different in regard to their student engagement, there may be other variables not

studied that account for the difference between excellent- and superior-rated ensembles. For example, the interaction between the band director and their students may have accounted for some of the variability in the student's overall affective engagement, which was found to be the strongest contributor in predicting ensemble performance ratings.

Researchers may also want to consider student engagement in the high school music rehearsal from the perspective of flow theory (Shernoff *et al.*, 2003). That is, how students view the balance between their perceived challenge of a rehearsal task and their own skills; student's perception of instructional relevance; and how much control the students have over the learning environment. Another area of interest may be what Fung (2018) describes as the balance across musical zones (i.e., musical proactivity, musical passivity, and musical avoidance). That is, there may be a lack of music making (i.e., avoidance), making music only when it is time to do so (i.e., passivity), and actively seeking out opportunities to make music (i.e., proactivity) A student's perceived or observed musical proactivity, passivity, and avoidance may provide another lens to better understand their overall engagement in music.

Further examination of the music performance assessment evaluation process is also warranted. The current process assigns a performance rating based on a musical "snapshot". That is, music adjudicators assign a rating after only hearing the band one time. Band directors prepare their students to perform three musical selections for a panel of three music adjudicators. Band directors typically spend anywhere from two to four months preparing the music. They then perform their musical selections for a group of music adjudicators who assign the group an overall rating based on that single performance. Although groups spend multiple weeks preparing for their assessment, their assigned rating does not account for the progress they have made during their preparation. It is possible that students made tremendous musical growth from

the time they started preparations to the time they perform for their assessment. Perhaps assessing music progress over time, as opposed to assessing a one-time musical “snapshot”, would provide a more valid musical assessment. This could also result in a different relation between student engagement and ensemble performance ratings. Further research into alternative assessment of ensemble performance ratings is warranted.

It is important to continue looking for other variables that may alter the strength of the overall association between student engagement and music performance outcomes, such as parent involvement; involvement in different types of ensembles (e.g., orchestra, choir, small ensembles, etc.); quality of teacher-student/student-student relationships; socioeconomic status. Continued research into how student engagement in a music rehearsal setting may improve overall music performance is warranted.

Conclusion

Although ensemble performance ratings were used to group the various ensembles, it was not the researcher’s intention to equate overall ensemble performance rating with overall success. There are many unforeseen variables that may have accounted for an ensemble’s rating. Student engagement was just one factor that was considered for the current study. Although lower levels of engagement were associated with lower ratings, it would not be prudent to assume lower ratings or student engagement equate to lower success. The definition of success is beyond the scope of this study. Finally, it is important to note that results of this study are correlational in nature and do not infer causality.

Music educators work hard to acquire the musical knowledge and skills necessary to becoming competent and effective educators. Student engagement may be a non-musical concept that music educators may use to improve musical outcomes. The current study used the

Classroom Engagement Inventory in Music to ascertain student engagement levels in a high school band setting. Furthermore, it was a relatively short and easy inventory to administer. This inventory, with some refinement, may provide music educators with important feedback and suggestions on increasing overall student engagement, which may therefore lead to improved musical performance outcomes. Some of these refinements may include the addition of inventory items that address the concept of flow (Shernoff *et al.*, 2003) in the music rehearsal, student's perceived positive or negative interactions with their peers and teachers, and the degree to which parents are involved in the student's musical growth. This study opens the door to other non-musical domains used for the ultimate goal of improving music-specific outcomes. It may also be a line of research that may shed light on the concept of what it means to be a successful high school band director. It is the researcher's hope that future research on music performance outcomes will focus more on malleable, longitudinal, and learnable non-musical traits that have a direct and significant impact on music-specific outcomes.

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APPENDIX A:

**MUSIC PERFORMANCE ASSESSMENT RATINGS: AVERAGE OF THREE
PERFORMANCE RATINGS OF PREPARED MUSICAL SELECTIONS IN EVERY
POSSIBLE COMBINATION**

Superior	Excellent	Good	Fair	Poor
SSS	SEE	SGG	SFF	SPP
SSE	SEG	SGF	SFP	EPP
SSG	SEF	SGP	EFF	GPP
SSF	SEP	EGG	EFP	FPP
SSP	EEE	EGF	GFF	PPP
	EEG	EGP	GFP	
	EEF	GGG	FFF	
	EEP	GGF	FFP	
		GGP		

S = Superior, E = Excellent, G = Good, F = Fair, P = Poor

Music Performance Assessment Final Ratings: Prepared Musical Selections Rating and Sight-Reading Rating Combined

Superior		Excellent		Good		Fair		Poor	
Pr. Se.	S.R.	Pr. Se.	S.R.	Pr. Se.	S.R.	Pr. Se.	S.R.	Pr. Se.	S.R.
S	S	S	G	E	F	G	P	P	F
S	E	S	F	E	P	F	G	P	G
		S	P	G	E	F	F	P	P
		E	S	G	G	F	P		
		E	E	G	F	P	S		
		E	G	F	S	P	E		
		G	S	F	E	P	G		

Pr. Se. = Prepared Selections Rating, S.R. = Sight-Reading Rating, S = Superior, E = Excellent, G = Good, F = Fair, P = Poor

APPENDIX B:
IRB APPROVAL LETTER



RESEARCH INTEGRITY AND COMPLIANCE
Institutional Review Boards, FWA No. 00001669
12901 Bruce B. Downs Blvd., MDC035 • Tampa, FL 33612-4799
(813) 974-5638 • FAX(813)974-7091

4/27/2018

Joel Pagan
School of Music
17153 Heart of Palms Dr.
Tampa, FL 33647

RE: **Expedited Approval for Continuing Review**

IRB#: CR1_Pro00029675

Title: Behavioral, affective, and cognitive engagement of high school music students:
Relationship to engagement, academic achievement, and ensemble performance ratings.

Study Approval Period: 5/11/2018 to 5/11/2019

Dear Mr. Pagan:

On 4/25/2018, the Institutional Review Board (IRB) reviewed and **APPROVED** the above application and all documents contained within including those outlined below.

Approved Item(s):

Protocol Document(s):

[IRB Protocol Pagan Revised Clean V2 Oct 10 2017.docx](#)

[IRB Protocol Pagan Revised Tracked V2 Oct 10 2017.docx](#)

Consent/Assent Document(s)*:

[Assent to Participate in Research V2 Oct 10 2017 Clean.docx.pdf](#)

[Informed Consent Form Students 18 V2 Oct 10 2017 Clean.docx.pdf](#)

[Parental Permission for Children V2 Oct 10 2017 Clean.docx.pdf](#)

[Informed Consent Form Teacher V2 Oct 10 2017 Clean.docx.pdf](#)

*Please use only the official IRB stamped informed consent/assent document(s) found under the "Attachments" tab on the main study's workspace. Please note, these consent/assent document(s) are valid until they are amended and approved.

The IRB determined that your study qualified for expedited review based on federal expedited category number(s):

APPENDIX C:
CLASSROOM ENGAGEMENT RESEARCH PROCEDURES

Read the attached letter to all students first.

Procedure for Students 17 years old or younger

- Pass out **Parental Permission for Children to Participate in Research Involving Minimal Risk**
 - Students must return this form signed by a parent/guardian
 - Once the form is returned, move on to the next step
- Have *students* sign the **Assent of Children to Participate in Research**
 - Once the form is signed and collected, move on to the next step
- Students complete the **Classroom Engagement Inventory**

Procedure for Students 18 years old or older

- Pass out **Student Consent to Participate in Research Involving Minimal Risk**
 - Students 18 years old or older are consenting adults; parental permission is not required
 - Once the form is returned, move on to the next step
- Distribute the **Classroom Engagement Inventory** to every student who has turned in all required consent forms
- Distribute pencils if needed
- Have the students read the CEI-M instructions silently to themselves as you read them aloud.

-
- Please return ALL items, including unused forms
 - Questions? Call or email: 772.321.0738, paganjoel@me.com, joel.pagan@ttu.edu



Hello,

My name is Joel Pagán and I am a doctoral candidate in music education at the University of South Florida. I am working on my dissertation and I need your help. I am asking you to participate in a study titled **Student Engagement and Music (Pro # 00029675)** that focuses on the classroom engagement of high school concert band and orchestra students. Researchers have already established that more engaged students display higher levels of academic achievement and lower dropout rates. The purpose of my study is to explore the relationship between student engagement, academic achievement, and the ensemble ratings received at your district music performance assessment. You and your students are being asked to participate in this study because you performed at this year's District Concert Music Performance Assessment.

If you decide to participate, your students will provide some written general information about themselves, which includes information regarding music lessons, GPA, current grade level, age, gender, ethnicity, and primary musical instrument. They will also complete a 24-item inventory that will measure their individual classroom engagement in your instrumental ensemble class.

The decision to participate is voluntary and entirely up to you and your students. Here are some things your students need to know: (a) participation will not impact their grade, (b) they will answer the inventory anonymously (no one will know who they are), (c) I am the only person who will have access to the inventory responses, (d) no one will receive any

compensation for their participation, and (e) I will obtain approvals from my university, your school, your students' parents, and you, before the study begins.

Once I have your approval to conduct my study in your classroom, I will require written approval from your students' parents. I will provide permission forms that will explain my study in detail. Only students with signed permission forms will be allowed to participate in the study.

I look forward to the input you and your students can provide. This important contribution will benefit music education at the secondary level by providing music educators with pedagogical best practices. Please do not hesitate to contact me if you have any questions.

Thank you!

Joel Pagán

Doctoral Candidate

University of South Florida

paganj@mail.usf.edu

772-321-0738

APPENDIX D:

CLASSROOM ENGAGEMENT INVENTORY REVISED AND FINAL

Classroom Engagement Inventory - Revised

Choose the response that best fits your opinion in THIS class. Some questions will seem the same, but they are asked in a little different way to make sure we really understand your opinion.

IN THIS CLASS

1. I work with other students and we learn from each other.
2. I feel excited.
3. I feel interested.
4. I form new questions in my mind as I join in class activities.
5. I actively participate in class discussions.
6. I listen very carefully.
7. I go back over things I don't understand.
8. I think deeply when I ~~take quizzes~~ **participate** in ~~this class~~ **class activities**.
9. I am "zoned out", not really thinking or doing class work.
10. I feel happy.
11. I pay attention to the things I am supposed to remember.
12. I let my mind wander.
13. I judge the quality of my ideas or work during class activities.
14. I do not want to stop working at the end of class.
15. I feel proud.
16. I search for information from different places and think about how to put it together.
17. I ask myself some questions as I go along to make sure the work makes sense to me.
18. I get really involved in class activities.
19. I ~~complete~~ **fulfill** my assignments **in-class responsibilities (practice at home, prepared to play my part in class, etc.)**.
20. I feel amused (smile, laugh, have fun).
21. I just pretend like I'm working.
22. I try to figure out the hard parts on my own.
23. If I make a mistake, I try to figure out where I went wrong.
24. If I'm not sure about things, I check **with others** ~~my book~~ or use materials like **fingering** charts.

Classroom Engagement Inventory in Music - Final

Choose the response that best fits your opinion in THIS class. Some questions will seem the same, but they are asked in a little different way to make sure we really understand your opinion. Completely and carefully fill in each bubble.

How often do you do the following in THIS class that you are in right now?

In THIS class,	Never	Hardly ever	Monthly	Weekly	Each day of class
1. I work with other students and we learn from each other.	①	②	③	④	⑤
2. I feel excited.	①	②	③	④	⑤
3. I feel interested.	①	②	③	④	⑤
4. I form new questions in my mind.	①	②	③	④	⑤
5. I actively participate in rehearsals.	①	②	③	④	⑤
6. I listen carefully.	①	②	③	④	⑤
7. I go back over things I don't understand.	①	②	③	④	⑤
8. I think deeply when I take playing tests and/or quizzes.	①	②	③	④	⑤
9. I am "zoned out", not really thinking or doing class work.	①	②	③	④	⑤
10. I feel happy.	①	②	③	④	⑤
11. I pay attention to the things I am supposed to remember.	①	②	③	④	⑤
12. I let my mind wander.	①	②	③	④	⑤
13. I judge the quality of my ideas or work during class activities.	①	②	③	④	⑤
14. I do not want to stop working at the end of class.	①	②	③	④	⑤
15. I feel proud.	①	②	③	④	⑤
16. I search for information from different places and think about how to put it together.	①	②	③	④	⑤
17. I ask myself some questions as I go along to make sure the work makes sense to me.	①	②	③	④	⑤

18. I get really involved in class activities.	①	②	③	④	⑤
In THIS class,	Never	Hardly ever	Monthly	Weekly	Each day of class
19. I complete my assignments (i.e., practicing at home, preparing my part).	①	②	③	④	⑤
20. I feel amused (smile, laugh, have fun).	①	②	③	④	⑤
21. I just pretend like I'm working.	①	②	③	④	⑤
22. I try to figure out the hard parts on my own.	①	②	③	④	⑤
23. If I make a mistake, I try to figure out where I went wrong.	①	②	③	④	⑤
24. If I'm not sure about things, I check my book or other materials like charts.	①	②	③	④	⑤

Student Demographic Information

1. Do you take private lessons? Yes No

2. How long have you taken lessons?

Circle one: 0 years < 1 year 1-2 years 2+ years

3. What is your approximate un-weighted grade point average (GPA)? _____

4. What is your current class standing?

Circle one: Freshman Sophomore Junior Senior

5. What is your primary instrument? _____

6. If you play any secondary instruments, list them below.

7. In which grade did you enroll in band/orchestra class? _____

8. Circle one: Male Female

9. Ethnicity (circle one): Caucasian African American Hispanic/Latino

Asian Pacific Islander Other

10. How old are you? _____