

EFFECTS OF ENGAGING IN AN INFORMAL LEARNING PROJECT
USING POPULAR MUSIC ON UNDERGRADUATE EDUCATION MAJORS' MUSIC SELF-
CONCEPTS

by

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EFFECTS OF INFORMAL LEARNING ON MUSIC SELF-CONCEPT

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Abstract

The purpose of this study was to examine how engaging in an Informal Learning Project (ILP) using popular music impacted undergraduate general education students' music self-concepts. The secondary purposes of this study were: (1) to examine the relationship between undergraduate general education students' music self-concept and attitudes toward music in the classroom and (2) to examine relationships among undergraduate general education students' extent of prior experience in music, their attitudes toward the ILP, and their self-assessment of achievement on the ILP. General education majors enrolled in a fundamentals of music course ($N = 71$) were assigned to either the control group (formal, "traditional notation-based" curriculum only) or treatment group (the same curriculum, but with the ILP replacing one "traditional notation-based" assignment toward the end of the course). At the conclusion of the ILP, the treatment group had significantly higher music self-concept scores ($p = 0.005$) when compared with the control group, and there were moderate positive correlations between the students' music self-concepts and their attitudes toward music in the classroom ($r = 0.61$). Considering that students' varying levels of prior musical experience did not have an impact on either their attitudes toward the ILP or their self-assessment of achievement in the ILP, it is likely that informal learning naturally differentiates and allows students of widely varying musical backgrounds to feel authentically successful. Therefore, I would recommend that those teaching fundamentals of music courses include at least some informal learning opportunities as they may help students further develop both their music self-concepts and their positive attitudes toward using music in their future classrooms.

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Chapter 1: Statement of the Problem

The debate surrounding inclusion of popular music in the curriculum has been ongoing for over a century. In 1920, the editorial comment section of the *Music Supervisors' Journal* included suggestions from editor Peter W. Dykema of nine popular songs described as the “least trite and trashy” that would satisfy the “up-to-date craving” (p. 4). In a 1940 issue of *Music Educators' Journal*, Van Cleave summarized numerous weaknesses of popular music, most notably that it should be considered inferior to Western art music due to its simplicity, but also went on to justify its use in the curriculum by suggesting that it could give students a relaxing break from the demands of “serious music” (p. 22). Both Van Cleave (1940) and Graham (1955) also advocated for the inclusion of popular music as a way of reaching compromise with students, believing that if teachers met students halfway in regards to song material, students would do the same. Groff (1950) suggested that because musical concepts can be taught through popular music, an extra-curricular designated popular music ensemble that required participation in another (more traditional) school ensemble could benefit both students and the music program.

Technological advancements (such as the prevalence of television in the home, the affordability of the 45 rpm vinyl single, and the portability of the transistor radio) as well as a booming post-war economy contributed to the young Baby Boomer generation’s unprecedented engagement with popular culture throughout the 1960s and 1970s. As popular music was now ubiquitous, those involved in the 1967 Music Educators National Convention Tanglewood Symposium directed music educators to incorporate a variety of musical styles in their teaching, including “music of [the] time” and “popular teenage music” (p. 139). Nevertheless, the debate regarding the curricular values and appropriateness of popular music continued. In a 1979 issue

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of *Music Educators Journal*, contributing authors Carla Lee Strandberg, Terry W. Blalock, Gary Evans, Patricia Lewis, Iris Scarborough, Lillian D. Perkins, Janet N. Kulusich, and Mary Ellen Clark responded to the question: “Does popular music have educational value?” Seven of the eight authors expressed views favoring the inclusion of popular music in the classroom, primarily for the purposes of enhancing student engagement and strengthening understanding of musical concepts through the use of music that is “real to the child” (p. 65). However, one author, Terry W. Blalock, countered with concern that rock music in particular was inappropriate for use in the classroom because of its common references to sex, drugs, and violence.

Despite the occasionally voiced opposition, from the 1980s on, more practitioner articles dealt with *how* to incorporate popular music than *whether or not* to include it. O’Brien’s (1982) article, “A Plea for Pop,” insisted that popular music could serve as bridge for developing students’ appreciation of classical masterworks. He also noted that teaching popular music should be approached differently than teaching Western art music, though he did not go on to specify exactly how this should be accomplished. Though deVries (2004) detailed some specific strategies for using popular music in the classroom, the majority of them also had to do with how to make a connection from a popular song to a classical piece of music. Woody (2007) referred to this common “bait and switch” tactic, in which teachers use popular music only as a hook but keep the focus on classical or traditional school music, as “perhaps the most disappointing” (p. 32) approach to using popular music in the classroom. Woody instead advocated for popular music study to go beyond analysis and appreciation and toward active music making in ways that are authentic to the genre. However, his article stopped short of providing specific advice on how to facilitate these authentic popular music making experiences.

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Allsup (2011) described several unique strategies for the incorporation of learning to play popular music in the classroom. Allsup noted that there is a difference between simply using popular music in the classroom and “educating through and with popular music” (p. 34), and many of his suggestions for teaching popular music drew from the work of Lucy Green and the Musical Futures project. Green’s (2008b) book *Music, Informal Learning and the School* gave a detailed description of the Musical Futures project, which sought to incorporate informal learning strategies with popular music. Though an approach rooted in informal learning can be used with any style or genre of music, it is particularly appropriate for use with popular music because it is derived from the ways in which popular musicians themselves learn and create (Green, 2006; Green, 2008b). Green’s five key characteristics of the ways popular musicians learn are (1) learning in friendship groups chosen by the musicians, (2) learning music chosen and enjoyed by the musicians, (3) learning primarily by ear from recordings, (4) engaging in holistic, haphazard learning, and (5) listening, performing, composing, and improvising are integrated throughout the learning process.

Both Green (2008b) and Tobias (2014) found that by allowing students to be autonomous over the selection of repertoire for an informal learning project, students took more ownership of their learning and were more self-motivated. Further, not only did students enjoy working more closely with music aligned with their personal tastes, but through this experience, they also tended to experience growth in the area of music self-concept development as well. For example, Tobias (2014) found that students who engaged in an informal learning project regarded themselves as musicians regardless of whether or not they had extensive skills or formal training on the instruments played. Green (2008b) found that students involved in the Musical Futures

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project also came to regard themselves as able to play certain instruments, even if their skills were rudimentary at best.

In much of Green's work, both in the Musical Futures project (Green, 2008b; Green, 2008a; Varvarigou & Green, 2015) and the Ear Playing Project (Baker & Green, 2013), students and teachers involved in informal learning projects indicated high levels of satisfaction with and motivation for the assignments regardless of students' level of experience. While Green's research was conducted with secondary students, Davis (2013) found that elementary students engaged in informal learning in much the same way and also had high levels of enjoyment and motivation for the project. This suggests that it may be possible for learners of widely varying ability levels and ages, such as undergraduate education majors enrolled in a fundamentals of music class, to enjoy and find motivation through an informal learning project.

Beyond enjoyment, Green (2008a) found that nearly all students were also successful in growing as musicians through the informal learning project because the flexibility of the project allowed for a wide variety of outcomes considered positive on both the part of the student and the teacher. Gauthier and McCrary (1999) found that forming positive attitudes toward music in the classroom is a main purpose of the fundamentals of music course. It is possible that incorporating a positive experience with a highly engaging informal learning project in the fundamentals of music class could not only positively impact the students' music self-concepts but also, thereby, lead them to develop more positive attitudes toward incorporating music in their future classrooms as well.

Problem Statement

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In recent decades, music educators have asked in-depth questions of *how* popular music should be incorporated in the curriculum and what specific benefits it could provide to students. Researchers (Davis, 2013; Green, 2008b; Tobias, 2014) have advocated for an informal approach to popular music education that is authentic to the roots of the music itself and examined the potential for these informal learning approaches. Though a number of studies examining the potential benefits of informal learning have been conducted with primary and secondary school students, no research exists concerning the potential effects of undergraduate elementary and early childhood education majors engaging with popular music in informal learning situations in the fundamentals of music class. Based on findings of Green (2008b) and Tobias (2014), it is possible that informal learning experiences may have a positive effect on pre-service general education teachers' music self-concepts. Further, it is likely that a positive musical self-concept is significantly related to future teachers' positive attitudes toward incorporating music in the general education classroom.

Purpose Statement

The purpose of this study is to examine the effect of engaging in an informal learning experience with popular music in the music fundamentals class on undergraduate elementary and early childhood education students' musical self-concepts. The secondary purposes of this study are: (1) to examine the relationship between students' musical self-concepts and the level of their intent to use music in future classroom settings and (2) to examine the relationships among students' extent of prior experience in music, attitudes toward the informal learning experience, and self-assessment of achievement in the informal learning experience.

Research Questions

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1. How does the experience of engaging in informal learning impact undergraduate general education students' music self-concepts?
2. Is there a relationship between undergraduate general education students' music self-concepts and their intent to use music in a future classroom setting?
3. Are there relationships among the extent of undergraduate general education students' prior musical experiences, their attitudes toward the informal learning experience, and their perceptions of personal achievement in the informal learning experience?

Definition of Terms

Popular music: Though difficult to define precisely due to its constant evolution, in this study popular music will be defined as music that is readily accessible to and enjoyed by many listeners, including those without formal musical training, rather than an educated elite (Hamm, Walster, Warwick, & Garrett, 2016).

Playing by ear: "Performance from memory of pre-existing music that was learned aurally without the aid of notation, without the visual stimulus of watching a live model, and without verbal hints such as being told the solfege" (Musco, 2012, p. 49).

Informal learning: In contrast to formal learning situations that are commonly found in schools around the world, informal learning is student-directed rather than teacher-directed. For the purposes of this study, informal learning will refer specifically to informal music learning, of which Lucy Green (2008) notes five main characteristics: (1) music is chosen by the performers based upon their personal tastes, (2) learning takes place by listening to and aurally copying recordings, (3) learning takes place in self-selected peer groups, (4) knowledge is often attained

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through holistic, unstructured ways, and (5) listening, performing, improvising, and composing are deeply integrated throughout the learning process.

Delimitations

The sample of this study will be limited to elementary and early childhood education majors enrolled in a fundamentals of music course at a large state university in the Midwestern United States.

Chapter 2: Review of Related Literature

This review of literature begins with an overview of the topic of popular music in music education curricula worldwide. The review then addresses playing by ear, a key component of informal learning that was incorporated in this study's informal learning project. Following this, various models for informal learning are examined. Finally, I describe connections between research relating to general education fundamentals of music courses and the potential benefits of engaging these students in an informal learning project.

Popular Music in the Classroom

Though some music educators have argued that students' preferences (particularly for popular music) should be reflected in the curriculum, debate has surrounded this issue among practitioners and researchers alike for decades, particularly in the United States (Isbell, 2007). Numerous studies indicate that popular music is the clear stylistic preference of young people from diverse populations (Isbell, 2007). Campbell and Herbert asserted "popular music may be among the most powerful discourses available to students as a means by which to construct personal identity" (as cited in Isbell, 2007, p. 54). Further, Isbell (2007) found that public school programs which focused solely on popular music, such as a guitar class and rock band program, benefitted students both socially and musically as many of the students reported they would not have engaged in any music classes otherwise. Davis (as cited in Isbell, 2007) also found that students constructed personal identities through engaging in a popular rock band rehearsal. Because the research base specifically attempting to compare popular music programs to more traditional programs is limited, it is not known whether one achieves certain educational objectives, such as development of more positive attitudes toward music education or a more

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positive music self-concept, in a more effective way. However, Isbell (2007) concluded that programs not offering alternatives to the traditional styles of classical music may miss the opportunity to engage many students.

Mantie (2013) examined Isbell's (2007) literature review as part of a sample of articles ($N = 81$) in a content analysis of scholarly publications pertaining to Popular Music Pedagogy (PMP) in the United States and abroad. Mantie's purpose was to develop a better understanding of the music education practices related to PMP and was particularly concerned with exploring perceived differences between American articles related to PMP and those published in other countries (mainly Australia, the UK, and Scandinavia). As Mantie pointed out, Isbell's literature review, though perhaps written for a specifically American audience, did not acknowledge that there are different approaches to teaching popular music in other countries.

Mantie's (2013) content analysis sought to discover what topics related to PMP concerned international authors and determine if there were any observable differences in these topics based on nationality. Employing computer-assisted analysis of specific words and phrases, Mantie examined articles for similarities and differences among both author nationalities and publishing journal nationalities. In order to find a sample of articles representative of specific nationalities, Mantie searched premiere American, Australian, and British journals as well as the *International Journal of Music Education* for articles including keywords related to PMP. In the initial analysis of the articles, Mantie found certain phrases unique to each country represented in the study, indicating that there are notable differences in these discourses related to popular music pedagogy.

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Adopting a sociolinguistic conceptual framework acknowledging that words' meanings are tied to the cultures in which they are used, Mantie (2013) also analyzed the phrases based on the cultural contexts from which they came. Most notably, while American authors tended to be most concerned with issues of quality, both of musical content and teacher preparation, non-American authors were more generally concerned with what experiences could result in meaningful learning. Specifically, the non-American authors tended to regard the quality of the learning as dependent upon the educational experience created, acknowledging the important role of the student in this process, and not an absolute quality of the content (musical repertoire) or teacher. In short, while American authors are still clearly debating the value and legitimacy of popular music in the curriculum, popular music seems to hold an accepted and respected place within many international conversations where the focus is more on *how* to study popular music than *whether or not* to study popular music.

It is important to bear in mind Mantie's (2013) findings when considering a British author's work, such as Green's (2006), as implications for study. While it may be tempting to regard Green's work as support for the mere inclusion of popular music in the American curriculum, Mantie advises that teachers consider the context of PMP in the UK, where the legitimacy of the inclusion of popular music in the curriculum is widely accepted. In a theoretical analysis of qualitative data gathered in the then ongoing Musical Futures project, Green (2006) cautioned against teaching popular music with traditional pedagogical techniques. Instead, Green advocated for incorporating pedagogical techniques that reflect the informal ways in which popular music is conceived. Green argued that the time-honored practice of applying analysis tools of Western art music to popular music (e.g., Graham, 1955) is a practice that is inauthentic

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to the popular music itself and creates conflicts with the musical meanings for students involved. The broad purpose of the Musical Futures project, from which the data for this theoretical analysis came, was to explore problems and possibilities of engaging public school music students in informal learning practices—both with popular and classical music. The data were pulled from Year 9 classes (age 13-14) in eight of the 21 UK schools involved in the project. The research was conducted in stages with each stage focused on incorporating specific characteristics of informal popular music learning.

Through analysis of qualitative data from the project, Green (2006) identified two types of musical meaning—inherent meaning and delineated meaning. *Inherent musical meaning* is “the ways in which the materials that are inherent in music—sounds and silences—are patterned in relation to each other” (p. 102). Essentially, inherent meanings are the musical materials themselves, raw and without context (social or otherwise). Additionally, as Green described, we experience *delineated musical meanings*, or “the extra-musical concepts or connotations that music carries, that is, its social, cultural, religious, political, or other such associations” (p. 102). These delineated musical meanings could be a collective, conventional sense of a musical meaning, such as that of a national anthem, or they could be highly individualized, such as a song being tied to a personal memory. Green argued that both inherent and delineated meanings are present in all musical experiences, and we also form reactions to these meanings. Green acknowledged that students often have negative reactions to both the inherent and delineated meanings of classical music, often associating it with “old people” (p. 113) and describing it as “boring” (p. 112).

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In the first stage of the Musical Futures project, by having students self-select songs to learn, Green (2006) attempted to ensure the repertoire had inherently positive delineated meanings for the students. Green did not apply traditional, formal pedagogy to this music, which might have led to a negative reaction to the inherent meaning of the music. Instead, Green had students learn to copy the songs by ear in self-selected peer groups, following the informal learning practices of popular musicians. Green found that this experience allowed students to develop deep positive reactions to the inherent meanings of their preferred music. Some of the strongest positive responses to this stage of the project were in regards to motivation, enjoyment, and relevance. As one student said, “This is more like the sort of thing you’re going to need when you’re older – like how to play an instrument rather than just how to read notes and stuff” (p. 109), indicating value placed on informal skills rather than formal ones.

In a later stage of the Musical Futures project, Green (2006) sought to examine whether or not it was possible for students to develop new, more positive delineated meanings for classical music. Green attempted to do this by transferring the informal learning style of copying recordings by ear to classical music. In this stage, students were given recordings of well-known (e.g., from television commercials) and more obscure classical pieces and asked to select a piece to copy by ear. Though students’ initial reactions to the classical music were not as positive as they were to the popular music, some did indicate that they had a deeper appreciation of or stronger preference for classical music after the project. This finding suggests that it may indeed be possible to applying informal learning techniques in ways that will allow students to overcome prior negative reactions to delineated meanings of music (classical or otherwise) by positively engaging with the music’s inherent meanings.

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Tobias (2014) also found that engaging with different styles and genres of popular music in an informal learning project allowed students to broaden their musical tastes. In the intrinsic single case study of a four-week long creative final project in a high school Songwriting and Technology Class (STC), Tobias examined six embedded cases (three individuals working alone and three groups of two to three students collaborating) for the purpose of determining the ways students' engagement in the class project intersected and connected with their musical engagement outside of school. Qualitative data were collected during the month-long project through video recordings, computer screencasts, interviews, field notes, and video-based shared reflections. As data were collected, an analytical process involving narration and organization, transcription, significant event selection, coding, code verification, and interpretation and theorization was employed iteratively and recursively. Additionally, three theoretical lenses were used to triangulate and analyze the data—a monological lens, subjective lens, and dialogical lens. The use of many data sources, multi-layered iterative analysis, and varied analytical theories led to a rich description of the project and served as triangulation measures to ensure trustworthiness.

Tobias' (2014) results indicated that students' ability to select the style or genre of music with which they preferred to work as well as the flexibility allowed for by the informal process of the project resulted in numerous intersections and overlaps between the students' musical experience within school and outside of school. Because the project was so closely connected to students' musical life outside the formal environment of school, it took on unique significance to the participants. Though most of the participants had experience in formal music ensembles through schooling, few saw a relationship between those formal experiences and their work in

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the STC project. Instead, the main influence on the STC project was popular music listened to outside of school. Results also indicated that the project allowed students to engage with this familiar music in new ways, including more detailed listening practices. Because the students came to the project with a wide variety of popular music preferences, they became more familiar with each other's tastes, and many indicated they had developed a willingness to give new and unfamiliar music a chance as a result of experience in the project. In this way, the STC project provided students with an opportunity to not only expand their own tastes but also their knowledge base regarding different styles of music.

The informal nature of this project along with autonomy in selection of musical styles allowed students the flexibility necessary to engage with music in ways they felt were relevant to their lives and themselves as musicians. Indeed, regardless of any lacking in formal education, most participants in the study did consider themselves musicians. Tobias (2014) advises music educators to consider the possibilities of designing curricular activities, projects, and classes that will allow students' musical lives outside the classroom to come in direct contact or interact with their musical lives within the classroom. It is important to note that some participants indicated they would not be participating in any music classes if it weren't for the STC. In this way, Tobias' findings lend support to Isbell's (2007) recommendation that informal learning with popular music could engage otherwise unreachable students in music education. Before examining more specific experiences of informal learning with popular music in the schools, I will look at a key component of the informal learning process: playing by ear.

Playing by Ear

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As defined by Musco (2010), playing by ear is: “Performance from memory of pre-existing music that was learned aurally without the aid of notation, without the visual stimulus of watching a live model, and without verbal hints such as being told the solfege” (p. 49). This is different from mere rote teaching in that rote teaching often involves verbal or visual hints, such as hearing solfege syllables, seeing hand signs, watching fingerings, or simultaneously viewing notation. In his review of literature, and despite empirical evidence of the benefits of ear-playing, Musco noted five common issues related to why teachers often do not teach students to play by ear: (1) The emphasis on literacy is directed primarily at the reading of traditional notation, (2) concerns about students who learn to play by ear never learning to also read notation, (3) traditions, (4) teachers’ own self-doubt about personal playing by ear abilities, and (5) lack of sufficient pedagogical knowledge for how to teach playing by ear.

Musco (2010) found that much experimental research involving playing by ear incorporated verbal or visual hints, thereby confounding the results and not pointing clearly to the effects of playing by ear alone. However, Musco found ample evidence to support a correlation between the ability to play by ear and the ability to sight-read. First, Luce’s (1965, as cited in Musco, 2010) study of high school instrumental students found a significant positive correlation ($r = .50$) between sight-reading and playing by ear. Influenced by the implications of Luce’s findings, McPherson (1993, as cited in Musco, 2010) tested a model based on the assumption that ability to sight-read is influenced by the ability to play by ear. McPherson’s results supported Luce’s findings; playing by ear had a direct effect of .40 on sight-reading, which was the largest direct effect on sight-reading of all variables tested. Interestingly, McPherson (1993, as cited in Musco, 2010) and Bernhard (2004, as cited in Musco, 2010) both

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found the same significant positive correlation ($r = .67$) between abilities to play by ear and sight-read.

Luce (1965, as cited in Musco, 2010) and McPherson (1995; 2005, as cited in Musco, 2010) also found that amount of musical experience may be related to the ability to play by ear. Luce found that students who had more experience in school ensembles and private lessons scored higher on playing by ear tests than those with less experience in ensembles and private lessons. McPherson's (1995) study of Australian band students in grades 7-12 ($N = 101$) found that older, more musically experienced students scored significantly higher on playing by ear than younger, less musically experienced students. However, it should be noted the older students also reported spending more time playing by ear, presumably outside of school since their band rehearsals did not include playing by ear. McPherson (2005, as cited in Musco, 2010) found that young instrumentalists' abilities to play by ear may improve over time without in-school instruction. However, contradicting Luce and McPherson's results, Delzell, Rohwer, and Ballard (1999) found no significant differences between 7th ($n = 25$) and 10th ($n = 22$) grade American band students in terms of playing by ear abilities.

Delzell, Rohwer, and Ballard (1999) did, however, find significant results regarding other aspects of playing by ear tasks. On a researcher-designed test, the Measurement of the Ability to Play by Ear (MAPE), students ($N = 47$) were given starting pitches by name and notation and then asked to echo four-beat melodic patterns on their instruments. Reliability of the measurement was strong ($r = .98$), and later inter-judge reliability was 97%. Students were also given the Gordon Musical Aptitude Profile (MAP) test. A researcher-designed Melodic Pattern Perception Test (MPPT) demonstrated that the 7th grade participants in the study could

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definitively discriminate between same and different melodic patterns by listening. However, scores on the MAPE had significantly more variability, leading researchers to conclude that ability to discriminate between melodic patterns is necessary for successful playing by ear but is not the only factor contributing to playing by ear abilities.

Most notably, Delzell, Rohwer, and Ballard (1999) found that students were more successful in playing ascending patterns and patterns in major tonality by ear. Students also had more success in shifting the final pitch of a pattern than shifting any pitch in the middle of the pattern when playing by ear. Students tended to be more successful in playing intervals of a fifth or more by ear when they first played step-wise patterns that began and ended on the notes of the interval. Finally, the researchers found a moderate correlation ($r = .72$) between Gordon MAP scores and scores on the MAPE for 7th grade students only; 10th grade students in the study were not given the Gordon MAP. Though this study did not show significant differences between the playing by ear abilities of 7th and 10th grade instrumental students, the researchers did note that playing by ear activities were not a part of instruction in the curriculum the participants had experienced in school.

Therefore, Delzell, Rohwer, and Ballard (1999) concluded that increased instruction in or opportunities for playing by ear could have a positive effect on abilities to play by ear successfully. In this way, McPherson's (1995) findings do not seem quite as contradictory since the older participants indicated they spent more time playing by ear, although it was likely outside of their ensembles or classes. Participants in McPherson's (2005, as cited in Musco, 2010) longitudinal study showed significant improvements in abilities in playing by ear over three years despite not receiving in-school instruction in playing by ear. However, it was not

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reported if these students engaged in playing by ear outside of school instruction. Regardless of potentially conflicting evidence related to maturation and the ability to play by ear, it is not unreasonable to conclude that incorporating playing by ear tasks in the curriculum would help students develop those abilities.

In the Ear Playing Project (EPP), Green (Green, 2012; Varvarigou & Green, 2015) sought to provide students with opportunities to play by ear in one-on-one instrumental lesson settings. Varvarigou and Green (2015) analyzed initial responses to an ear-playing task to determine the learning styles and strategies students employed. Teacher participants ($n = 15$) were selected based on expressed interest in the study, who then selected student participants ($n = 75$) who were not total beginners but comprised a wide range of ability levels. The majority (58%) of student participants were between 11 and 14 years old, though ages ranged from 7 to 58. All students were instrumentalists studying at least once per week with their teacher. For the first task in the project, students were played a recording of a pop-funk style riff followed by a recording of the bass line alone and asked to copy the recording by ear. For the purpose of determining students' learning styles, only audio recordings of students' initial responses to the task were analyzed.

Following a phenomenological approach, transcriptions of the audio recordings (including both verbal and musical responses from students and teachers) were made, followed by thematic analysis with the assistance of NVivo 9 software and iterative analysis. In the second phase of analysis, four judges had a 97% rate of agreement on categorizing the learning styles demonstrated in the excerpts, which is very high reliability. The majority of participants' first responses to the ear-playing task fell into the "shot in the dark" style (39%), followed by the

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“practical” style (29%), the “impulsive” style (25%), and the “theoretical” style (7%). Students who took a “shot in the dark” approach to the task waited and listened longer, played only isolated notes, and did not appear to recognize when pitches played were correct or incorrect. Those who took a “practical” approach were most successful in playing the bass line by ear with correct pitches; they typically waited at least four measures before beginning to play and recognized correct pitches and used them as anchor points. “Impulsive” style students tended to play various rhythms over pitches and sometimes made up their own versions of the bass line. The smallest group of students, those who took a “theoretical” approach, asked the teacher questions about the task, such as whether or not a pitch was correct, higher, or lower (Varvarigou & Green, 2015).

Varvarigou and Green (2015) also examined learning strategies employed in participants’ further interactions with the ear-playing task. Learning strategies differ from learning styles in that strategies develop with experience and are considered learned behaviors, whereas styles reflect a preferred approach to learning and are relatively fixed. In order to analyze the learning strategies of the first lesson (around eight to ten minutes per student), thematic analysis of transcriptions was conducted. The most used strategies were “listening without playing” and “finding notes through playing isolated pitches” while the least used were “playing without the recording” and “singing or humming the parts.” Many teachers and students alike were apprehensive of engaging with ear-playing tasks at first. However, regardless of students’ learning style demonstrated, learning strategies employed, or initial success level with the task, qualitative data showed that the end response by both teachers and students to the task was overwhelmingly positive. This may indicate that if given the opportunity to engage in ear-

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playing tasks, students and teachers may find that they are not only less intimidating than imagined but also more enjoyable.

In another component of the EPP, Baker and Green (2013) studied 16 matched pairs of instrumental students (age 10-14 years old) who were assigned control (traditional teaching without ear playing) and experimental (with ear playing) treatments in order to examine the potential impact ear-playing pedagogy could have on aural skill development. The pairs of students were selected and matched by their teachers based upon Associated Board of the Royal Schools of Music (ABRSM) test scores (ranging from Grades 1 to 5), a national system widely used in the UK, and engaged in ear-playing tasks from recorded examples for a minimum of 10 minutes per weekly lesson over a span of 7-10 weeks. In the first stage of the project, students copied a pop-punk riff by ear while listening to specially recorded tracks breaking the riff down by parts. In the second stage, a similar ear-playing task was presented with separate recordings for different component parts of a classical piece or excerpt. For the third stage of the project, students chose their own piece (from any genre) and worked on playing a section of it by ear with their teacher.

The researchers worked closely with the ABRSM in developing a measurement tool for aural skills that would be similar to those used in ABRSM tests and thus both relevant to the teachers' typical instructional purposes and familiar. Students' responses to the tests were audio recorded for later analysis, and 15 teachers involved in the EPP, as well as three researchers on the EPP and two officials associated with the ABRSM, appraised the responses with no knowledge of whether the clip was a pre- or post-test recording or was from a student in the experimental or control group. Responses were rated on a 5-point Likert scale ranging from 1

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(*very poor*) to 5 (*very good*) for pitch accuracy, contour accuracy, rhythmic accuracy, closure (whether or not the student attempted to finish the excerpt), and tempo accuracy. The overall mean scores for all students in control and experimental groups increased, but the individual gains for each criterion assessed of the experimental group (ranging from +.01 to +.51) surpassed the control group (ranging from -.13 to +.09) in every area. Significant results from the split-plot repeated-measures ANOVA procedure were found only for “rhythmic accuracy” ($p < .05$) and “closure” ($p < .05$). Regardless of statistical significance, Baker and Green (2013) concluded that the results of the study, when considered along with other literature regarding the benefits of playing by ear, may still be important enough to indicate the value of the inclusion of ear-playing tasks in weekly lessons. Though the benefits of playing by ear are perhaps more widely accepted on the basis of scholarly research in formal music education settings, it is a key component in the less widely accepted informal learning processes commonly employed in the study of popular music as well.

Models for Informal Learning

In *Music, Informal Learning, and the School*, Green (2008b) gave a detailed report of findings in the Musical Futures project, which investigated the potential benefits of incorporating aspects of informal popular music learning practices into the public school classroom. Green noted five key characteristics of the ways popular musicians learn: (1) music is chosen by the performers based upon their personal tastes, (2) learning takes place by listening to and aurally copying recordings, (3) learning takes place in self-selected peer groups, (4) knowledge is often attained through holistic, unstructured ways, and (5) listening, performing, improvising, and composing are deeply integrated throughout the learning process. Each of the seven stages of the

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Musical Futures project incorporated at least two of these characteristics, and students in the study engaged in each stage for four to six lessons of 50 to 90 minutes each.

Rather than gradually building up to incorporating all five characteristics, the researchers developed stage one as the most representative of informal popular music learning process, and it was considered the “heart of the project” (Green, 2008b, p. 25). Students were tasked to form a group of their choice, select a song (from any genre or style), and copy the song by ear. In large part, teachers were to be mere observers unless help was requested. In stage two, the teachers took a more active role, and the task assigned was much more structured as all students were assigned the same popular song to copy aurally with their groups. Additionally, separate CD tracks were provided to help students learn the different parts, and a worksheet gave students the note names as well. Stage three was essentially a repetition of stage one and allowed students to potentially demonstrate an evolved approach to the task. Stages four and five both involved informal composition. In stage four, students composed a song, and in stage five they were coached by guest artists in strategies for composition and songwriting. Stages six and seven involved group informal learning with classical music, first with a familiar, commercial piece, and then with a previously unfamiliar piece.

A total of 21 secondary schools (with 32 classroom teachers and over 1,500 pupils) in London and Hertfordshire participated in the Musical Futures project and formal research from 2002 to 2006. Quantitative data were collected mainly through anonymous student and teacher questionnaires and served to provide slightly more explicit, though admittedly less rich, numerical data on final responses to the project. Qualitative data collection techniques included audio and video recordings of lessons and semi-structured student and teacher interviews of

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around five open-ended questions each. Though both quantitative and qualitative data were collected for all schools involved in the project, the research focused in detail on seven classes of students ages 13-14 (in total approximately 200 students and 11 teachers) in seven different schools. Three schools in London participated in only the first two stages of the project in the 2001-2002 school year, and four schools in Hertfordshire participated in all seven stages of the project during the 2004-2005 school year. In addition, the researchers conducted weekly unstructured and participatory observations of these seven classes in the project, and notes were most often made immediately following the lesson observations. Once all audio recordings from the project were transcribed as thoroughly as possible, the over 800 pages of qualitative data were examined for themes and codes, which are reported as the general findings of the study throughout Green's (2008b) book. An effort was also made by the researchers to compare the quantitative responses of the surveys with the qualitative responses given in interviews, and these are mostly given in footnotes. A thorough summary of all findings in the project is beyond the scope of this literature review, but the findings most relevant to the current study proposal are outlined and considered below.

One finding by Green (2008b) indicated that students overwhelmingly believed the informal learning tasks helped them learn to play instruments. It is worth noting, however, that nearly all of the students in the study had experience playing many instruments in prior music classes, most since the age of five. Additionally, many students' comments reflected a belief that they could now play an instrument, even if (by more traditional education standards) they were barely even a beginner in terms of skill sets. This points to the possibility that the informal learning tasks allowed students to more easily develop their music self-concept, something

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formal music education so often discourages simply by its emphasis on specialization and mastery.

While students favored the practical aspects of learning to play the instruments, the overwhelming response of teachers indicated that the students made the most significant gains in the area of listening skills. Indeed, in interviews, many students did report that they had found themselves listening much more critically to songs—both in class lessons for the project and outside of class. Green (2008b) describes this ability and willingness to listen to music with more attention to detail and knowledge of the musical processes involved as “critical musicality” (p. 91). She argues that the informal learning opportunities, rather than merely pandering to students’ current tastes and dumbing down musical instruction, actually allow students to willingly and enthusiastically become more critically aware musicians capable of having more informed and less biased responses to musical experiences.

Another emergent theme from the interviews with student participants was their overall enjoyment of the project. Students specifically enjoyed not only being able to choose their own musical repertoire (in some stages of the project) but also, and perhaps more importantly, directing their own learning by honoring their preferred learning styles and choosing learning strategies largely without the input of a teacher. While giving students this autonomy over their own learning was one of the most anxiety-inducing aspects for most teacher participants before the start of the project, they found that even by the end of stage one, teachers were no longer concerned about students being off-task as their motivation was observably strong throughout the project. Many pupils reported a better sense of satisfaction through the informal learning strategies than they had experienced in the past with teacher-directed (formal) learning strategies.

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Some students even mentioned that the project had a positive impact on their self-confidence (Green, 2008b).

Teachers in the project were also very concerned with the issues of how groups would cooperate, how students of differing abilities would participate in the project, and how disaffected students, those with generally negative attitudes who exhibited challenging behaviors both within and outside of music classes, would behave during the fairly unstructured task of choosing a song with friends and copying it by ear. Despite these hesitations, in the end, the qualitative data reflected an overwhelmingly positive response from all involved. Teachers were most surprised that those students who were often disengaged or even disruptive in music classes frequently took on leadership roles in the project and demonstrated high levels of engagement throughout. Also notable was that the task was found to have differentiated not by the assignment itself, which was the same for all groups of students, but by the various outcomes that were possible, allowing students to place themselves in a position in which they could be successful and still contribute to the group experience. (Green, 2008a)

While most studies involving informal learning techniques, like Green's (2008b) work in the Musical Futures project, have been developed for secondary settings, Davis (2013) incorporated these techniques within the elementary classroom setting. Davis' purpose was to describe the learning and teaching processes that developed while using popular music and informal learning processes for a project in the elementary classroom. As an elementary music educator, Davis had witnessed the personal value of popular music in her students' lives and sought to explore these connections further. She designed this qualitative action research for a class of her own fourth grade students ($N = 24$).

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For data collection throughout the four-month long study, Davis (2013) video- or audio-recorded each class (30 minutes twice per week), took field notes, conducted interviews, and had informal conversations with classroom teachers. Interviews were conducted both with the entire class (large group) and with smaller focus groups of students. In addition, Davis conducted individual interviews with selected students at times in order to ask follow-up questions or obtain clarification, which was used as a member check against her own observations and reflections. For coding, Davis began with a preemptive list of anticipated codes based on her research questions and used an inductive approach to determine codes in emergent themes as well as employing a memoing process which led to more main themes.

The students were encouraged to create a “playlist” of favorite songs on a bulletin board in the classroom, and Davis (2013) then became familiar with each song, sometimes even learning how to play the song herself. A song from this list (Natasha Bedingfield’s “Unwritten”) was selected for use in the study that met the criteria of being appropriate for school, vocally suitable for the students, and aligned with students’ current skill set, allowing them to copy the song in its entirety. Choosing to begin in a large group setting that would allow for initial student success, Davis first had students discover the ostinato in the song. Shortly after, students divided into self-chosen peer groups to attempt to learn to play the ostinato on an instrument. In the following class session, the full group devised a “timbre map” that outlined the different instruments and vocal parts in the song. Then, students self-selected a part (vocals, drums, bass, ostinato, or additional rhythmic percussion) to work on in a small group. The bulk of the rest of the project was completed in small groups with the full group coming together at the end of each class period to play the song together.

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In general, this study (Davis, 2013) provided evidence that younger children learn popular music in informal settings in very similar ways to secondary students. For example, the children preferred to engage in informal, holistic repetition rather than engaging the formal approach of breaking the music down into smaller sequences. Notable in this study, Davis found that students were very concerned with the emotional, expressive elements of making music as they interacted with this song. Davis provided evidence that this project contributed to further developing students' music self-concepts, with some discovering a previously unexplored level of articulated passion about the music making process. Davis acknowledged the pedagogical opportunity to promote creative musical decision making with this approach but also discussed the need for changes in extant elementary music pedagogy if popular music ensembles were to co-exist in the schools. In conclusion, Davis recommended that all teachers become familiar with the musical tastes and interests of their students and incorporate those interests in their classroom instruction.

Also seeking to expand upon the existing informal learning research base, Wallerstedt and Pramling (2015) conducted a qualitative research study in which they observed students in a Swedish music classroom that already incorporated informal learning techniques on a regular basis. The researchers were particularly interested in this program because these 18-year-old students also regularly used Internet-accessed resources as they sought to copy popular songs. As Wallerstedt and Pramling noted, it is likely that informal learning practices outside the classroom are evolving due to the presence of the internet in everyday life, and this classroom reflected that change particularly well.

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Wallerstedt and Pramling (2015) observed the interactions and experiences of one randomly selected group of students in the class ($n = 5$). The primary research objective was to describe the nature and functions of notation used by the students that was acquired from an Internet resource. The researchers adopted a sociocultural perspective with emphasis on the use of notation as a cultural tool. Students in the group began the project by selecting a song and then searching on the Internet for both lyrics and an outline of the chord changes. With considerable assistance from the teacher, the students ended up transposing the chord changes for the song and correcting one error in the notation as well.

Throughout the small group work observed in the study (Wallerstedt & Pramling, 2015), the students used the notation primarily as a way to orient themselves and understand which part of the song was being discussed. This was particularly true when students were deciding on how to structure the piece with entrances and exits for different players. In this way, the researchers concluded that the notation was a tool of instruction. However, beyond this, the nature of the notation varied according to which part was being played by the learner. For example, the singer used the notation primarily for the lyrics, the guitar player used it for the letter names of the chord changes, the bass player used the letters of the chord changes to indicate which root-fifth pattern to play, and nothing about the percussion part was indicated in the notation.

This study (Wallerstedt & Pramling, 2015) found that these non-traditional notations often accessed via the Internet today are powerful tools in mediating the informal learning experience. The students in this study also regularly accessed recordings of the songs on streaming websites such as YouTube. These Internet-based “cultural tools” are heavily influencing the ways popular musicians learn outside of the formal classroom experience.

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Therefore, if teachers are going to incorporate informal learning experiences in the classroom, it would likely be appropriate to utilize these tools as well.

Fundamentals of Music Courses

While no research has been done specifically incorporating informal learning experiences in fundamentals of music courses for elementary education majors, a few studies involving such classes may lend some support to the potential of informal learning experiences in this new situation. Lind and Miyamoto (1997) conducted a study of students enrolled in a fundamentals of music course ($N = 110$) for the purpose of determining the differences between what motivated these students in the class. The authors were particularly concerned with differences based on reason for enrollment (required or elective), differences based on gender, and if there was an overall or dominant motivational style for the entire sample. Participants were given a music version of the Academic Motivation Scale (AMS-Music)—which measured three types of intrinsic motivation, three types of extrinsic motivation, and lack of motivation—at the beginning of the semester.

Lind and Miyamoto's (1997) findings indicated that female students scored significantly higher in four areas of motivation (two intrinsic and two extrinsic) and significantly lower in lack of motivation than male students. Further, students who elected to take the course out of personal interest scored significantly lower on two types of extrinsic motivation than those required to take the course. However, all students enrolled in the course, regardless of reason, were most highly motivated by their intrinsic desire to know things, indicating that these students were interested in acquiring a broad array of musical knowledge through varied experiences. Based on the research of Varvarigou and Green (2015), playing by ear experiences, which is part of

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informal learning projects, may allow students to experience modes of learning not typically found in traditional, formal music classes and experiences. Since Lind and Miyamoto (1997) found these students to be most highly motivated by an intrinsic desire to know things, it can be inferred that they would appreciate the opportunity to experience these varied modes of learning in the fundamentals class.

Gauthier and McCrary (1999) sought to investigate the similarities and differences among music courses offered to undergraduate general education majors throughout the United States. Specifically, they sought to determine the content of the classes, the instructors' purposes for the classes, and to what extent these classes were similar across the country. The researchers developed a questionnaire to examine the content and purpose of the classes and distributed it to experts teaching these types of classes whose comments were later incorporated in the final draft of the measure. The questionnaire was mailed to 530 schools in the 1996 NASM directory, and two follow-up mailings resulted in a 60% response rate.

Results of Gauthier and McCrary's (1999) survey indicated that the top three purposes of fundamentals classes, as reported by the instructors of the classes, were developing understanding of music concepts, cultivating performing skills, and increasing positive attitudes toward music in the classroom. Despite the emphasis on development of performance skills as a main purpose of the course, the skill most often covered (singing) was only indicated as part of the course for 69% of respondents. The concepts of rhythm, melody, harmony, expression, and form were all covered more widely than any performance skill, including singing. Other skills, such as playing recorder and listening, were covered by only 59% of respondents. Incorporating informal learning in the fundamentals classroom could provide the opportunity for deep

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integration of listening, performing, improvising, and composing (Green, 2008b), an experience often missing in these classes despite reported curricular goals (Gauthier & McCrary, 1999).

Informal learning experiences could allow fundamentals of music students to develop a holistic, real-world connection to musical concepts as well as strengthen performing skills. Further, based upon overwhelmingly positive responses to ear playing and informal learning experiences (e.g., Baker & Green, 2013; Green, 2008a, 2008b; Varvarigou & Green, 2015), these experiences may increase students' positive attitudes toward engaging in musical experiences, another main purpose of fundamentals courses as reported by Gauthier and McCrary (1999).

Rogers and Watkins (1986) investigated the connection between prior musical experiences and the aural skills of students enrolled in a fundamentals of music class. Elementary education students ($N = 73$) enrolled in a fundamentals of music class at one university filled out a questionnaire indicating prior training in music, and points were awarded based on the relative rigor of the musical experiences. For example, one point was given for each year of participation in elementary school music classes, two points were given for each year of ensemble participation, and three points were given for each year of private lesson study. Students also took the Colwell Music Achievement Tests (MAT) 1 and 2 before and after the fundamentals class. Results indicated that students with more prior musical experience had more developed aural skills, and those who had taken private lessons scored significantly higher on the measures of aural skills than those who had received group-only instruction.

Elementary education majors enrolled in a fundamentals of music class have a wide variety of musical backgrounds and, thereby, also a wide range of aural abilities. Green's (2008a) conclusions about informal learning indicate that differentiation happens naturally in these

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experiences as students are able to participate and contribute in a wide variety of meaningful ways. Therefore, informal learning experiences may be beneficial for students enrolled in a fundamentals of music class, regardless of prior experience in music and, thus, aural abilities. The ability to self-select peer groups and song materials, along with the ability to self-direct learning strategies in an informal learning project may allow all students to feel accomplished and successful in the project in varying ways.

Summary

Though no extant research has explored the outcomes of undergraduate elementary and early childhood general education majors engaging in an informal learning project, the literature indicates it could be beneficial for these students in many ways. Engaging in an informal learning process similar to one developed by Green (2008b) in the Musical Futures project could enable these students to utilize their natural learning styles while also discovering and engaging with music by using new and perhaps otherwise unexplored learning strategies (Varvarigou & Green, 2015). This holistic approach to music learning could lead to increased understanding of musical concepts, a primary goal in fundamentals courses identified by Gauthier and McCrary (1999), by allowing students to contextualize their learning in an authentic musical project. Further supporting purposes of the fundamentals of music class (Gauthier & McCrary, 1999), engaging in informal learning with popular music could help students develop not only increased positive attitudes toward music education (Davis, 2013; Green, 2008a, 2008b; Tobias, 2015) but also aid in the improvement of aural skills as they learn to play by ear (Baker & Green, 2013). Some studies suggest (Tobias, 2014; Varvarigou & Green, 2015; Green, 2008b; Green, 2008a; Davis, 2013) that informal learning may help students of varying ages in developing a more

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complete musical self-concept. Finally, it may be beneficial to explore the use of an informal learning project with popular music in the music fundamentals class simply because, as Isbell (2007) and Tobias (2014) indicate, these experiences have the potential to positively impact students who may not thrive in or enjoy standard, formal approaches to music education.

Chapter 3: Methodology

The purpose of this study was to examine how engaging in an Informal Learning Project (ILP) using popular music affected undergraduate general education students' music self-concept. The secondary purposes of this study were: (1) to examine the relationship between undergraduate general education students' music self-concept and attitudes toward music in the classroom and (2) to examine relationships among undergraduate general education students' extent of prior experience in music, attitudes toward the ILP, and self-assessment of achievement on the ILP.

Design

This study was a quantitative quasi-experimental comparative study employing self-report surveys.

Participants

This study employed a convenience sample of undergraduate students enrolled in a fundamentals of music course designed for general education majors at a large Midwestern university, in the spring semester of 2017. Ultimately, participants ($N = 71$) included 46 (65%) elementary general education majors, 18 (25%) elementary special education majors, 4 (6%) early childhood education majors, and 3 (4%) non-education majors (1 computer science major, 1 pre-education major, and 1 ballet major with a minor in elementary education). In terms of age, 25 (35%) of participants were 18 years old at the start of the study, 21 (30%) were 19, 17 (24%) were 20, 6 (8%) were 21, 1 (1%) was 22, and 1 (1%) was 26. The majority (52%; $n = 37$) of participants were freshmen. Sophomores (28%; $n = 20$), juniors (16%; $n = 11$), and seniors (4%; $n = 3$) comprised the minority of the sample. In terms of gender, 92% ($n = 65$) of participants

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were female, while males ($n = 6$) comprised just 8% of the sample. Both gender and race were free-response items, and no participants filled in an option other than “male” or “female.” For race, one participant did not respond. The overwhelming majority of participants ($n = 59$; 83%) self-identified as white. Five participants (7%) identified as Asian or Pacific Islander. Four participants (6%) identified as Black or African American. Three participants (4%) identified as Hispanic/Latino/a.

Recruitment. Recruitment involved one brief visit to each of seven sections of the course during the week of January 16-20, 2017, for approximately the last 15 minutes of one class. During this time, the Informed Consent Statement (see Appendix A for a copy of the statement) was distributed on paper and verbally explained as well. It was emphasized that both the Informal Learning Project (for those sections of the course that would be selected to complete it) as well as all surveys taken would be completed regardless of participation in the study as they were part of the course syllabus. Students were told the general purpose of the study, that the only potential risk was loss of confidentiality in survey responses, and that the only potential benefit to participation was to help improve future similar courses. Students were given time to review and fill out the Informed Consent Statement during this time. All students elected to sign forms agreeing to have their data analyzed for the study.

Assignment to groups. The assignment of participants to either control/non-ILP (formal, “traditional notation-based” curriculum only) or experimental/ILP (the same curriculum, but with the ILP replacing one “traditional notation-based” assignment toward the end of the course) groups was done by course section. Instructors with two sections of the course had one section assigned to the control/non-ILP group while the other section was assigned to the experimental/

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ILP group. In the case of instructors with two sections of relatively equal number of students, the assignment to groups was random. In the case of instructors with two sections of unequal size, assignments were made strategically in order to keep the number of participants in control/non-ILP and experimental/ILP groups as close to equal as possible. The singular instructor who taught only one section had their class assigned to the experimental/ILP group.

Measurement Instruments

Data were collected by four different surveys administered at three points throughout the semester.

MSCI. (See Appendix B for a copy of the scale.) Participants' musical self-concept was measured during weeks 2, 12, and 16 of the course by the Music Self-Concept Inventory (MSCI), developed by Hash (2016) for use with college students. The MSCI is divided into three equal subscales that prior research related to self-concept: (1) support or recognition from others, (2) personal interest or desire, and (3) perception of music ability. Using a 5-point Likert scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*), the MSCI consists of 13 items. Hash designed the MSCI to be a simple measure of the global construct of self-concept and avoided inclusion of statements that addressed self-efficacy, or belief in one's ability to complete a task.

Hash (2016) had three experts review the initial measure and then conducted a pilot test. While the total inventory attained acceptable reliability ($\alpha = .93$), one of the sub-scales did not ($\alpha = .60$). Following revisions to items in the subscale, Hash pilot tested the measure again, this time attaining strong reliability for the total inventory ($\alpha = .96$) and all three subscales ($\alpha = .89 - .91$). Hash created two randomized forms to control for ordering effect before administration to the participants ($N = 237$) in the main study. The measure maintained high reliability on both the

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total scale ($\alpha = .94$) and subscales ($\alpha = .83 - .92$) during the main study, and this remained stable ($\alpha \geq .93$) regardless of presentation order or gender.

In Hash's (2016) study, some respondents ($n = 55$) also completed a form of Schmitt's (as cited in Hash, 2016) Self-Esteem of Musical Ability (SEMA) in which slight changes to the wording made it appropriate for college students, and correlated results ($r = .94$) indicated strong construct validity. Correlational results between MSCSI scores and prior experience in music were similar to those in previous research ($r = .64$) and indicated criterion validity for the measure. Interfactor correlations ($r = .71 - .75$) indicated acceptable discriminant validity for the measure.

ATMC. (See Appendix C for a copy of the scale.) Participants' beliefs about the overall value of music in education, role of the general classroom teacher in providing students with music instruction, personal abilities to teach music, and plans to teach music were assessed through the researcher-constructed Attitudes Toward Music in the Classroom (ATMC) survey during weeks 2, 12, and 16. Because the questionnaire was administered alongside the MSCSI, the 12 items use the same Likert scale anchors.

As Gauthier and McCrary (1999) found, one of the main purposes of the fundamentals of music course is to increase positive attitudes toward music in the classroom. This instrument was developed as a balanced measure of both beliefs about music in the classroom and potential actions related to music in the classroom in order to capture participants' overall attitudes toward music in the classroom. In developing specific items for the measure, I first made a list of broad components related to students' attitudes toward music in the classroom. This list was developed in part by examining the specific objectives for the course in which participants in the study were to be enrolled. These objectives include learning basic musical concepts, practicing teaching a

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new song and accompanying game, learning to play instruments, developing singing skills in the head voice, and analyzing music through listening. Once this list was compiled, I found most items either fell into the category of “beliefs about the overall value of music in education and role of the general classroom teacher” or “personal abilities and plans to lead musical activities in future classroom settings.” For each of these two categories, and based on the list of broad components related to attitudes and course objectives, I developed items thought to be most relevant and representative of participants’ overall attitudes toward music in the classroom.

As part of development of this measure, experts in music education (including a professor, a practicing classroom teacher, and graduate students) reviewed these items to establish face validity of the measure and ensure items were clearly worded, mutually exclusive, and exhaustive. Following revisions, the measure was then pilot tested with a population similar to the sample in the main study to ensure items were clearly worded and use of the measure was feasible. I administered the survey to my students in a previous semester of the same course and asked them to “think aloud” and/or make notes in the margins, specifically considering if any individual items were unclear, confusing, or conflicting. All students reported that the measurement as a whole and items were clear and easy to respond to, and the measurement remained unchanged for the study.

SPME. (See Appendix D for a copy of the scale.) In order to measure the extent of participants’ prior experience in music education, the researcher-adapted Survey of Prior Musical Experience (SPME) was administered during week 2 of the course. Based on Rogers and Watkins’ (1986) survey of elementary education majors’ prior musical experience, participants indicated years of experience in the categories of general music classes, ensemble experiences,

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and private lessons both in schools and through community organizations (e.g., church, community musical theater productions). The same scale used by Rogers and Watkins (1986) was used to assign point values for these experiences. One point was awarded for each year of general music instruction, two points for each year of ensemble experience, and three points for each year of private lesson study.

The categories and items included in this survey were reviewed for clarity and comprehensiveness by a panel of music education experts, including practicing classroom teachers and professors of music education. At the suggestion of these experts, another category was added to include familial musical experiences, which was then also reviewed by the same panel. The extent to which students engaged in musical activities with their family members was measured via a list of positively-worded statements students marked with a check if they felt the statement applied to them. The following scale for assignment of point values was developed for these 16 items, and a panel of music education experts reviewed this scale before it was applied for data analysis: 0 items checked indicated no familial music experience and was assigned a score of 0 points; 1-4 items checked indicated a LOW level of familial music experience and resulted in a score of 1 point; 5-8 items checked indicated a MODERATE level of familial music experience and was assigned a score of 2 points; 9-12 items checked indicated a HIGH level of familial music experience and was assigned a score of 3 points; 13-16 items checked indicated a HIGH level of familial music experience and was assigned a score of 4 points.

Some participants also reported experience in state music contests, musical theater productions, theater productions, drama classes, dance classes, music history classes, and music theory classes. A panel of music education experts were consulted on scoring for these items.

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Since state music contest participation was a performance experience of a very limited timeframe, those occurrences were given 1 point each. Musical theater productions were given 1 point each as well as they were thought to typically be more intensive than a general music class but over a much shorter timeframe. Additionally, it was thought that students may or may not have been participating in the production in a way that emphasized the musical aspects. Drama classes, theater productions (without music), and dance classes were all given 0.5 points each as they were thought to be related to music experience but not necessarily as beneficial to musical skill development as an actual music class or ensemble. Music history classes were given 1 point each as they rarely involve active music-making, and music theory classes were given 2 points each as they typically incorporate more intense aural skills training than what is often even found in ensemble experiences.

This survey resulted in a total numerical score for each participant representing their prior experience in music. This survey was also used to collect demographic data, such as age, gender, race, and college major.

ILPA. (See Appendix E for a copy of the scale.) Attitudes toward and self-assessment of achievement on the ILP were measured through the researcher-constructed Informal Learning Project Assessment (ILPA) in week 16 of the course. Only those students participating in the ILP took this survey ($n = 37$). Because the questionnaire was administered with the MSCI and ATMC, the 12 items use the same Likert scale anchors for consistency between the measures. In developing specific items for the measure, I first compiled a list of broad components related to students' assessment of both the ILP itself and their personal achievement on the ILP. This list was developed in part by considering comments made by students who engaged in a similar

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project in previous fundamentals of music classes. For example, multiple students who engaged in these similar projects commented that the project was fun, they enjoyed learning a “real” song, and they initially thought the project was going to be too difficult.

In addition to considerations of personal experience with prior informal learning projects, evaluations of prior informal learning research were examined for participant reflections on these projects as well. Green (2008b) found that students believed informal learning projects helped them learn to play instruments better while teachers believed students’ listening skills improved most significantly through the project. Additionally, students in Green’s (2008b) study enjoyed engaging in the informal learning project not only because they chose their own song material but also because they were allowed and required to direct their own learning. Further, Green (2008a) found that students with a variety of skill levels were able to be successful in an informal learning project because the outcomes of the project were not determined by the teacher but rather by the students’ own ability levels and desires. Davis (2013) found that elementary-aged students engaging in an informal learning project developed more of a sense of meaning related to the personal expressiveness of music.

Once a list of broad components related to students’ assessment of both the ILP itself and their personal achievement in the ILP was compiled, I found most items fell into the categories of “overall attitudes toward the ILP,” “attitudes toward specific elements of the ILP,” or “assessment of personal abilities and achievement in the ILP.” For each of these three categories, and based on the list of broad components related to students’ assessment of both the ILP itself and their personal achievement on the ILP, I developed items thought to be most relevant and representative of participants’ overall assessment of the ILP. This measure underwent the same

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assessment by a panel of music education experts and pilot test by students in a prior semester as the ATMC described above.

Procedure

In the fall of 2016, I requested IRB approval. Once IRB approval was granted in December of 2016, I met with the instructors for the course in the week before classes began in January 2017 to go over the details of the ILP (see Appendix F) and determine how many of them were interested in having their sections participate in the project. As all instructors were interested, and all students had elected to participate in the study, I randomly assigned entire sections of the course to groups.

Beyond the written description of the project, instructors of the course were trained in how to facilitate the ILP in weekly one-hour in-person meetings starting three weeks prior to the beginning of the project. The project was designed to be very flexible and give students the chance to work as much as they wanted or were able to without direct input from their instructor, though it was emphasized that support should always be available. Though I coached the instructors on how to facilitate the project and modeled answers to common questions, I decided against giving them scripts to read as (a) they were all accomplished musicians and educators and (b) it felt like it would give the project an air of formality and “clinical-ness” that I did not want.

Instructors were also given a daily breakdown of the schedule for the project, and they shared this with each of their classes (see Appendix G). First, students were given class time over a couple of days to select partner(s), or choose to work alone, and select a song. They were given no parameters for song choice other than to choose something they enjoyed listening to. Second,

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students were coached to select a section of the song (verse or chorus, typically, as all students chose pop songs), and then find the starting pitch on piano. I coached instructors on a couple ways to help students do this, including digitally slowing down playback of the song and humming the starting pitch while playing around on the piano keys. Some students needed the instructor to hum the pitch for or with them while they played around on the piano, but very few required the instructor to actually find the pitch for them. As this project was taking the place of a traditional notation-based piano assignment, the only requirement as far as instrumentation goes was the inclusion of piano in the final performance. Third, “arranging” with a variety of instruments was discussed in class, and students were given a chance to explore the instruments available to them found in the Music Education department instrument closet. Most individuals/groups chose to use the piano only, though a few did add auxiliary percussion and/or sang the main melody and lyrics as well.

Following the first few class meetings of the project, work time (about 15-20 minutes of time set aside for each class meeting over the following two weeks) was unstructured. Instructors were advised to “float” and be freely available but to remain as hands-off and observational as possible. In weekly in-person meetings, I checked in with the instructors about how the project was going, what questions were arising, and how students were doing on the project—particularly to see if the course schedule would need adjustments to allow for more time on the project, which it did in a couple small instances. There were no major issues or concerns reported during these meetings. One instructor did have to be gone for an extended period of time, so that section’s ILP was facilitated by a substitute instructor (who was given all the same information, training, and support as the other instructors, as well as a bit of additional 1-on-1 in-person

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support) for the first three weeks and then finished by the original instructor, who had returned from their extended absence. Other than this, there were no issues or challenges to report.

Chapter 4: Results

This chapter describes analysis of data collected via surveys throughout the one-semester duration of the study. Of the initial 95 participant data sets collected and entered into Excel, 24 responses were removed because there was either error in survey completion ($n = 15$) or the responses entered were contradictory (e.g., indicating “strongly agree” for both “Musical concepts and skills should not be taught in schools” and “General classroom teachers should teach basic musical concepts such as steady beat, rhythm, and melody” on the Attitudes Toward Music in the Classroom scale), indicating that the participant did not read the items closely ($n = 9$). The responses from the remaining 71 participants demonstrated acceptable levels of asymmetry and kurtosis ($+/-2.00$) for all data analyzed in the study. An outside consultant helped run the quantitative analysis using IBM’s SPSS Version 29.0.

Research Question 1: How does the experience of engaging in informal learning impact undergraduate general education students’ music self-concept?

As the Music Self-Concept Inventory (MSCI) was designed as a global measure of music self-concept (Hash, 2016), a mean score was calculated for each participant based on their responses to the 13 items on the MSCI scale at both Week 2 and Week 16. In order to evaluate whether there were preexisting differences in music self-concept between the control (formal, “traditional notation-based” curriculum only) and treatment (the same curriculum, but with the ILP replacing one “traditional notation-based” assignment toward the end of the course) groups, an independent samples *t*-test was run to compare means between the treatment and control group data collected via the MCSI at Week 2, the start of the study. There were no significant differences between the groups at that time.

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To determine if there was a difference between groups after the treatment, an independent samples *t*-test was run to compare the treatment and control group data collected via the MCSI at Week 16, the end of the study. This independent samples *t*-test showed that the treatment group scored significantly higher on the MSCI ($N = 37$, $M = 3.69$, $SD = 0.83$) than the control group ($N = 34$, $M = 3.14$, $SD = 0.80$), $t_{(69)} = 2.87$, $p = 0.005$, indicating that the treatment group students had a significantly higher music self-concept after engaging in the ILP. See Table 1 below for aggregate mean scores and standard deviations on the MSCI.

Table 1

<i>MSCI Results</i>			
	Week 2	Week 12	Week 16
Contol ($n = 37$)			
Mean	2.95	3.05	3.14
(SD)	(0.85)	(0.85)	(0.80)
Treatment ($n = 34$)			
Mean	3.42	3.58	3.69
(SD)	(0.83)	(0.79)	(0.83)

Research Question 2: Is there a relationship between undergraduate general education students' music self-concepts and their intent to use music in a future classroom setting?

First, reliability of the items on the Attitudes Toward Music in the Classroom (ATMC) scale was quantified using the responses of all 71 participants. A split-half internal consistency method was employed to determine reliability. The reliability of the items was 0.84 (equal-length Spearman-Brown, $N = 71$). Second, a mean score was calculated for each participant based on their responses to the 12 items on the ATMC scale at Week 16. Third, in order to evaluate whether or not a relationship between students' music self-concepts and their intentions to use

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music in their future classrooms existed, a Pearson correlation coefficient was run comparing all participants' ($N = 71$) mean scores on the MSCSI ($M = 3.43$, $SD = 0.86$) and ATMC ($M = 3.89$, $SD = 0.65$) scales at Week 16. The Pearson correlation showed a significant, moderate, positive correlation between the MCSI and ATMC scales as measured at Week 16 ($r = 0.61$, $p < .001$). This indicates that there is a moderate positive relationship between students' music self-concepts and their attitudes toward music in the classroom.

Research Question 3: Are there relationships among the extent of undergraduate general education students' prior musical experiences, their attitudes toward the informal learning experience, and their perceptions of personal achievement in the informal learning experience?

First, reliability of the subset of items on the Informal Learning Project Assessment (ILPA) related to attitudes toward the ILP (items 1-9) was quantified using the responses of all 37 participants in the treatment group. A split-half internal consistency method was employed to determine reliability. The reliability of items 1-9 (ILPA Attitudes) was 0.80 (equal-length Spearman-Brown, $n = 37$). Second, reliability of the subset of items on the ILPA related to perceptions of personal achievement in the ILP (items 10-17) was quantified using the responses of all 37 participants in the treatment group. A split-half internal consistency method was employed to determine reliability. The reliability of items 10-17 (ILPA Achievement) on the ILPA was 0.85 (equal-length Spearman-Brown, $n = 37$). Third, mean scores were calculated for each participant based on their responses to items 1-9 (ILPA Attitudes) and items 10-17 (ILPA Achievement) on the scale. See Table 2 for mean scores and standard deviations on both subsets as well as the individual questions on the ILPA.

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Table 2

ILPA Results

Question	Mean	(SD)
Attitudes Subset	3.80	(0.73)
1. Overall, I enjoyed the ILP.	4.08	(0.89)
2. I felt the ILP was a good use of class time.*	4.14	(0.92)
3. The ILP allowed me to apply my knowledge of musical concepts in a new way.	4.11	(0.91)
4. The ILP allowed me to learn to play or sing a song (or part of a song) that I enjoy listening to outside of class.	4.54	(0.61)
5. I enjoyed directing my own learning for parts of the ILP (choosing a song, selecting a part or parts to work on, learning the song on my own or with my group).*	4.08	(0.89)
6. I enjoyed learning to play music by ear in the ILP.*	3.84	(1.14)
7. I prefer self-directed learning (such as the ILP) to teacher-directed learning (such as being assigned songs to learn from notation).	3.08	(1.09)
8. I prefer learning a song by ear to learning a song by reading music notation.	2.84	(1.19)
9. I want to learn to play more songs by ear.	3.49	(1.07)
Achievement Subset	3.75	(0.67)
10. Learning music by ear in the ILP was easy for me.	2.89	(1.24)
11. The ILP helped me learn to play an instrument or sing better.*	3.86	(0.82)
12. The ILP helped me develop better music listening skills.	3.84	(0.76)
13. My performance for the ILP was more personally or emotionally expressive than other performances for this class.*	3.73	(1.12)
14. My performance for the ILP was more meaningful to me than other performances for this class.	3.57	(1.12)
15. If working on the ILP alone: I did a good job in the final performance of my song. If working on the ILP in a group: I did a good job on my part in the final performance of our song.	3.97	(0.73)
16. I was successful in the ILP.*	4.24	(0.80)
17. I was more successful in the ILP than I initially thought I would be.	3.89	(0.88)

Note. Items marked with an asterisk were negatively worded in the original measure but have been changed to positive wording for the sake of clarity in interpreting data in this table.

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In order to determine if there were relationships among the extent of students' prior musical experiences, their attitudes toward the ILP, and their perceptions of personal achievement in the ILP, a Pearson correlation coefficient was run for the treatment group ($n = 37$) using composite scores on the Survey of Prior Musical Experience (SPME) and mean scores on the ILPA Attitudes and ILPA Achievement. This showed a moderate, positive correlation between ILPA Attitudes and ILPA Achievement ($r = 0.77, p < 0.001$), indicating students who felt they were more successful in the project also tended to have more favorable attitudes toward the project. There was no significant correlation between the SPME scores and either the ILP Attitudes or ILPA Achievement scores.

Chapter 5: Discussion

The purpose of this study was to examine how engaging in an Informal Learning Project (ILP) using popular music affected undergraduate general education students' music self-concepts. The secondary purposes of this study were: (1) to examine the relationship between undergraduate general education students' music self-concept and their attitudes toward music in their future classrooms and (2) to examine relationships among undergraduate general education students' extent of prior experience in music, their attitudes toward the ILP, and their self-assessment of achievement on the ILP. Seventy-one participants enrolled in a fundamentals of music course designed for undergraduate general education majors were randomly assigned by course section to either the control (formal, "traditional notation-based" curriculum only) or treatment (the same curriculum, but with the ILP replacing one "traditional notation-based" assignment toward the end of the course) groups, and data were collected via four different surveys administered at three points throughout the semester.

The data regarding students' music self-concepts showed that at the end of the course, the treatment group had significantly higher self-concept scores when compared with the control group. This suggests that engaging in a curriculum that incorporates at least some informal learning may help students better develop their sense of themselves as musicians when compared with a strictly formal, traditional notation-based curriculum. This may be somewhat in keeping with Tobias' (2014) finding that allowing students to self-select their preferred genre of music, as well as interact with that music in ways that are authentic to its origins (such as informal learning with popular music), can result in stronger connections between students' musical experiences within and outside of schooling. In alignment with Isbell's (2007) assertion that popular music is

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the clear stylistic preference of young people, all students in this ILP self-selected popular songs for their projects.

There is also a chance that the ear playing aspect of the project in particular had an impact on students' music self-concepts. As Baker and Green (2013) found in their Ear Playing Project study, students who engaged in ear playing tasks as part of their private music lessons over a course of 7-10 weeks had higher gains in all sub-categories on an assessment of aural skills than those students who did not engage in ear playing. It is at least possible that students' music self-concepts could be impacted by an increase in their aural skills and abilities. The results of this study also lend support to Green's (2008b) finding that students in the Musical Futures Project, a multi-stage informal learning project, overwhelmingly felt the informal learning tasks helped them learn to play instruments, even to the extent that many of Green's participants regarded themselves as "able to play" an instrument on which their technical skills would have been considered rudimentary at best.

The findings of this study may also be connected to students simply enjoying the ILP. Green (2008b) found that students in her study expressed overall enjoyment of the informal learning project, and teachers reported that the students were consistently displaying high levels of motivation and engagement. Davis (2013) found that even young students self-selected informal approaches, such as engaging in holistic repetition rather than breaking music down into sections and parts, when engaging in a self-directed project with popular music. Davis also found that many students were more concerned with the emotional and expressive elements of music when it came to performing popular music, and some students developed a deeper level of passion about the music making process as a result of that project. It is possible that simply

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engaging in a musical project that is enjoyable, motivating, and engaging—including self-selected musical material as well as learning approaches—could positively impact students' music self-concepts as well.

It may be worth considering the results of this study in light of Lind and Miyamoto's (1997) finding that students enrolled in a fundamentals of music class are most highly motivated by an intrinsic desire to know things. If these students are naturally curious and truly want to experience a variety of learning opportunities, it is possible their music self-concepts would be positively impacted by engaging with a new or different way of learning and thinking about music as well.

Data collected in this study also indicated that there was a moderate positive relationship between students' music self-concepts and their attitudes toward incorporating music in their future classrooms. Gauthier and McCrary (1999) found that increasing these undergraduate general education majors' positive attitudes toward music in their future classrooms is a key purpose of the fundamentals of music class. The evidence of this relationship combined with the finding that students who engaged in the ILP had significantly higher music self-concept scores than those who solely engaged in traditional, notation-based curriculum suggests that including at least some informal learning opportunities in the fundamentals of music class may help those students further develop positive attitudes toward using music in their future classrooms. Further, Gauthier and McCrary found that two other top purposes of the fundamentals of music class were developing understanding of musical concepts and cultivating performance skills. As Green (2008b) reported, informal learning incorporates a holistic blend of listening, performance,

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improvising, and composing. Therefore, incorporating informal learning in the fundamentals of music course would likely help meet multiple top purposes of these courses.

This study found a moderate, positive correlation between students' attitudes toward the ILP and their self-assessed achievement in the ILP, indicating students who felt they were more successful in the project also tended to have more favorable attitudes toward the project. This result is not surprising as people often have more favorable attitudes toward projects or tasks they also believe they are more successful in completing. However, there were no significant correlations between either students' attitudes toward the ILP or their self-assessment of achievement and their levels of prior experiences in music. This is interesting because Rogers and Watkins (1986) found that students enrolled in a fundamentals of music course who had more prior experience in music typically had more developed aural skills. Similarly, Luce (1965) and McPherson's (1995, 2005) research also suggested a relationship between prior musical experience and the ability to play by ear. As playing by ear was a key component of this ILP, it would not have been surprising to see a relationship between level of prior musical experience and students' perceptions of their own achievement in the ILP, or their attitudes toward the project. However, the fact that these scores did not have a significant correlation lends support to Green's (2008a; 2008b) finding that informal learning incorporates a kind of natural differentiation in which students of widely varying ability levels are able to be challenged and make progress while also feeling authentically successful due to the variety of outcomes that are possible and acceptable when it comes to informal learning.

Limitations

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Results in this study are limited by the small number and largely homogenous (in terms of age range, race, and gender) population of participants. Generalizations about any results in this study should be done with caution and, if made at all, should be limited to similar populations as there were differences between the treatment and control groups. Though the difference between self-concept scores of the treatment and control groups was statistically significant, the practical significance is likely limited as the difference between aggregate means was less than one whole point on a five point scale.

This study was also limited in method by how different instructors for the various sections may have gone about implementing the project in their classes. Despite training and some modeling of how to do so, explicit scripts were not provided, and implementation of the project was not monitored beyond simple conversations with the instructors throughout the study. Each instructor's natural teaching style undoubtedly created some variation in implementation and execution of the project. This is especially important to consider as one section of each the control and treatment groups had their regular instructor for the majority of the semester, another substitute instructor for the period of time including the beginning and majority of the ILP treatment, and then their original, regular instructor for the conclusion of the ILP. As each section's data was not analyzed individually, it is not known what impact this may have had.

Additionally, time was likely a limiting factor in this study in numerous regards. Some of the classes in each group met for three days per week, and others met for two days per week; though the time spent on the ILP was supposed to be roughly equal for all classes, the difference in number of times engaging in the project per week could have had an impact on the results of

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this study. Another significant limiting factor in the study was duration of the treatment as the ILP was only a part of the class for four out of sixteen weeks, and it was not the only activity students were engaging in throughout that time.

Implications for Future Research

The findings from this study suggest that informal learning may be an engaging tool that can help some undergraduate general education students further develop their music self-concepts and positive attitudes toward incorporating music learning and teaching in their future classrooms. Examining how or if informal learning experiences may positively impact music self-concept development with a larger, less homogenous population of students would certainly be useful. Further, in this study, the treatment group only had one assignment over a course of four weeks that differed from the control group. It would be beneficial to look at how results may vary if the informal learning treatment were to span a longer period of time and/or incorporate other styles of music, such as folk songs or classical music. It would also be interesting to dig deeper into the experiences of the instructors and their perceptions of the benefits and drawbacks of teaching through informal learning versus traditional, notation-based curriculum.

Green (2006) and Mantie (2013) contended that it is imperative that the approach to learning or engaging with any music be authentic to its origins, particularly when it comes to incorporating popular music in the classroom. Green in particular asserted that to engage with popular music through traditional, formal approaches would result in students developing conflict between the music's inherent and delineated meanings. Therefore, if popular music is incorporated without approaches authentic to its origins, it may not have the same effect. Similarly, if other genres are approached through informal learning, the effects may vary, too. It

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may be useful to examine the impacts of engaging with other musical styles through informal learning approaches, as Green (2008b) had participants do in the Musical Futures Project.

Further, it may be useful to quantitatively assess if using popular music *without* informal learning techniques (and instead with traditional, notation-based assignments and/or more traditional analytical approaches, etc.) would have different effects on students' music self-concept scores.

Implications for Teaching Practice

Though it would be premature to make broad recommendations for teachers based on the results of this study alone, when considering them in light of other research highlighting the benefits of informal learning opportunities (Green, 2006; Green, 2012; Tobias, 2014; Varvarigou & Green, 2015), they certainly lend support for the inclusion of at least some informal learning opportunities in the curricula, particularly when it comes to music fundamentals courses for undergraduate education majors. As Green (2006) recommended, I would caution instructors to be sure to structure the informal learning in ways that are authentic to the approach. In particular, be sure to allow for student choice of repertoire, and, as much as possible, let students' self-select their approaches to the learning tasks and direct their own progress. Encourage and support a wide variety of outcomes in any informal learning tasks or projects, and your students will likely regard themselves as successful and have favorable attitudes toward the informal learning.

Further, it may be useful for those who either instruct or design curriculum for fundamentals of music classes—particularly those for undergraduate education majors—to bear in mind the possible connection between students' attitudes toward music and their music self-concepts. As these students are growing as musicians through these courses, it may be useful to incorporate opportunities for them to see, understand, and appreciate their own progress. This

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may be especially powerful if done in a way that authentically connects to their musical experiences and tastes from *outside* the classroom as well. I would advise instructors—both of these fundamentals classes as well as any other music class—to be aware of and try to, as much as possible, authentically honor and incorporate students’ musical preferences and experiences.

Conclusion

The primary purpose of this study was to examine how engaging in an Informal Learning Project (ILP) using popular music affected undergraduate general education students’ music self-concepts. At the end of the course, the treatment group had significantly higher self-concept scores when compared with the control group. Additionally, there was a moderate, positive relationship between students’ music self-concepts and their attitudes toward music in their future classrooms. Considering that students’ varying levels of prior musical experience did not have an impact on either their attitudes toward the ILP or their self-assessment of achievement in the ILP, it is likely that informal learning naturally differentiates and allows students of widely varying musical backgrounds to feel authentically successful. Therefore, I would recommend that those teaching fundamentals of music classes include at least some informal learning opportunities as they may help students further develop both their music self-concepts and their positive attitudes toward using music in their future classrooms.

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Appendix A: Informed Consent Statement

INDIANA UNIVERSITY INFORMED CONSENT STATEMENT FOR
“EFFECTS OF ENGAGING IN AN INFORMAL LEARNING PROJECT USING POPULAR
MUSIC ON UNDERGRADUATE EDUCATION MAJORS’ MUSIC SELF-CONCEPTS”
Tiffany Bowen – IRB Protocol #1612420417

You are invited to participate in a research study involving comparison of the potential benefits of traditional, formal music learning and informal music learning activities. You were selected as a possible participant in this study because you are an education major currently enrolled in MUS-E241. Please read this form and ask any questions you may have before agreeing to be in the study.

Tiffany Bowen, a master’s student in music education at Indiana University, is conducting this study. You may contact her at any time with questions or concerns.

Email: tnbowen@indiana.edu **Cell phone:** (304) 208-4781

STUDY PURPOSE

The purpose of this study is to examine how engaging in *either* an Informal Learning Project (ILP) of copying a popular song by listening to it (with no use of notation or formal instruction from the teacher) *or* a teacher-directed project of learning to sing and play a song on keyboard/piano from notation **affects** undergraduate general education students’ views of themselves as musicians. The secondary purposes of this study are: (1) to examine the relationship between general education students’ views of themselves as musicians and their attitudes toward music in the elementary school classroom and (2) to examine relationships among students’ extent of prior experience in music activities, attitudes toward the ILP, and self-assessment of their success in the ILP.

NUMBER OF PEOPLE TAKING PART IN THE STUDY

If you agree to participate, you will be one of up to 98 MUS-E241 students who will be participating in this research study.

PROCEDURES FOR THE STUDY

As a student enrolled in MUS-E241, you will already be participating in *either* the Informal Learning Project (detailed in your syllabus) *or* the teacher-directed project of learning to sing and play a song on keyboard/piano from notation as part of your Performance Check 5. As part of this class, you will also take brief surveys regarding your prior musical experience, your attitudes toward music in the classroom, and your perceptions of yourself as a musician. If you participate in the ILP, you will also take a brief survey regarding your evaluation of the project and your own achievement in the project.

If you agree to participate in the study, you are allowing the researcher to analyze your responses to these surveys as part of the study. Participation in this study will last the duration of the Spring 2017 semester.

VOLUNTARY NATURE OF STUDY

Taking part in this study is voluntary. You may choose not to take part or may leave the study at any time. Leaving the study will not result in any penalty or loss of benefits to which you are entitled. Your decision whether or not to participate in this study will not affect your current or future relations with Indiana University. Your decision whether or not to participate in this study will not affect your course grades or relations with your instructor or the researcher.

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ALTERNATIVES TO TAKING PART IN THE STUDY

The only alternative to participating in this study is not participating. If you elect not to participate, your responses to surveys will not be analyzed as part of the study.

CONFIDENTIALITY

Efforts will be made to keep your personal information confidential. You will be assigned a unique numerical code to include on all surveys taken in this class (in place of your name). Only the researcher will have access to the database of names and assigned codes, which will be stored on a locked computer. Because your entire class section will engage in the same projects and take the same surveys regardless of who is participating in the study, your instructor will not know if you have elected to participate or not.

We cannot guarantee absolute confidentiality. Your personal information may be disclosed if required by law. Your identity will be held in confidence in reports in which the study may be published and databases in which results may be stored.

Organizations that may inspect and/or copy your research records for quality assurance and data analysis include groups such as the study investigator and her research associates, the Indiana University Institutional Review Board or its designees, and (as allowed by law) state or federal agencies, specifically the Office for Human Research Protections (OHRP), who may need to access your research records.

RISKS AND BENEFITS

The only potential risk of participating in this research is the loss of confidentiality.

The possible benefit of participating in this research is helping to potentially make future MUS-E241 classes (and other classes like this taught at other schools) more meaningful and engaging for students.

You will not receive payment for participating in this study.

CONTACTS FOR QUESTIONS OR PROBLEMS

For questions about the study, contact the researcher, Tiffany Bowen, at tnbowen@indiana.edu or (304) 208-4781.

For questions about your rights as a research participant or to discuss problems, complaints or concerns about a research study, or to obtain information, or offer input, contact the IU Human Subjects Office at (812) 856-4242 or (800) 696-2949.

SUBJECT'S CONSENT

In consideration of all of the above, I give my consent to participate in this research study.

I will be given a copy of this informed consent document to keep for my records. I agree to take part in this study.

Subject's Printed Name: _____

Subject's Signature: _____ **Date:** _____

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(must be dated by subject)

Printed Name of Person Obtaining Consent: _____

Signature of Person Obtaining Consent: _____ **Date:** _____

Form date: 12/21/2016

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Appendix B: Music Self-Concept Inventory (MSCI) Scale

Please read the statements below and mark the appropriate indicator for your level of agreement.

Statement	Strongly Disagree 1	Disagree 2	Somewhat Disagree/ Agree 3	Agree 4	Strongly Agree 5
I enjoy singing or playing music in a group.					
I have a good sense of rhythm.					
Learning new musical skills would be easy for me.					
I like to sing or play music for other people.					
I like to sing or play music for my own enjoyment.					
My friends think I have musical talent.					
I want to improve my musical skills.					
Other people like to make music with					
My family encouraged me to participate in music.					
I have received praise or recognition for my musical abilities.					
I can hear subtle differences or changes in musical sounds.					
Music is an important part of my life.					
Teachers have told me I have musical potential.					

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Appendix C: Attitudes Toward Music in the Classroom (ATMC) Scale

Please read the statements below and mark the appropriate indicator for your level of agreement.

Statement	Strongly Disagree 1	Disagree 2	Somewhat Disagree/ Agree 3	Agree 4	Strongly Agree 5
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Items related to beliefs about overall value of music in education and role of classroom teachers

Using music in the classroom is a valuable way to engage students.					
Musical concepts and skills should <u>not</u> be taught in schools.					
General classroom teachers do <u>not</u> need to understand basic musical concepts such as steady beat, rhythm, and melody.					
General classroom teachers should teach basic musical concepts such as steady beat, rhythm, and melody.					
General classroom teachers should teach basic musical skills such as singing in the head voice and keeping a steady beat.					
General classroom teachers should <u>not</u> use music to enrich other activities in their classrooms.					

Items related to personal abilities and plans to lead musical activities in future classroom settings

I will <u>not</u> lead musical activities in my future classroom.					
I will teach my future students to play an instrument.					
I will sing with my future students often.					
I will rarely play music in my future classroom.					
I feel confident in my ability to lead musical activities in my future classroom.					
If possible, I will take my future students to see live musical performances.					

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Appendix D: Survey of Prior Musical Experience (SPME) Scale

Your School Music Experience

Please fill in the table below with the number of years (0 – 6) you participated in each of these activities. If you participated in any activity for only half a year, you may indicate that time with a half point (0.5) value. *For example, you may have participated in middle school band for 3 years, 2.5 years, 2 years, 1.5 years, 1 year, or 0.5 years.*

Years	Activity
	Preschool music classes
	Elementary (K-5) general music classes
	Elementary (K-5) band
	Elementary (K-5) choir
	Elementary (K-5) orchestra
	Elementary (K-5) other musical ensemble or experience; Please specify: _____
	Middle school (6-8) general music classes
	Middle school (6-8) band
	Middle school (6-8) choir
	Middle school (6-8) orchestra
	Middle school (6-8) other musical ensemble or experience; Please specify: _____
	High school (9-12) band
	High school (9-12) choir
	High school (9-12) orchestra
	High school (9-12) music theory classes
	High school (9-12) other musical ensemble or experience; Please specify: _____
	College musical ensemble experience; Please specify: _____

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	College music class experience (other than MUS-E 241); Please specify: _____
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Please describe any **other** school-related music experiences (special performances, extracurricular activities, other classes, etc.):

Your Community/Church Music Experience

_____ **Total number of years** of music experience through participation in a community or religious organization. If you participated in any activity for only half a year, you may indicate that time with a half point (0.5) value.

For example, you may have participated in church choir for 1 year and community musical theater productions for 1.5 years. This would make your total number 2.5 years for this item.

Please use the space below to describe the type of class(es), ensemble(s), or experience(s). Include the length (in years) of your participation. *For example: "Church choir – 1 year; Community musical theater productions – 1.5 years"*

Your Private Lesson Experience

If you ever took one-on-one lessons with a music teacher (such as piano lessons or guitar lessons), please indicate the number of years and instrument/voice studied in the table below. If you took lessons for only half a year, you may indicate that time with a half point (0.5) value.

Years	Instrument/Voice

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Your Music Experience With Family

Please place an "X" next to statements that you feel are true.

- _____ My parents often played music in the car.
- _____ When I was a child, music was often playing in my home.
- _____ My family likes to make music together.
- _____ My family enjoys singing together.
- _____ I had a piano in my home as a child.
- _____ I had other instruments in my home as a child.
- _____ One or more members of my immediate family plays an instrument.
- _____ My parent(s) took me to classical concerts as a child.
- _____ My parent(s) took me to popular/rock concerts as a child.
- _____ My parent(s) attended my musical performances.
- _____ My parent(s) valued my music education.
- _____ My parent(s) encouraged me to perform in music.
- _____ My parent(s) signed me up for music lessons as a child.
- _____ One or both of my parent(s) was involved in music throughout high school or college.
- _____ One or both of my parent(s) majored in music in college.
- _____ I grew up in a musical family.

General Information

Major: _____ Minor (if applicable): _____

Have you been accepted into the School of Education? (Check one) _____ Yes _____ No

Classification by years (Freshman, Sophomore, etc.): _____

Age: _____ Gender: _____ Race: _____

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Appendix E: Informal Learning Project Assessment (ILPA) Scale

Please read the statements below and mark the appropriate indicator for your level of agreement.

Statement	Strongly Disagree 1	Disagree 2	Somewhat Disagree/ Agree 3	Agree 4	Strongly Agree 5
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Items related to overall attitudes toward the ILP

Overall, I enjoyed the ILP.					
I felt the ILP was a poor use of class time.					
The ILP allowed me to apply my knowledge of musical concepts in a new way .					

Items related to attitudes toward specific elements of the ILP

The ILP allowed me to learn to play or sing a song (or part of a song) that I enjoy listening to outside of class.					
I did <u>not</u> enjoy directing my own learning for parts of the ILP (choosing a song, selecting a part or parts to work on, learning the song on my own or with my group).					
I did <u>not</u> enjoy learning to play music by ear in the ILP.					
I prefer self-directed learning (such as the ILP) to teacher-directed learning (such as being assigned songs to learn from notation).					
I prefer learning a song by ear to learning a song by reading music notation.					
I want to learn to play more songs by ear.					

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Please read the statements below and mark the appropriate indicator for your level of agreement.

Statement	Strongly Disagree 1	Disagree 2	Somewhat Disagree/ Agree 3	Agree 4	Strongly Agree 5
Learning music by ear in the ILP was easy for me.					
The ILP did <u>not</u> help me learn to play any instrument or sing better.					
The ILP helped me develop better music listening skills.					
My performance for the ILP was <u>not</u> more personally or emotionally expressive than other performances for this class.					
My performance for the ILP was more meaningful to me than other performances for this class.					
If working on ILP alone: I did a good job in the final performance of my song. If working on ILP in a group: I did a good job on my part in the final performance of our song.					
I was <u>not</u> successful in the ILP.					
I was more successful in the ILP than I initially thought I would be.					

Appendix F: Informal Learning Project (ILP) Details

For three to four weeks in April (semester weeks 13-16), students will engage in an Informal Learning Project (ILP) during a portion of regularly scheduled class times. For this project:

- Students may choose to work alone or in self-selected peer groups of two to six members.
- Students/groups will choose one song from any genre of music they enjoy listening to outside of class and learn to play the song, or a portion of the song (depending on length and difficulty), by ear on piano.
- Students will choose for themselves which part(s) and how much of the song to work on.
- Students will choose to either “copy” (aiming to replicate the song or parts of it exactly) or “cover” (aiming to replicate the song or parts of it but allowing for choice in altering it—such as changing instrumentation, tempos, lyrics, or the melody and/or harmony—as well) the song they have selected. Students will be given examples of how this “copy” or “cover” could be done, such as hearing various covers of other songs to better understand how a cover replicates the song with some changes.
- One objective for this course is that students learn to play keyboard/piano, and because the ILP is replacing a traditional assignment of learning to play an assigned song from notation on the piano, the only instrumentation requirement will be that students incorporate use of the piano in the project.
- Students will choose to play a melody or harmony on the piano and may choose whether or not to also sing the song. Not all members of a group must play the piano part(s), and not all members of a group must sing. However, each member of the group should have a clearly defined “part” by the end of the project (playing an instrument or singing).

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- Other classroom instruments may be used as available (recorders, xylophones, drums, etc.), and students are also permitted to bring their own instruments from home for use in the project.
- For the final performance of the song, no members of the group can be from outside the class, but participants may seek help from outside sources throughout the project (i.e., friends to help with arranging or finding pitches, internet resources, etc.). Students may be asked to briefly identify what outside resources, if any, were used in the project on the ILPA survey.

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Appendix G: Informal Learning Project (ILP) Calendars

Calendar for sections that met two days per week

Week	Monday/Tuesday	Wednesday/Thursday
Week 13	<p>Musical Terms & Form QUIZ</p> <p>Practice for PC 4</p> <p>Continue listening for form & dynamics</p> <p>Discuss timbre of voices and instrument families</p> <p>ILP: “Finalize” groups and song selections – Decide on which section (verse, chorus, etc.) you/your group will start with by next class</p> <p><i>Teaching Presentations</i></p>	<p>DUE: PC 4 Recording by 11:59pm Friday</p> <p>Begin listening for timbre</p> <p>Present compound meter & Tam and ti-ti-ti rhythms (dotted quarter note and three eighth notes)</p> <p>ILP: Working on beginning – Finding starting pitches</p> <p><i>Teaching Presentations</i></p>
Week 14	<p>Present dotted quarter rest, Ta-ti, and Too-oom (dotted half note) in compound meter</p> <p>Practice notating rhythms in simple time</p> <p>ILP: Discuss “arranging” – Look through instrument closet if students working in groups are interested</p> <p><i>Teaching Presentations</i></p>	<p>Practice notating rhythms in compound time</p> <p>Continue listening practice</p> <p>ILP</p> <p><i>Teaching Presentations Finished</i></p>
Week 15	<p>DUE: Nursery Rhymes Assignment</p> <p>ILP</p> <p>Review for Quiz 3</p>	<p>QUIZ 3</p> <p>ILP</p>
Week 16	<p>REVIEW/PC Practice</p> <p>ILP Performances (in class, private meeting during end of class, or appointments)</p> <p>Go over quiz 3 / review for final</p>	<p>DUE: Live Performance Paper DUE: PC 5 Recording by 11:59pm Friday</p> <p>ILP Survey</p> <p>Review for final</p>
Week 17	<p>Final Exam Week SEE SYLLABUS FOR SCHEDULE AND EXAM POLICY</p> <p>ILP Survey make-ups</p>	

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Calendar for sections that met three days per week

Week	Monday	Wednesday	Friday
Week 13	<p>Musical Terms & Form QUIZ</p> <p>Practice for PC 4</p> <p>Continue listening for form & dynamics</p> <p>ILP: Begin choosing groups and songs</p> <p><i>Teaching Presentations</i></p>	<p>Practice for PC 4</p> <p>Discuss timbre of voices and instrument families</p> <p>ILP: “Finalize” groups and song selections – Decide on which section (verse, chorus, etc.) you/your group will start with by next class</p> <p><i>Teaching Presentations</i></p>	<p>DUE: PC 4 Recording @ 11:59pm</p> <p>Begin listening for timbre</p> <p>ILP: Working on beginning – Finding starting pitches</p> <p><i>Teaching Presentations</i></p>
Week 14	<p>Present compound meter & Tam and ti-ti-ti rhythms (dotted quarter note and three eighth notes)</p> <p>Continue listening practice...</p> <p>ILP: Discuss “arranging” – Look through instrument closet if students working in groups are interested</p>	<p>Present dotted quarter rest, Ta-ti, and Too-oom (dotted half note) in compound meter</p> <p>ILP</p>	<p>Continue to practice rhythms/songs in compound time</p> <p>Practice notating rhythms in simple time</p> <p>ILP</p>
Week 15	<p>Practice notating rhythms in compound time</p> <p>ILP</p> <p>Review for Quiz 3</p>	<p>DUE: Nursery Rhymes Assignment</p> <p>ILP</p> <p>Review for Quiz 3</p>	<p>QUIZ 3</p> <p>ILP</p>
Week 16	<p>REVIEW/PC Practice</p> <p>ILP Performances (in class, private meeting during end of class, or appointments)</p> <p>Go over quiz 3 / review for</p>	<p>REVIEW/PC Practice</p> <p>ILP Surveys</p> <p>Review for final</p>	<p>DUE: Live Performance Paper</p> <p>DUE: PC 5 Recording @ 11:59pm</p> <p>ILP Survey make-ups</p>
Week 17	<p>Final Exam Week SEE SYLLABUS FOR SCHEDULE AND EXAM POLICY</p>		