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Music Education and Its Impact on L2 Learning

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Music Education and Its Impact on L2 Learning: A Toolkit for Music Educators

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Johanna Smith Nilsson
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Music Education and Its Impact on L2 Learning: A Toolkit for Music Educators

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Under the guidance and approval of the committee, and approval by all the members, this field project has been accepted in partial fulfillment of the requirements for the degree.

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TABLE OF CONTENTS

Acknowledgements……iv
Abstract v

Chapter I–Introduction 1

Statement of the Problem 1
Purpose of the Project 4
Theoretical Framework 7
Significance of the Project 9
Definition of Terms 10

Chapter II–Review of the Literature 12

Introduction 12
Evolutionary Origins of Music 13
Cognitive Processes of Language and Music 17
Music and Second Language Acquisition 23

Chapter III–The Project and Its Development 29

Brief Description of the Project 29
Development of the Project 30
The Project 34

Chapter IV–Conclusions and Recommendations 35

Conclusions 35
Recommendations 36

Appendix–Music Education and Its Impact on English Learners……55

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I always think I'm going to have time for the important things – soon…. If I have learned one thing in the past few years, it is that if I want to be brave or faithful or more loving, I need to do it now. Soon might never come. The season for my being the person I want to be is here; the time for living the life I want to live is now.

'Soon' is a placeholder. 'Now' is a life. Life is a gift. May we all be blessed to live our lives as fully and as deeply as we can, for as long as we can. Starting now. (Smith-Nilsson, 2015).

Thank you to my mother, Kim Smith-Nilsson, for pushing me to pursue my Masters now instead of waiting for 'Soon' to come.

ABSTRACT

English Language Learners are disproportionately underrepresented in secondary music classes in the United States. They are systematically excluded due to overly restrictive schedules, high emphasis on test scores and academic remediation, real and perceived cost of participation, and the types of courses that are offered at most secondary schools. At the same time, musical intervention research has revealed that musical ability is linked to literacy, pronunciation, and vocabulary retention, all important aspects of second language acquisition. By excluding English Language Learners from music education, we could be denying them a tool that could positively impact their language acquisition. However, most of the stakeholders who determine whether English Language Learners enroll in music are unaware of the connections between music and language. The purpose of this project is to recruit English Language Learners to music programs by providing music teachers with a toolkit to educate students, parents, school administration, school counselors, and school board members on the benefits of music for language learning. By empowering educators and families with this knowledge, music teachers might find more English Language Learners in their classrooms and English Language Learners might find that the process of producing music improves their English language acquisition.

CHAPTER I
INTRODUCTION

Statement of the Problem

For years, music programs have reported low enrollment of English Language Learners (Elpus & Abril, 2011). According to Elpus and Abril's 2011 analysis on the 2004 Educational Longitudinal Study Report, Spanish-speaking English Language Learners in their senior year of high school were fifty percent less likely than their native English-speaking peers to be in a musical ensemble. Such a statistic is troubling because there are many indicators that language and music are correlated (Ashtiani & Zafarghandi, 2015; Fisher, 2001; Legg, 2009; Levitin & Menon, 2003; Li & Brand, 2009; Maess, Koelsch, Gunter, & Friederici, 2001; Murphey, 1990; Patel & Daniele, 2003; Salcedo, 2010; Schön, Boyer, Moreno, Besson, Peretz, & Kolinsky, 2008; Tanaka & Nakamura, 2004), leading researchers to wonder if exposure to music leads to greater success in language acquisition.

In addition to its possible effects on second language acquisition, there are many non-academic benefits to participation in a musical ensemble, including a sense of belonging and investment in the school community (Hallam, 2010). Adderley, Kennedy, & Berz (2003) found that social climate was an important aspect of musical ensembles for participants. Indeed, Baker (2009) found that one of the primary reasons that high school students enroll in musical ensembles, often in spite of scheduling conflicts, was because of the sense of community that the ensembles instilled. A sense of community is particularly important to English Language Learners, who can be sequestered into "ESL Ghettos" and often report feelings of exclusion, isolation, segregation, and inequality on campus (Faltis & Arias, 2007). In light of these findings,

enrollment in an ensemble could foster community and inclusion for English Language Learners who are currently excluded.

Although English Language Learners are enrolled at a lesser rate than native English speakers in school musical ensembles, socioeconomic status has been found to be a stronger predictor of music participation than language status (Lorah, Sanders, & Morrison, 2014). In fact, one study found that when socioeconomic status was controlled for, English Language Learners were not underrepresented in school music programs (ibid). English Language Learners are more likely to be in a household of a lower socioeconomic status. In 2010, 74-85% of English Language Learners in California lived in poverty, as opposed to only 21% of their native English-speaking peers (Hill, 2012). Students living in poverty are more likely to be in overcrowded and underfunded schools (Faltis & Arias, 2007), schools that are less likely to offer multiple music electives (Costa-Giomi & Chappell, 2007). These students are confronted with the additional challenges associated with poverty, including limited access to healthcare, which places additional strains on their learning (Kozol, 2005).

Another predictor of musical enrollment is academic performance (Elpus, 2013; Kinney, 2008; Kinney, 2010; Miksza, 2007). Research has shown that high-achieving students are more likely to sign up for music, particularly for band (Elpus, 2013). As such, many English Language Learners are excluded as they have the added difficulties of learning English in addition to their other schoolwork, leading to an achievement gap between English Language Learners and native English speakers (Murphey, 2014).

Such sweeping statistics should not obscure the fact that there are many highly academic English Language Learners, and there is certainly a need to further disaggregate data to look at sub-groups within the English Language Learner population. However, as in the case with

socioeconomic status, when Lorah et al. (2014) controlled for academic achievement, they found that English Language Learners were not disproportionately underrepresented in music programs. These results indicate that in order to address the needs of English Language Learners who are not currently enrolled in music programs, teachers must address issues of socioeconomic status and academic achievement. Although music teachers can and should be examining their programs and recruitment efforts to analyze why students in lower socioeconomic status and academic achievement categories are not enrolling or staying enrolled in music programs, such examinations are not the focus of this project. This project will focus on the specific academic and social needs of English Language Learners as they relate to music enrollment, needs that will at times overlap with students of lower academic achievement and socioeconomic status.

One of the primary barriers to enrollment in a musical ensemble for all students is scheduling (Baker, 2009). Scheduling factors such as block schedules, college requirements (such as the A-G requirements in California), limited Advanced Placement and International Baccalaureate classes, and limited electives make it difficult for many students to persist in music education. These constrictions are particularly exacerbated for English Language Learners, as their schedules tend to be highly restrictive (Faltis & Coulter, 2007). Many English Language Learners are placed into English Language Development classes and sheltered content classrooms, in which curriculum is altered to suit English Language Learners. Due to the constraints on their schedules, they have less access to elective courses and are less included in school-wide activities in general (Lorah et al., 2014). Therefore, part of integrating English Language Learners into music programs must include special attention to their scheduling needs.

Another potential barrier to English Language Learner enrollment in music programs is the range and type of music offerings in most schools across America, particularly in secondary

schools. Many secondary schools offer auditioned musical ensembles that perform primarily Western European art music (Horne, 2007). As a response, many researchers and music educators have called for culturally relevant pedagogy that includes and celebrates the home and youth cultures of our students (Abril, 2009; Albert, 2006; Horne, 2007; Kratus, 2007; Shaw, 2012, Sleeter, 2001; Williams, 2012). Achieving culturally relevant music pedagogy is particularly challenging as the majority of music teachers have characteristics that differ from their students (Abril, 2009). This is true at the elementary level as well. Doyle (2012) found that although African American or Hispanic students made up 50-80% of the urban elementary school student population studied, most music teachers were White women. The lack of role models can be a deterrent for students who are not White (Horne, 2007). Such a challenge does not negate the possibility of culturally relevant music offerings, but rather makes it that much more important.

Issues of representation, scheduling, socioeconomic status, and academic tracking must be addressed in order to increase enrollment of English Language Learners in music education. All of these factors and more contribute to the overall trend of low enrollment in music programs for English Language Learners, which may be negatively impacting their language acquisition and further excluding them from opportunities for inclusion on campus (Hallam, 2010; Legg, 2009; Li & Brand, 2009; Schön et al., 2008).

Purpose of the Project

Though there are many limitations on the current research available, there is a body of research indicating that exposure to and participation in music can improve second language vocabulary acquisition, pronunciation, and literacy (Ashtiani & Zafarghandi, 2015; Legg, 2009; Li & Brand, 2009; Paquette & Rieg, 2008; Schön et al., 2008; Slevc & Miyake, 2006; Tanaka &

Nakamura, 2004). When English Language Learners are denied access to music programs, they are not only being denied an enrichment activity that fosters community (Hallam, 2010), they are also potentially forgoing an opportunity to acquire English more quickly (Paquette & Rieg, 2008; Talamini, Grassi, Toffalini, Santoni, & Carretti, 2018). As a music teacher myself, I know that I would like more English Language Learners in my choral ensembles but don't know how to advocate for and recruit these students in the face of scheduling conflicts, funding obstacles, and ignorance on the part of stakeholders. These stakeholders include school boards, administrators, school counselors, parents of English Language Learners, and English learning students. Music teachers such as I, therefore, need a toolkit to help them advocate for more English Language Learners in their classroom. School boards, administrators, school counselors, parents, and students may need to be persuaded in order to grant English Language Learners access to music education.

Those who allocate funding for courses and hire teachers (school board and administrators) need to understand how to create a master school schedule in a way that allows and encourages English Language Learners to participate in music. In the secondary level, this may include offering a variety of culturally responsive music courses that appeal to a diverse student population and don't require prior enrollment (Lorah et al., 2014). The master schedule must allow for English Language Learners to enroll in music classes while simultaneously receiving the academic content that they need in core subjects for graduation and college readiness, which may include remedial courses and sheltered instruction courses. Although further research is still needed to provide conclusive evidence that music increases test scores, the literature in this review and included in the toolkit outlines extensive evidence that inclusion in music can lead to language learning gains. Therefore, music should not be seen as taking away

from these learners' academic and test preparedness, but as a holistic part of their learning experience. Though school counselors do not fund or create the school's master schedule, they still must be apprised of the benefits of music for English Language Learners. Additionally, counselors must be prepared to accommodate the shifting schedules of English Language Learners as they test out of English Language Development or advance to classes with less English language support.

Parents and students may require additional support to navigate the bureaucratic structure of most American high schools, which may differ greatly from the system of their native country (Faltis & Arias, 2007). The impetus for music education advocacy should not be on them; it should be on the school faculty to seek them out. However, parents and students need to be made aware of the different course offerings and know what to expect from the different musical experiences on offer, including how or why these musical experiences are culturally relevant to all students. They need to understand graduation and college requirements in order to understand how and where music fits into their schedules. They also need to understand the real costs of participation as well as the fundraising and scholarship opportunities that make music education accessible to all students.

With all of these considerations in mind, this toolkit consists of five presentations designed for music teachers to utilize with school staff, school boards, school administrators and counselors, parents, and students, in an attempt to increase enrollment of English Language Learners in music education programs. Each presentation attempts to address the objections that each group may have towards enrollment of English Language Learners in music programs. Although there is limited research on the barriers to enrollment for English Language Learners in particular, the presentations address a list of concerns that schools, parents, and students may

have, as well as a list of actionable items that each group can take in order to increase English Language Learner enrollment in music programs. Reasons for non-participation in music ensembles may include: impacted scheduling due to remedial courses and sheltered instruction; many requirements for college readiness, graduation, and standardized tests; the cost to schools to provide multiple and varied music classes; the perceived and real cost of participation for families; courses that require prior musical experience; courses that are perceived as culturally irrelevant or even insensitive; and the confusing and bureaucratic nature of most American schools (Lorah et al., 2014). Each presentation is accompanied by literature to provide evidence that it is not only beneficial for English Language Learners to be enrolled in music programs, but it is in fact detrimental to their social and academic welfare to allow this low enrollment to continue.

Theoretical Framework

This project is based upon Tim Murphey's (1990) Song Stuck in My Head phenomenon and the expanded OPERA Hypothesis (Patel, 2014). Both theories provide a basis for the ways in which musical training may impact second language acquisition through cross-domain neural plasticity. Cross-domain neural plasticity refers to the phenomenon in which training in one domain may impact the way that input from another domain is processed; for example, if musical training changes the way that English Language Learners are able to acquire language, then that would be evidence for cross-domain plasticity between musical and linguistic processing (ibid). Conversely, if second language experience changes the way in which a student acquires musical skill, then that is also evidence of cross-domain plasticity.

Murphey (1990) first discussed the Song Stuck in My Head phenomenon (SSIMH) as a response to Krashen's Din Hypothesis. 'Din,' a linguistic term first coined by Barber in the

1980s, has come to be accepted by most linguists as the process that occurs when your brain involuntarily rehearses different phrases or words. According to Krashen (1983), din occurs when second language learners are exposed to comprehensible input that is both at their current level of ability and one step above that which they are currently capable. Din is considered an important process in second language acquisition, as it allows learners to digest and process information without making a conscious effort. Murphey (1990) took the idea of din and expanded upon it to discuss SSIMH. Whereas din is the involuntary inner rehearsal of language, SSIMH is the involuntary inner rehearsal of songs, or words put to a melody. These songs repeat themselves over and over in our heads, often subconsciously. According to Murphey's findings, SSIMH may require less input than din. In fact, students may have to hear the song only once to get it stuck in their heads, repeating unfamiliar vocabulary and syntax on a loop. Din could thereby help students acquire language more rapidly, which supports the hypothesis that music can enhance and accelerate English Language Learners' second language acquisition.

Patel (2014) devised the OPERA Hypothesis as a way of understanding why and how musical training impacts speech processing. According to the OPERA hypothesis, instrumental musical training will lead to gains in speech processing due to 1) Overlap in the subcortical and cortical networks; 2) the high level of Precision that musical processing requires (more even than speech); 3) the positive Emotions associated with music; 4) the Repetition that is part of musical training; and 5) the focused Attention that allows one to achieve musical mastery. As described in the literature review, there is increasing evidence that speech and music overlap in their neural networks (Levitin & Menon, 2003; Maess et al., 2001). Such evidence certainly lends credence to the theory that musical training impacts language training. Musical processing is more precise than speech processing; musical pitch is much more discerning than spoken pitch, even in tonal

languages (Patel, 2014). The highly precise processing for music leads to more exact processing in speech as well. Music often evokes positive emotions through patterns of expectations and rewards that release dopamine into our system (Zatorre & Salimpoor, 2013). Positive emotions make it more likely for information to be stored in long-term memory (Phelps, 2004; Vuilleumier, 2005). The many hours of repetition intrinsic to musical training increases neural plasticity, as does the type of focused attention such practice demands (Patel, 2014). All of these criteria must be met in order for musical training to be of benefit to English Language Learners. This framework provides a straightforward rationale for why music enhances language learning.

Although Patel's OPERA Hypothesis refers specifically to instrumental music and its effects on language acquisition, Murphey's SSIMH Hypothesis refers to vocal music and its effects. This paper does not clearly differentiate between instrumental and vocal music, summarizing information on all aspects of music in regards to language acquisition. However, much of the research presented will deal with vocal music, as vocal music inherently shares verbal features of language (Patel, 2014).

Significance of the Project

The research available indicates that music can have a positive effect on second language acquisition (Ashtiani & Zafarghandi, 2015; Fisher, 2001; Legg, 2009; Li & Brand, 2009; Murphey, 1990; Paquette & Rieg, 2008; Salcedo, 2010; Schön et al., 2008; Tanaka & Nakamura, 2004; Talamini et al., 2008). It also indicates that students in music programs report a higher sense of community and inclusion on campus (Baker, 2009; Hallam, 2010). Using the research that is explored in Chapter II, there is enough evidence to support the importance of active recruitment of English Language Learners in music education programs. There are many different groups of people involved in scheduling decisions, and each group may have different

priorities and concerns. Music teachers may feel equipped to teach English Language Learners, but they may not know how to recruit and retain English Language Learners. The presentations provided by this project can be used by music teachers to persuade school administrators and counselors, school board members, parents, and students that music education can be extremely beneficial for English Language Learners, both academically and socially.

Definition of Terms

Affective filter: the affective filter hypothesis states that students are only able to acquire language when they feel comfortable and safe (Krashen & Terrell, 1983).

Cognitive academic language proficiency (CALP): the ability to use and understand language that is relevant to academic success (Cummins, 2008).

Din: the unconscious rehearsal of a second language (Barber, 1980).

English Language Development: Classes in which English is taught to non-native speakers

Entrainment: the group process of synchronizing to an external beat, entrainment is linked to prosocial behaviors and social cohesion (Stupacher, Wood, & Witte, 2017).

Garden-path sentences: a sentence that is grammatically correct but either syntactically or semantically ambiguous, forcing the reader to use context clues in order to determine the meaning of the sentence (Slevc, Rosenberg, & Patel, 2008).

Modularity: hypothetical self-contained, innate structures within the brain with evolutionary functions (Fodor, 2008).

Musical interventions: the body of research that uses music education as an independent variable to determine causal relationships between music and measured outcomes (Hallam, 2017).

Neuroplasticity: the dynamic reorganization of the brain to adapt existing neural networks or form new neural networks (Patel, 2014).

Prosody: the patterns of stress and intonation that contribute to pronunciation.

Second Language Acquisition (SLA): the process of acquiring a second language for real communication. Acquisition is contrasted with learning in that acquisition is subconscious and implicit, whereas learning is rule-driven and explicit (Krashen & Terrell, 1983).

TESOL: Teaching English to Speakers of Other Languages

CHAPTER II
REVIEW OF THE LITERATURE

Introduction

English Language Learners are significantly less likely than their native English-speaking peers to be enrolled in music (Elpus & Abril, 2011). This low enrollment is a disservice to English Language Learners because research shows that music interventions can lead to academic and social benefits for participants (Hallam, 2017). Therefore, a push for the active recruitment of English Language Learners to music programs is necessary in order for these students to receive the rewards that musical training can provide. In order to recruit English Language Learners to music programs, teachers must persuade the major stakeholders (students, parents, administrators, counselors, school staff, even the local school board) that music is especially beneficial to these students.

There is still a dearth of research addressing the specific question as to whether or not participation in music improves or has any effect on a language learner's second language acquisition. However, there is ample research that indicates many cognitive overlaps between language and music (Levitin & Menon, 2003; Maess et al., 2001). Some research has posited links between music and vocabulary retention, phonology, and prosody (Ashtiani & Zafarghandi, 2015; Fisher, 2001; Legg, 2009; Li & Brand, 2009; Patel & Daniele, 2003). Other research looks at the effect that music can have on pronunciation (Ashtiani & Zafarghandi, 2015; Patel & Daniele, 2003; Schön et al., 2008; Slevc & Miyake, 2006; Tanaka & Nakamura, 2004). Some research has even looked at the links between musical ability and literacy (Degé & Schwarzer, 2011). With all of this research to support the benefits of music education for language

acquisition, schools should make a concerted effort to schedule English Language Learners into music classes.

Evolutionary Origins of Music

Music is found in every culture in the world, and evidence of music has been found in all ancient cultures of the world as well (Mithen, 2009). Though different cultures have different expressions and functions of music, there are certain common themes such as the use of discrete pitches and the division of sounds into rhythms that make music a true universal (Brown & Jordania, 2013). Why have humans in every known culture, past and present, created music? Why did our human ancestors, so focused on survival, leave traces of musical instruments as far back as 30,000 years ago (Mithen, 2009)? Unlike language, music doesn't have a clearly identifiable evolutionary function (Madison, Holmquist, & Vestin, 2018). In their excellent overview of the current hypotheses on the origins of music, Madison et al., 2018 summarized several evolutionary theories, including a group of language hypotheses, emotion hypotheses, and a theory of entrainment. This paper will briefly review the other theories but primarily focus on the language hypothesis and further unpack the various thoughts on the evolutionary origins of language and music.

Music could possibly have evolved as a sort of "language" of emotions. Perlovsky (2012) argued that music and language evolved in parallel and work in tandem to fulfill our basic instincts and needs. In this model, proto-humans developed language in order to disseminate information quickly and unambiguously, by necessity cutting out semantic ambiguity and emotional connection. However, music developed at the same time in order to fulfill early humans' emotional needs. Juslin and Laukka (2003) found that there were general patterns of acoustics that specified certain emotions to listeners, making music a fairly accurate conveyor of

emotions. They contended that this data provided further evidence that vocal music evolved as a means to communicate emotions.

Other researchers hypothesized a theory of entrainment. The group process of synchronizing to an external beat, entrainment is linked to prosocial behaviors and social cohesion (Stupacher, Wood, & Witte, 2017). When humans move in time to music, such as in a coordinated dance or in a musical ensemble, they form social connections. For this reason, Merker (2000) proposed that synchronous chorusing by the males of the species attracted mates just by the nature of their volume. Natural selection facilitated the passing on of this trait.

Both Brown (2000) and Mithen (2009) fall into the category of language hypotheses. Language hypotheses examine the ways that language and music seem to connect. In examining the relationship between music and language, one must first question the origins of both. Did they originate simultaneously or independently? The answer to this question may help researchers determine to what extent the two interact (Besson, Chobert, & Marie, 2011; Patel, 2013).

Brown (2000) described five theoretical models for the evolution of music and language (Figure 1.1). The first two hypothesize separate geneses. In the other three models, language and music originated from a shared prototype and then branched into their distinct systems.

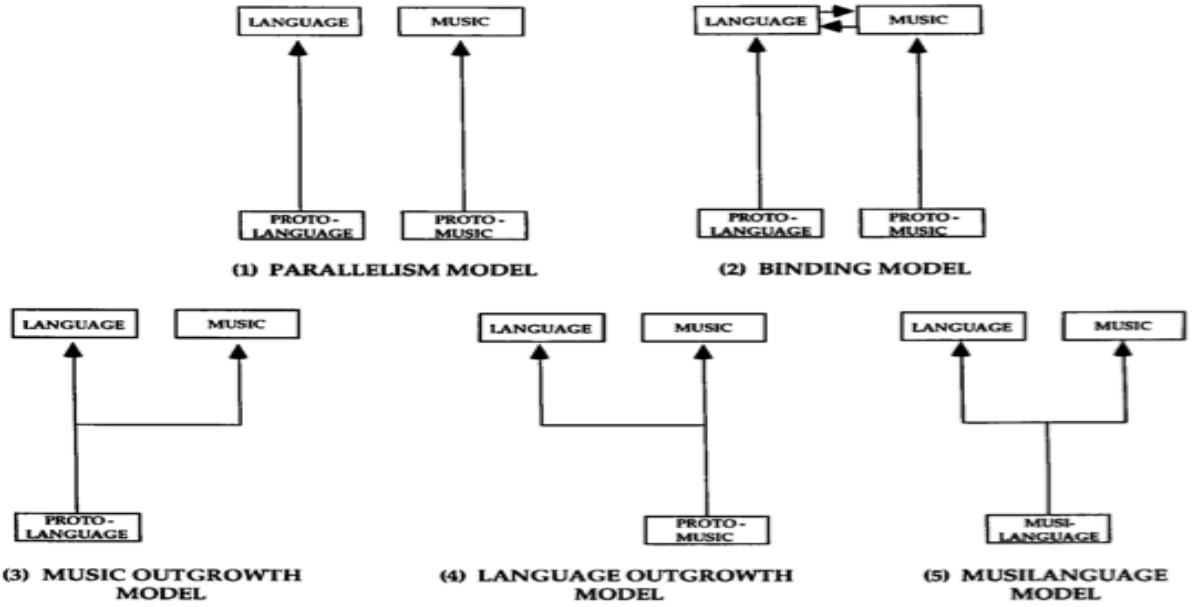

Figure 1. Five models for the evolutionary development of music and language. Reprinted from Brown, 2000, p. 276 with permission.

As seen in Figure 1, the Parallelism Model is one in which language and music developed independently of one another. Similarly, in the Binding Model, language and music developed separately, but then evolved to share certain processes. The Music Outgrowth Model posits that language and music evolved from a proto-language. Herbert Spencer (1875) argued this idea in his seminal article, *The Origin and Function of Music*. Its opposite, the Language Outgrowth Model, states that language and music evolved from a proto-music; in other words, that music came before speech. Darwin (1871/2009) was a proponent of this hypothesis, believing that music originated as a form of sexual selection as songs were used to attract mates for procreation, much as is done with different species of animals such as birds.

Finally, Brown (2000) proposes the Musilanguage Model, in which language and music derived from neither a proto-language nor a proto-music but rather a combination of the two: a

musilanguage. One did not beget the other; they evolved simultaneously and then split off into two distinct systems at some point in their development. Mithen (2009) developed a similar hypothesis, (the Hmmmmm hypothesis) based on his archeological research on the evolution of *Homo sapiens* from the Neanderthals. Although we still do not know whether language preceded music or vice versa, scientists seek to answer this question in order to understand how and why these two systems are related.

Music may have evolved as a means to communicate with infants (Hodges, 1989; Trevarthen, 1999). Motherese, or the singsong way that caretakers instinctually speak, seems to be universal as a means for adults to communicate with babies (Hodges, 1989). It may serve as a survival mechanism, as babies have highly undeveloped brains at birth (Mithen, 2009). As humans evolved, our brains became larger and our pelvises became smaller, making it necessary for babies to be born before their brains could fully develop (ibid). Babies respond more positively to motherese (Hodges, 1989). This manner of speech therefore facilitates bonding, a biological imperative for human survival (ibid).

The social aspect of music making has caused many researchers to posit that music exists as a form of social cognition, bonding, or identification (Loersch & Arbuckle, 2013; Dunbar, Kaskatis, MacDonald, & Barra, 2012; Hagen & Bryant, 2003). Such a theory doesn't seem out of the question, especially considering the documented social benefits for English Language Learners, including feelings of inclusion, improved teamwork, and increased empathy (Campbell, Connell, & Beegle, 2007; Hallam, 2010; Rabinowitch, Cross, & Burnard, 2013). Loersch and Arbuckle (2013) argue that music arose as a means of social communication. They insist that music evolved to develop group cohesion, and they premise their hypothesis on the empirically-researched assumption that music evolved to help group living by passing on

information, impacting human behavior and mood. Their hypothesis attributes even more importance to the social impacts of music, and provides a framework for understanding why participation in music could be so beneficial for English Language Learners in the context of community building.

Regardless of how and why music evolved, it is clear that music and language share many parallels. In recent years, researchers have turned to brain imaging to examine the cognitive overlaps between language and music.

Cognitive Processes of Language and Music

The relationship between music and language is still a hot topic of research and debate. Some researchers argue that language and music are discrete cognitive processes (Abrams et al., 2011; Ayotte, Peretz, & Hyde, 2002; Fodor, 2008; Peretz, 2001; Peretz & Coltheart, 2003). Other researchers argue that language and music share cognitive processing features (Levitin & Menon, 2003; Maess et al., 2001; Patel, 2003). The debate over the degree to which music and language cognitively overlap indicates that language and music involve certain similar cognitive processes, but how and to what extent they overlap is still to be determined (Hallam, 2017; Patel, 2013).

According to their generative theory of tonal music (GTTM), Lerdahl and Jackendoff (1983) define the different hierarchical structures of music as a type of musical grammar. They observed that music, like language, is generative, hierarchical, and consists of abstract structural relations. Though music and language are not the same, they both rely on predictable structures to convey novel ideas and communicate meaning. Hence, it is worth researching the extent to which musical and linguistic syntax follow the same neural pathways (Patel, 2013).

One of the primary questions facing researchers is whether or not music and language are modular systems in the brain. The definition of modularity itself is up for debate. Fodor (2008) argued that modular systems must be: domain-specific, innate, holistic, hardwired, and autonomous. However, some of these traits have been disputed (Nunes-Silva & Haase, 2013). Coltheart (1999) argued that some systems that are not innate can still be modular (e.g., reading). Peretz and Coltheart (2003) insisted that modularity is dependent on input; that is, that the system only processes certain types of inputs and that these processes are unique to that system. The evidence in support of modularity in music is mixed.

Brain imaging has revealed that similar parts of the brain are activated in musical and linguistic processing (Abrams et al., 2011; Koelsch, 2005; Levitin & Menon, 2003; Maess et al., 2001; Vuust, Roepstorff, Wallentin, Mouridsen, & Ostergaard, 2006). Rhythm processing in both speech and music both utilize the inferior frontal cortex (Abrams et al., 2011). Certain regions of the inferior frontal cortex such as the pars opercularis, pars triangularis, and Brodmann Areas 44-45 (which are involved in phonological and syntactic processing of language) have been linked to musical processing as well (ibid). Similarly, Brodmann area 47, an area of the brain long assumed to be associated solely with linguistic syntax, has been found to also be involved with musical processing (Levitin & Menon, 2003; Vuust, et al., 2006). Maess et al., 2001 found the same to be true for the Broca's area, a part of the brain traditionally linked to speech production.

Koelsch (2005) found that musical syntax is processed in the inferior frontolateral cortex, ventrolateral premotor cortex, and the anterior part of the superior temporal gyrus. Meanwhile, he found that musical semantics (the meaning communicated by music) is processed in the posterior temporal regions of the brain. All of these sub regions of the brain overlap significantly

with language perception and processing (ibid). Despite these many overlaps, however, it appears that musical pitch is primarily processed in the right hemisphere of the brain, whereas many areas of linguistic processing (syntax, production) occur in the left hemisphere (Patel, 2013).

In addition to the inferior frontal cortex, rhythm processing in music and spoken language also employs auditory cortical regions (Abrams et al., 2011; Grahn & Rowe, 2009). However, the acoustic structure of music and language differ enough that they activate different regions of the auditory cortex (Patel, 2013). Music tends to use slow spectral patterns, whereas speech employs fast spectral patterns (ibid). Rhythm in music and speech also employ the motor and premotor areas of the brain (Abrams et al., 2011; Grahn & Rowe, 2009), the insula and basal ganglia (Abrams et al., 2011) and even the cerebellum (Abrams et al., 2011; Grahn & Rowe, 2009).

Hickok, Buchsbaum, Humphries, & Muftuler (2003) found evidence to support that auditory-motor integration for both verbal recall and melodic recall tasks activated the left posterior Sylvian cortex, a region of the brain that was previously considered the phonological store for verbal working memory. However, some voxels in the brain responded more strongly to the melodic stimulation and others responded more strongly to the verbal stimulation, indicating that, although they are part of the same auditory-motor circuit in the brain, there is some differing organization. In support of this finding, Abrams et al., 2011 found that music and speech were processed in similar regions of the brain but that the neurons followed different patterns, revealing that the same resources and networks in the brain were deployed differently.

Much of the evidence pointing to modular (separate) processing of language and music relies on the study of people who suffer from amusia. Congenital amusia is generally defined as

a cognitive disorder that prevents one from recognizing familiar tunes due to an inability to discriminate between pitches (Dalla Bella, Berkowska, & Sowinski, 2011). This disorder is attributed to brain differences in the auditory cortex and the inferior frontal cortex (ibid). However, these brain abnormalities don't seem to impact most patient's linguistic abilities, which points to evidence that the two are not inextricably linked (Patel, 2013). This dissociation is also evident in previously healthy individuals that suffered brain damage and suddenly develop amusia but not aphasia (the loss of linguistic function and/or understanding) (Peretz & Coltheart, 2003). These observations have been interpreted as evidence that music and language do not share brain resources (Patel, 2013).

The apparently contradictory research regarding musical and linguistic processing led Patel (2003) to develop the Shared Syntactic Integration Resource Hypothesis (SSIRH). SSIRH states that, although linguistic and musical syntax have different *representations* (for example, language has categories of speech such as nouns and verbs that have no obvious analogs in music) and therefore are seemingly disparate, they both share some of the same cognitive *processes*. This hypothesis allows for the evidence that points to neurological differences between music and language**.** Slevc et al. (2008) tested this hypothesis and found evidence to support that the two domains share cognitive resources. They measured how much longer it took participants to read sentences containing syntactically ambiguous words in comparison with sentences with straightforward syntax. Then, they added musical chords to the background and found that, when they played a musically unexpected chord (a chord that did not fit into the given cadence or sequence), it took readers much longer to process the syntactically ambiguous sentences. These results support the hypothesis that both syntactic integration of music and syntactic integration of language share similar brain processes and therefore interfere with one

another when they both occur simultaneously, causing Slevc et al. (2008) to assert that, "syntactic processing is not just a hallmark of human language but is a hallmark of human music as well" (p. 604). The authors noted that this is only in relation to syntactic processing, and did not necessarily reflect semantic or other speech functions. Indeed, Bonnel, Faita, Peretz, and Besson (2001) found evidence to suggest that the semantic integration of language did not compete with melodic integration. They changed the last word in opera excerpts to be semantically incompatible and then altered the pitch of the last word to be melodically unexpected; these two alterations did not appear to interfere with one another.

In contrast to the findings of Bonnel et al. (2001), Perruchet and Poulin-Charronnat (2013) replicated the experiment that Slevc et al. (2008) used when evaluating the interference between syntactic incongruities in music and language, but substituted syntactic garden path sentences with semantic garden path sentences. Perruchet and Poulin-Charronnat (2013) found that semantic garden path sentences produced the same results as the previous experiment with syntactic garden path sentences, and interpreted these results as having more to do with the garden path sentences than with a shared syntactic module. They did not dismiss Patel's SSIRH, but felt that further evidence was needed to support it.

Dalla Bella et al. (2011) found some evidence in brain-damaged patients to indicate that pitch production in music and language have different underlying mechanisms. They found that tone-deaf participants couldn't imitate pitch sequences but could imitate words with proper intonation, such as rising tones for questions and falling tones for statements. They also found that some participants were impaired in both musical and verbal imitation, and that song production involved more bilateral brain activation than speech production, suggesting some

shared mechanisms. These mixed results support the hypothesis that, although there are some shared processes involved in speech and music, there are also some distinct processes.

Wilson, Abbott, Lusher, Gentle, and Jackson (2011) found that singing and speaking activated neural networks that, though not the same, interacted. They also found that the degree to which the neural networks activated by singing overlapped with the neural networks associated with speech varied according to musical expertise. Singers with less experience used many of the same cognitive processes as they did while speaking; singers with more expertise started to use different cognitive processes that pertained less to speech. These results indicate that the musical system and the language system can be decoupled over time.

Meanwhile, in their research on working memory, Koelsch et al., 2009 discovered that the network of brain activation was almost identical for verbal and melodic rehearsal. When they asked participants to remember a string of four sung syllables and then recall either the pitches or the syllables, their brain scans were almost identical regardless of task, indicating a strong overlap between phonological and musical working memories.

Poulin-Charronnat, Bigand, Madurell, and Peereman (2005) also examined the relationship between melodic priming and semantic priming and found that there was significant interaction, hypothesizing that they must share some of the same cognitive resources. When they put a word that didn't make sense at the end of a sung phrase and then modulated the chord from a tonic (stable, expected chord) to a subdominant chord (less stable though still in the key), it was much more difficult for participants to perform a lexical decision task on the sung word. Steinbeis and Koelsch (2008) came to similar conclusions when they analyzed the extent to which tension and resolution hold semantic meaning in music. They used brain scans to find empirical evidence that people who grew up listening to Western music subconsciously interpret

patterns of tension and release as holding semantic meaning (meaning that is independent of context), much like a word or phrase in language. This shows that music, much like language, can prime semantic concepts and activate semantic networks in the brain.

As presented in this chapter, the evidence for shared or modular cognitive processing of music and language is strikingly mixed. Although on one hand there seem to be remarkable overlaps in system architecture in the brain, there are also confounding data that point to inherent differences between the two systems. Enough points of convergence have been identified, however, that it stands to reason that educators should take note of the potential positive impacts on their language learners. In fact, the research is much more conclusive when we look at the ways that music has already been used to impact second language learning, particularly in the area of pronunciation.

Music and Second Language Acquisition

Historically, the role of music in the second language classroom has varied. The Audiolingual Method of the 1950s and 60s occasionally employed music between verbal drills (Engh, 2013). Lozanov's Suggestopedia of the 1970s prescribed Baroque music as background music during instruction (Bancroft, 1978). In both of these instances, music was used passively. Music has been used as a means to lower learners' affective filters (Engh, 2013). Although music certainly has the potential to soothe learners, there are many other uses of music in the language classroom. Musical ability has been linked to literacy ability (Degé & Schwarzer, 2011). Then, in addition to syntax and semantics, spoken language also consists of phonology and prosody, both of which contribute to pronunciation in a language. As both music and speech involve acoustical processing, there are possibly transfer of training effects that occur to enhance musicians' pronunciation in a second language (Ashtiani & Zafarghandi, 2015; Besson et al., 2011; Legg,

2009; Li & Brand, 2009; Moreno et al., 2009; Murphey, 1990; Patel & Daniele, 2003; Rukholm, 2015; Salcedo, 2010; Schön et al., 2008; Slevc & Miyake, 2006; Tanaka & Nakamura, 2004; Wallace, 1994).

Degé and Schwarzer (2011) measured several precursors to literacy in preschoolers and found a significant positive correlation between literacy aptitude and musical aptitude. They measured phonological awareness, working memory, and the quick retrieval of information from long-term memory (all identified precursors to literacy) in addition to learners' musical ability, measured in both perception and production. They found that these abilities were positively correlated, indicating that literacy and musicality are related.

Slevc and Miyake (2006) questioned whether or not musical aptitude is related to language learning success. They assessed musical aptitude versus phonology, syntax, and lexical knowledge. They found that there is a strong positive correlation between musical ability and L2 phonological ability (both receptive and productive), measured through the identification and repetition of minimal pairs in words, phrases, and sentences. In other words, students with greater musical aptitude had better pronunciation and listening comprehension in their target language. Although musical aptitude may be partly genetic, research has found that prolonged practice can increase musical aptitude (Moreno et al., 2009). In light of this evidence, inclusion in a musical ensemble for a significant length of time is likely to increase a student's musical aptitude and thereby improve their pronunciation and listening comprehension. Indeed, Besson et al. (2011) found that years of musical participation led to improved speech and attention to prosodic features of language such as sentence intonation, word intonation, and the metric structure (length) of words. Singing English songs have been shown to help learners replicate native English prosody in later tests on speaking and reading aloud (Ashtiani & Zafarghandi,

2015). This cross-domain plasticity led Patel (2014) to develop the OPERA hypothesis in order to explain how and why musical training improves auditory processing.

Schön et al., 2008 hypothesized that students would learn new vocabulary in a target language faster if the syllables of the words were mapped to specific musical pitches, with the conclusion being that therefore learners might learn a language faster through song. They found that the listeners were better able to identify where the "words" began and ended when they were introduced musically. By manipulating the prosodic features of speech and mapping speech to pitch, students may acquire language faster. In support of this hypothesis, Tanaka and Nakamura (2004) found that verbal and musical memory abilities seemed to measure the same and that the better verbal (and therefore musical) memory, the better one pronounced a second language.

Further support for links between music and language are reflected in the very structure of songs. Just as language structure is culturally specific, so is music, and it appears that in some ways, instrumental music reflects the language of the composer (Patel & Daniele, 2003). Researchers compared the instrumental music of a stress-timed language (e.g., English) and a syllable-timed language (e.g., French) and found a strong correlation between the timing of the language and the length of notes in their music (ibid). These findings imply that learning music that was composed by English-speakers may help students internalize the English language's prosodic features, such as rhythm, stress, and intonation.

Some studies have looked at the possible effects that music can have on vocabulary learning and retention. Robert Legg (2009) constructed an experiment to evaluate whether or not teenage students would memorize and understand French vocabulary terms better if exposed to them first through song. The group that was exposed to vocabulary first in song format performed statistically significantly better on vocabulary posttests, indicating that there may be a

benefit to introducing vocabulary through song. These findings were replicated by Rukholm (2015), who found that students performed better when introduced to incidental vocabulary through song with pitch, but not through rhythmic readings of poetry (such as rap). Thus it appears that pitch, not rhythm, is the independent variable, which is consistent with the findings of Wallace (1994) who compared textual recall of a ballad that was spoken rhythmically and a ballad that was sung and found that singing enhanced verbal memory.

Li and Brand (2009) did a separate experiment with similar conclusions. The authors examined three groups of thirty-five graduate law students in China to see whether songs influence vocabulary acquisition, language usage and meaning, and students' motivation, enjoyment, and confidence. The all-music group performed better on posttests and reported higher motivation, enjoyment, and confidence than the other two groups, which indicates that perhaps music's effectiveness in vocabulary acquisition is not all to do with subvocal rehearsal, but also to do with attitudes towards learning. These results agree with current research on the impact of emotion on learning and retention (Phelps, 2004; Vuilleumier, 2005).

Other researchers have looked at the way that introducing vocabulary through song can lead to increased involuntary mental rehearsal, also referred to by linguists as "din." When second language learners receive comprehensible input (input that is both at their current level and one step further), the potential for din occurs (Krashen, 1983). Murphey (1990) differentiated between din and the Song Stuck In My Head Phenomenon (SSIMH) to allow for a musical equivalent. SSIMH may require less input than din and could help students acquire language more rapidly. In support of this hypothesis, Salcedo (2010) found that in a beginning Spanish class in a university in the Southwestern US, students were able to recall text significantly better when the text was introduced through song and that students who were

exposed to the musical intervention experienced more involuntary mental rehearsal (din) after listening to the song. Rukholm (2015) also documented many instances of student reports of subvocal rehearsal (din) when vocabulary was introduced through song.

Although instrumental music was prescribed as background music in Lozanov's Suggestopedia, vocal music is now a common teaching tool in many language classrooms (Engh, 2013). Songs generally have fewer syllables per second than speech (Patel, 2014). Songs are extremely repetitive and predictable, which further enhances memory and allows teachers to highlight certain vocabulary and grammar points. Pop songs in particular are found to have a high verb count, which Murphey (1990) likened to the way that English speakers think during inner speech. Songs can also call attention to aspects of English pronunciation, such as consonant sounds and vowel shapes. According to Patel (2014), four aspects of song highlight language structure: rate, repetition, rhythm, and rhyme.

Although English Language Learners are underrepresented in musical ensembles (Elpus & Abril, 2011), the evidence described in this chapter lends support to the theory that music and language have many commonalities that may benefit English Language Learners in their English language acquisition, particular in regard to vocabulary learning and pronunciation (Ashtiani & Zafarghandi, 2015; Legg, 2009). Music is a true human universal with no clear evolutionary value (Madison et al., 2018). Many researchers have posited different hypotheses for why music evolved, and some believe that music preceded language, or even that language evolved from music (Brown, 2000; Mithen, 2009). Other researchers have looked at the social functions of music as a potential evolutionary value, citing mother-infant bonding as one possible explanation and group bonding as another (Hodges, 1989). The origins of music may shed light on the relationship between music and language (Besson et al., 2011). Much research has focused on

whether music and language share cognitive processes or whether music and language are both modular neural networks (Patel, 2013). Some evidence indicates that music and language are discrete processes, although other evidence points to shared neural networks. Brain scans show that music is more often processed in the left side of the brain, although language is more often processed in the right side of the brain (ibid). However, both music and language activate the inferior frontal cortex, and many areas of the brain are involved in both systems, including Brodmann 47 and Broca's Area (Levitin & Menon, 2003; Maess et al., 2001). The evidence often appears so contradictory that Patel (2003) devised the Shared Syntactic Integration Resource Hypothesis, theorizing that although the processing for language and music may not be identical, both call on shared resources in the brain and therefore sometimes interfere with each other. Experience in music alters the neural pathways that are activated (Wilson et al., 2011). Therefore, it seems that the amount of time one receives musical training has some bearing on what networks are used and may serve as further evidence that music education should be available to English Language Learners sooner rather than later. These research findings and others support the hypothesis that music can be a valuable asset in language instruction.

CHAPTER III
THE PROJECT AND ITS DEVELOPMENT

Brief Description of the Project

This project consists of a toolkit for music teachers to use in order to advocate for the active recruitment of English Language Learners into their programs. There are five presentations that are meant to serve as a template for music teachers to adapt to their own needs. The presentations target school staff, school board members, administrators and school counselors, English Language Learners, and parents of English Language Learners. Suggested scripts, as well as handouts for audience members accompany each presentation. The presentations address low enrollment of English Language Learners in music classes as a problem not only of educational equity and classroom diversity, but as a possible detriment to English Language Learners' language acquisition. They acknowledge some of the potential causes for this under-representation, including low test scores, scheduling conflicts with remedial and sheltered instructional courses, real and perceived costs of music participation, and the types of courses that are available to English Language Learners who may have limited prior experience with musical ensembles, perhaps due to the other barriers listed. They explain the cycle of low English Language Learner enrollment, looking at the impact that low test scores can have on a student's schedule and ability to elect courses and the added requirements that English Language Learners must meet in order to be graduation and college eligible. All of these factors make it nearly impossible for an English Language Learner to enroll in a music course, particularly if their school does not actively provide routes to music education for them. Even if students are reclassified in middle or high school, they are often far behind their native speaking peers who have already been enrolled in music education programs, and therefore do not qualify

for the types of courses that are offered at the secondary level. The presentations provide some of the information included in this literature review in order to educate stakeholders on the important benefits of music to English Language Learners. Finally, the presentations end with a call for the active recruitment of English Language Learners into music programs, whether that means changing the master schedule of the school or altering the courses available to be more inclusive and culturally responsive to this population of students. The scripts that accompany the presentations serve as guidelines for teachers, meant to be altered to suit each teacher's needs. The informational handouts are used to enhance and expand upon the data provided in the presentation, and to provide further resources to the audience members.

Development of the Project

This project is a continuation of my lifelong interest in the intersection of music education and multicultural education. I conducted three years of my undergraduate research on music for social change initiatives around the world, looking at different values and methods of music education in Taiwan, Thailand, India, Turkey, China, and Australia. I primarily focused on *El Sistema,* a nationalized music education program in Venezuela, as well as *Sistema*-inspired programs in Costa Rica and the United States. *El Sistema* (the colloquial name for *Fundación del Estado para el Sistema Nacional de las Orquestas Juveniles e Infantiles de Venezuela*, often translated into English as the National Network of Youth and Children's Orchestras of Venezuela) was founded in 1975 by musician and economist José Antonio Abreu. This program has provided intensive music education for vulnerable populations, often as an intervention to encourage prosocial behaviors, for the past forty-three years (Creech et al., 2016).

One of the most disputed aspects of the entire program is its emphasis on classical music. Indeed, in an increasingly globalized world, musical educators question whether or not teaching

classical music in Venezuela or other non-Western regions of the world is not another form of cultural colonialism (Baker, 2014). Even in the United States, a Western nation, classical music is labeled as elitist and irrelevant by many, causing the demand for more popular music courses in public education (Campbell et al., 2007). Maestro Abreu addressed this issue when he stated, "As a musician, I had the ambition to see a poor child play Mozart. Why not? Why concentrate in one class the privilege of playing Mozart and Beethoven? The high musical culture of the world has to be a common culture, part of the education of everyone" (Lubow, 2007).

His reference to "high musical culture" refers to a popular perception that musical educators worldwide are seeking to eliminate; that classical music is only for the ears of the elite (Fletcher, 2008). However, the very framework of high versus low musical cultures is problematic (Bates, 2014). Though *El Sistema* has increasingly turned to more diverse repertoire and embraced local musical traditions (Booth, 2009), this debate taught me that music does not exist in a politically and culturally neutral vacuum and granted me a new perspective on music education in the United States, particularly in regard to diverse students such as English Language Learners.

Although living overseas during my undergraduate education, I taught both EFL and music. I used songs regularly in my EFL lessons, both passively and actively. I used music as background music; as cues for transitions; and as introductions to the theme for the lesson. I used music as literature, asking students to analyze the text for literary and poetic devices. I used music as discussion-starters and as writing prompts, asking students to respond to the theme or to a particular quote from the song. I also used music as a way to rehearse target vocabulary, pronunciation, or grammar points. Music proved highly motivating for my English students and

allowed me to introduce authentic materials to convey cultural values. Music in the EFL classroom became an area of personal interest.

Despite being a choir teacher, I enrolled in the University of San Francisco's Teaching English to Speakers of Other Languages (TESOL) Masters program because of my experiences teaching English as a Foreign Language abroad and my desire to teach English Language Development in public schools here in the United States. While studying TESOL, I became interested in the ways that language and music relate and interact in the brain. The research was overwhelmingly positive for integrating music and English in second language acquisition. However, my own experience as a choir teacher had taught me that there just weren't that many English Language Learners in music programs, at least in the two districts where I had worked. If music and language learning were so intertwined, why weren't more English Language Learners placed into music?

From my own personal observations, I saw that some students were not allowed an elective because they had to take extra English Language Development classes. In other schools I saw that students were allowed electives but had frequent schedule changes because their English level kept changing, causing them to switch into new English classes. These logistical barriers made it difficult for them to remain in a music class, and therefore difficult for them to build the necessary skills for participation in musical ensembles. At most of the high schools that I researched, there was no avenue for beginning instrumentalists: no beginning band or introductory music courses. Even if students were interested, they could not enroll because they were not qualified. It was frustrating to watch students be systematically excluded from music education, particularly when I knew from my own teaching experience that music could be

especially valuable to English Language Learners. I knew that I wanted my field project to explore this problem further.

Initially, I proposed an intervention study that randomly placed middle and high school English Language Learners in music classes and other English Language Learners in non-musical electives and then measured their academic success over the course of several years. However, a project of such magnitude required much more than two semesters of research, so I modified my project to create a curriculum for choir teachers to use with their English Language Learners. When I sat down to create my problem statement, I realized that I didn't feel that my problem matched my solution: if the problem was low enrollment of English Language Learners in music programs, a curriculum for music teachers wouldn't necessarily lead to more students enrolled. Based on my own observations and experience, music teachers don't need a curriculum to help them teach English Language Learners; once they have English Language Learners in the classroom, they are able to use good teaching and training to instruct effectively. The problem was getting English Language Learners in the door.

Once I honed my problem statement, the clear solution became advocacy for active recruitment of English Language Learners into music programs. Many music teachers that I spoke with said that they would very much appreciate a toolkit to help them advocate for their English Language Learners. Anecdotally, they had all seen the benefits of music for these learners, but they needed data to advocate effectively to their school board, administrators, school counselors, parents, and students. This project began to unfold into what it became: a toolkit for music teachers to use when recruiting English Language Learners into their program.

Even though I changed projects, I was able to use much of the same research that I had compiled during my original project proposal, so I started by writing up the research. The

literature review proved to be extremely challenging for me, as I had very little prior knowledge of brain anatomy and what areas of the brain are involved in what. With much consultation of anatomical diagrams, I was able to make my own charts to show what parts of the brain were really involved and where they intersected. I was surprised at how dynamic this field of research is; so much remains unknown.

After compiling the literature review, I developed the presentations. I was initially only going to create a presentation for the four groups of stakeholders that I had identified (school board, administrators and counselors, parents, and students), but I realized that music teachers would probably also want to present to their colleagues and staff so that the whole school could be informed on the new push for English Language Learners in music programs. I created the presentations and then added suggested scripts so that music teachers can elaborate on the information in the slides. Finally, I included brochures to hand out during the presentations, as it was impossible to include all the pertinent information on the slides without making for a cluttered and overwhelming presentation.

What began as an interest in music in the EFL classroom turned into an interest in the cognitive similarities between language acquisition and music acquisition. Although I did not conduct any original research, I used the research conducted by numerous researchers to develop a toolkit for music teachers, a toolkit to recruit English Language Learners into music classrooms and ensembles.

The Project

See Appendix A for The Project in its entirety.

CHAPTER IV
CONCLUSIONS AND RECOMMENDATIONS

Conclusions

English Language Learners are disproportionately absent from music ensembles in public schools (Elpus & Abril, 2011). Music and language, however, share many similarities in the ways they are acquired and processed, making music a potential tool for improving language acquisition (Ashtiani & Zafarghandi, 2015; Fisher, 2001; Legg, 2009; Levitin & Menon, 2003; Li & Brand, 2009; Maess, Koelsch, Gunter, & Friederici, 2001; Murphey, 1990; Patel & Daniele, 2003; Salcedo, 2010; Schön, Boyer, Moreno, Besson, Peretz, & Kolinsky, 2008; Tanaka & Nakamura, 2004). Therefore, it is crucial that English Language Learners have access to music classes in school.

In order to do so, schools must allow English Language Learners to take an elective, even when their schedules are full with English Language Development classes and sheltered instruction classes and when low test scores exert pressure to add even more English instruction. Schools must master schedule in such a way that English Language Learners do not have a complete schedule change every time they graduate an English Language Development level, and in such a way that music classes are available to these students. Schools must make scholarships readily available and apparent, so that no students feel excluded due to cost.

Music teachers must offer courses that can include and encourage English Language Learners, courses that don't require previous musical enrollment or experience. Such courses should be culturally relevant and responsive so that no students feel excluded from the curriculum. Counselors and teachers must provide information to students so that they know what courses are available to them, how those courses can fit into their schedule, and what

graduation and college-readiness requirements exist. Parents and students must be educated on the benefits of music to English Language Learners in particular. In order to address these needs, music teachers now have a toolkit consisting of presentations, scripts, and handouts that they can use when advocating for English Language Learners in their music classrooms.

Recommendations

Music can benefit English Language Learners as they acquire English as another language (Li & Brand, 2009). Therefore, I recommend that English teachers use music in their regular classroom instruction. In Engh's 2013 literature review of the different anthropological reasons that music in the English classroom might be helpful, he referenced community building as a reason to utilize music. He discussed the ways in which music can be used to break boundaries or bridge the gap between informal and formal spheres of learning. All students come to class with prior knowledge about music, music of their home culture and often also music of popular youth culture (ibid). Learners can therefore use music as a window into cultural values and identity. With all of this evidence to support them, English teachers can use music to emphasize or teach important grammar or vocabulary concepts and know that it is enhancing students' verbal recall (Hickok et al., 2003; Koelsch et al., 2009; Salcedo, 2010; Wallace, 1994).

Music teachers should ensure that they are addressing the needs of their English Language Learners in their music classrooms, seeking support where needed. All California public school teachers are required to take courses on teaching content to English Language Learners, so the skills that are taught in those courses should be at the forefront of all music teachers' minds when they are instructing a diverse classroom of learners. Teaching tools such as visual aids and hand signals are important and are already a part of musical ensemble culture as conductors express information through their hand gestures (Zhang, 2017). Defining academic

vocabulary for *all* learners is important, and academic word walls and journals can enhance student learning of Tier III (content-specific) vocabulary as retention activities (Walby, 2011). Our art form requires that musicians not only create and perform but also respond and reflect. We can ask students to develop their academic writing and discussion abilities by providing sentence frames and prompts with which to reflect metacognitively on their own performance and on the performance of others (Hansen, 2009).

Music teachers should strive to provide courses that are culturally relevant and responsive to their diverse population of students, actively embracing and honoring the prior knowledge that their students from other backgrounds bring to the classroom. Culturally responsive pedagogy entails "using the cultural knowledge, prior experiences, frames of reference, and performance styles of ethnically diverse students to make learning encounters more relevant to and effective for them" (Gay, 2000, p. 29). Shaw (2012) recommends using the tenets of culturally responsive pedagogy to guide decisions regarding repertoire, rehearsal, and curriculum.

When selecting repertoire, Shaw suggests asking questions such as, "What music would build upon my students' prior experiences? What pieces would capitalize on their cultural knowledge? What selections could my students experience through their preferred learning styles? Which would showcase their culturally informed performance styles?" (76) Selecting repertoire becomes not just a passive exercise in cultural inclusion but also an active process of engaging students and their families in their culture of reference, which does not always correspond with their culture of origin (Ladson-Billings, 1994). The repertoire should be culturally valid, not just arrangements of folk songs reinterpreted through a Western lens (Abril, 2006).

In culturally responsive rehearsals, teachers must consider the cultures of their students as well as the culture of origin for the musical selection (Shaw, 2012). When singing John Rutter's *Gloria,* it is a culturally valid practice to teach and learn the music through notation. However, when learning a Navajo chant, an oral approach to learning would be more valid. Not only do both approaches enhance musicianship, but they also activate different learning styles and therefore include different types of learners in the rehearsal. The repertoire must also dictate the performance style. In Latin selections a certain tone quality and timbre is honored and sought after. However, traditional Latin choral technique is not the only way to sing and it is not always the most appropriate way to sing certain pieces. For instance, Indian folk music should be sung with a much more nasal tone and spread vowels, in contrast to the vertical vowels of Latin choral music. Additionally, the context of performance must be considered. In some cultures, certain music is performed only for certain audiences or for certain occasions and it could therefore be disrespectful to perform a piece without permission at a given function.

When designing their curriculum, Shaw prescribes two objectives for music teachers to consider: the first being to validate students' cultures of reference, and the second to broaden students' cultural horizons. Schippers (2010) referred to music as a spectrum that goes from familiar (music that we grew up with) to unfamiliar (music with which we have no prior experience or knowledge). Shaw (2012) recommends starting students with the familiar, validating their own prior knowledge and experience of music and creating a culture of respect, and then delving into more unfamiliar territory in order to broaden their understanding of world music. This aligns with Sandoval's (2013) framework of musical "cosmopolitanism," which emphasizes loyalty to one's own cultural music while simultaneously seeking exposure to new musical traditions.

In addition to providing culturally relevant music education, teachers must educate students and parents on what courses are available and how music can benefit them. Although twenty-one percent of United States high school students were enrolled in music in 2004, the majority of those students were White and female from two-parent households and in the 4th and 3rd quartiles of socioeconomic status (Elpus & Abril, 2011). Many music educators would like larger ensembles and a more diverse student population, but they don't know how to recruit these students into their classes. I would argue that merely providing culturally relevant courses is not enough; teachers must determine *why* their student bodies are less diverse than their school demographics and then apply recruitment solutions to address these barriers to enrollment. The obstacles mentioned in this paper, including scheduling, perceived and real cost, academic testing, and course offerings, are just some potential problems. Each school no doubt has different needs and different problems, and music teachers should make it a practice to identify what they can do to reach more students.

Schools should make it as easy as possible for English Language Learners to enroll in a music program, by providing entry-level courses for late beginners and scheduling in such a way so that English Language Learners aren't constantly changing courses and schedules. Not only is it unfair to any beginning musicians, but it is also illegal to exclude English Language Learners from electives to which their native speaking peers have ready access (US Department of Education, 2018). Schools should continue to provide advanced ensemble experiences for their musicians, but they must also provide access to music education at the secondary level to beginners. Districts can make it easier for English Language Learners to maintain a consistent schedule by starting with English Language Learners and other special needs populations first

when creating the master schedule. Then they can look at performing arts and other electives, to ensure that these students have the access that they deserve.

As far as research recommendations, the field could use an increased focus on musical intervention research in order to determine the extent to which music benefits language learners. I would like to see a longitudinal study on the impacts of concurrent enrollment in a music program and English Language Development classes, disaggregated by the types of music programs (i.e., instrumental ensembles versus choral ensembles). It may well be that one type of musical participation is more beneficial to language acquisition than the other. Personally, I am more interested in the effects of choir on English Language learning, because of my experience as a choir teacher and also because of the verbal nature of choral music. A potential research question for such a study might be: Do English Language Learners acquire English faster when they are concurrently enrolled in an English-language choir? I have outlined a possible research proposal that would address such a question.

The population that this study would examine would include the choir and English Language Development (ELD) teachers of English Language Learners who are or have been concurrently enrolled in choir and ELD for at least a semester and do not also have a learning disability diagnosis. The age of such learners and the level of experience must be previously determined in order to provide clear data.

Researchers may choose to prioritize older students. For example, students who were 12 or older when they began learning English would qualify as late learners because that is the age at which linguists consider language learners to be adults (Celce-Murcia, 2013). Those in the field of second language acquisition who subscribe to the Critical Period Hypothesis believe that learners who begin learning a language after the age of twelve will never achieve native-like

proficiency and will retain a strong accent (Gregg, 1996; Lenneberg, 1967; Long & Robinson 1998; Penfield & Roberts, 1959).

It takes an average of 5-7 years for students to acquire cognitive academic language proficiency (CALP) (Cummins, 2008). Therefore, it might be beneficial to conduct the study with new English Language Learners and track them over the course of seven years to see whether concurrent enrollment in music accelerates that timeline.

Because no research has addressed this particular question, researchers would have to create their own theoretical framework inductively from the data collected qualitatively through interviews of English Language Development teachers, choir teachers, and English Language Learners. Additionally, they could draw quantitative data from state English Language Development Test scores (such as the CELDT in California), grade point averages, and attendance rates. This proposed study would be based within a qualitative grounded theory. Because there has been little prior research on this topic, this method is appropriate to construct a new theory grounded in the data collected (Creswell, 2012). In order to saturate the data to the point where a theory can be developed, researchers would need to interview and survey many teachers. The questions on the surveys might focus on the progress these teachers saw in their students who were concurrently enrolled in choir and ELD classes in comparison with the progress of their students who were not in both classes. Progress could be broadly defined to include fluency and accuracy in oral communication, but with an emphasis on cognitive academic language proficiency. Topics might include pronunciation (phonological and prosodic features), communicative fluency, vocabulary usage and recall, and syntax. ELD teachers could include evidence of student progress through portfolios of work. When collecting the data, I

would recommend that researchers use open coding in order to remove their own assumptions and background experiences from their data analysis.

In order to receive comparable data, the study should be limited to schools with English Language Development programs. Schools with dual-immersion and bilingual programs should be excluded or measured in a separate study. The teachers, schools, and students should be selected with the knowledge that this study would last seven years. The sample size should initially be large, with the knowledge that many students will move or drop out of the study before completing seven years. In addition to the sample, this study would also require a control group. This group might include ELD students with no known learning disabilities, who also began learning English after the age of eleven. The researchers would have to make sure that the sample group isn't merely all of the students who would have signed up for choir anyway, as that could bias the results. Therefore, the selection would have to be somewhat randomized.

In order to answer the research question of whether or not English Language Learners acquire English faster when they are concurrently enrolled in an English-language choir, researchers would need survey responses and interviews from ELD and choir teachers on the progress of their students. Both sets of teachers could provide data on the sample of students that are concurrently enrolled in both classes; only ELD teachers could provide data on the control group or other latecomer ELD students in their class that do not have learning disabilities. The data design might include a survey with follow-up interviews. The interview questions would be derived from the survey response data.

In both steps of data collection (survey and interview), researchers would have to code their data to create clusters of meaning from which to ground their theory. They will know when

to stop collecting data when they have evidence that either confirms or rejects their hypothesis—that English Language Learners acquire English faster when they participate in choir.

Due to the high level of participation that such data collection would require, researchers would start with a broad pool of participants but no doubt experience a sharp drop-off in participant responses. Because those remaining after the drop-off would end up being essentially a convenience sample made up of those that responded, the findings may not be generalizable to the entire population.

Such a study is only one example of a possible area for further research. Another area of research might include the efficacy of instrumental music versus vocal music for linguistic gains. Although vocal music has certain characteristics that lend itself to language instruction, the process of learning and creating instrumental music still activates many of the same centers of the brain as language (Patel, 2014). Patel's OPERA Hypothesis emphasized instrumental music partially in order to avoid conflating vocal features with verbal features of language (2014). Therefore, a study comparing linguistic gains for instrumentalists versus vocalists would be an area for research.

I echo Engh's 2013 call for an academic journal devoted to the intersection of music and second language acquisition. Such a journal might focus on best practices for integrating music into the English classroom, exploring what types of exercises are more effective for learners. This journal could include theoretical research as well as practical tips for teachers, and would also provide more fodder for music teachers to use when they call for more English Language Learners in their classes. Having an academic journal devoted specifically to this topic would perhaps motivate more researchers to focus their attentions here and legitimize this newer field of study on the integration between music and language education.

Though philosophers have pondered the origins of music and language for centuries (Besson et al., 2011), there is still no conclusive evidence to explain what drove the evolution of music in humans. Further research on this topic might help us understand why all humans are hardwired to create and consume music.

Further brain mapping should shed more light on the cognitive processes that musical production and perception require and how they compare or differ from linguistic processing. Such information might answer once and for all the issue of musical modularity (Nunes-Silva & Haase, 2013). Though these topics have already been researched, there is still much ambiguity regarding the modularity of music and language, the neural processes that both employ, and their origins.

As discussed in Chapter 1, socioeconomic status and academic achievement have been found to be stronger predictors of music participation than language learner status (Lorah et al., 2014). However, because many English Language Learners fall into low socioeconomic and low academic achievement categories, categories that are traditionally underrepresented in musical ensembles, they are disproportionately impacted (Hill, 2012; U.S. Department of Education, 2016). Further research into non-participation in music might uncover strategies that music teachers can use to make their programs more accessible to these students who have been previously excluded (Gouzouasis, Henrey, & Belliveau, 2008). Such research should prioritize the voices of non-participants in order to achieve a fuller picture of their choices and rationale.

Although current research points to the efficacy of music for English learning (Engh, 2013; Li & Brand, 2009), further empirical studies on the long-term effect of music education on English language acquisition are necessary. If music is indeed found to be beneficial for

language learning, then schools and teachers will have to reconsider the way that they structure music education to make it accessible and applicable to English Language Learners.

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APPENDIX

Music Education and Its Impact on English Learners: A Toolkit for Music Teachers

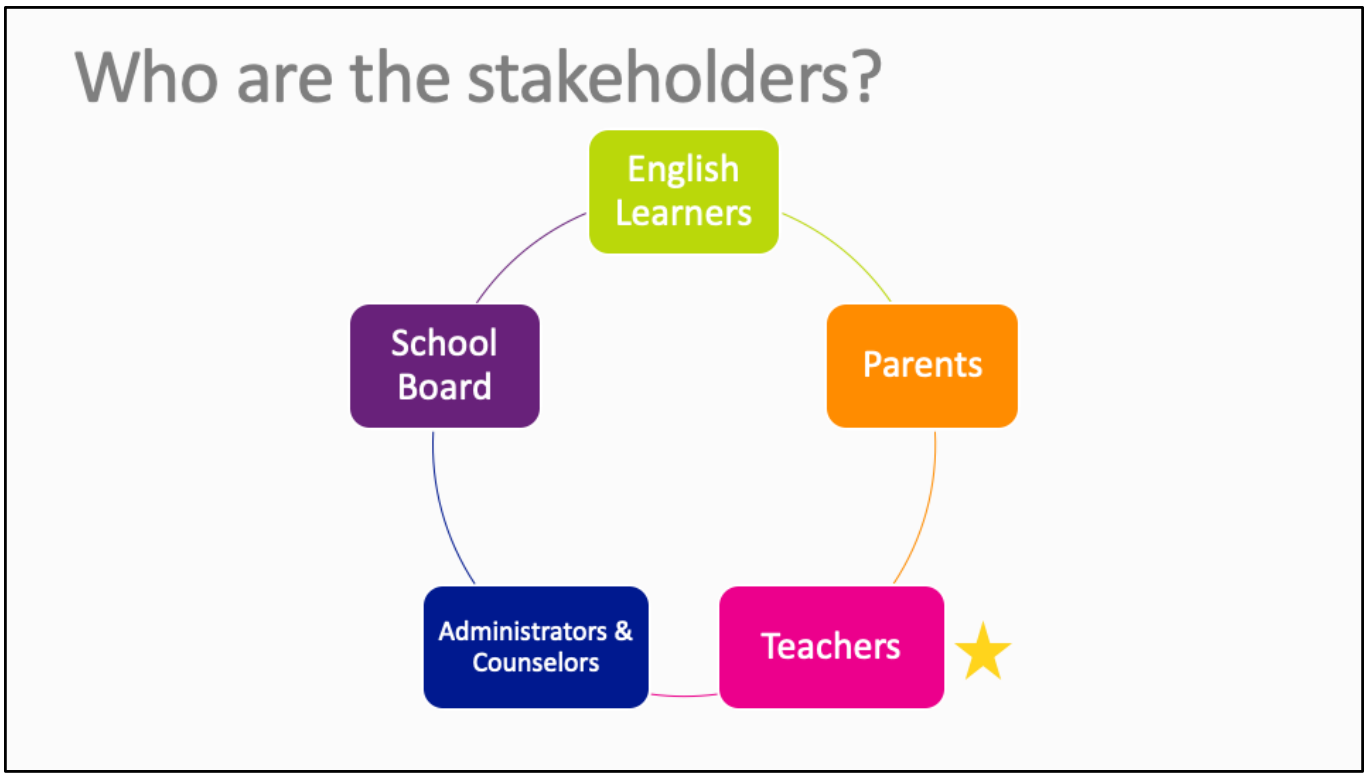
Music Education for English Learners

A presentation for school staff

Created by Johanna Nilsson in partial fulfillment of the requirements for the degree MASTER OF ARTS in TEACHING ENGLISH TO SPEAKERS OF OTHER LANGUAGES, December 2018

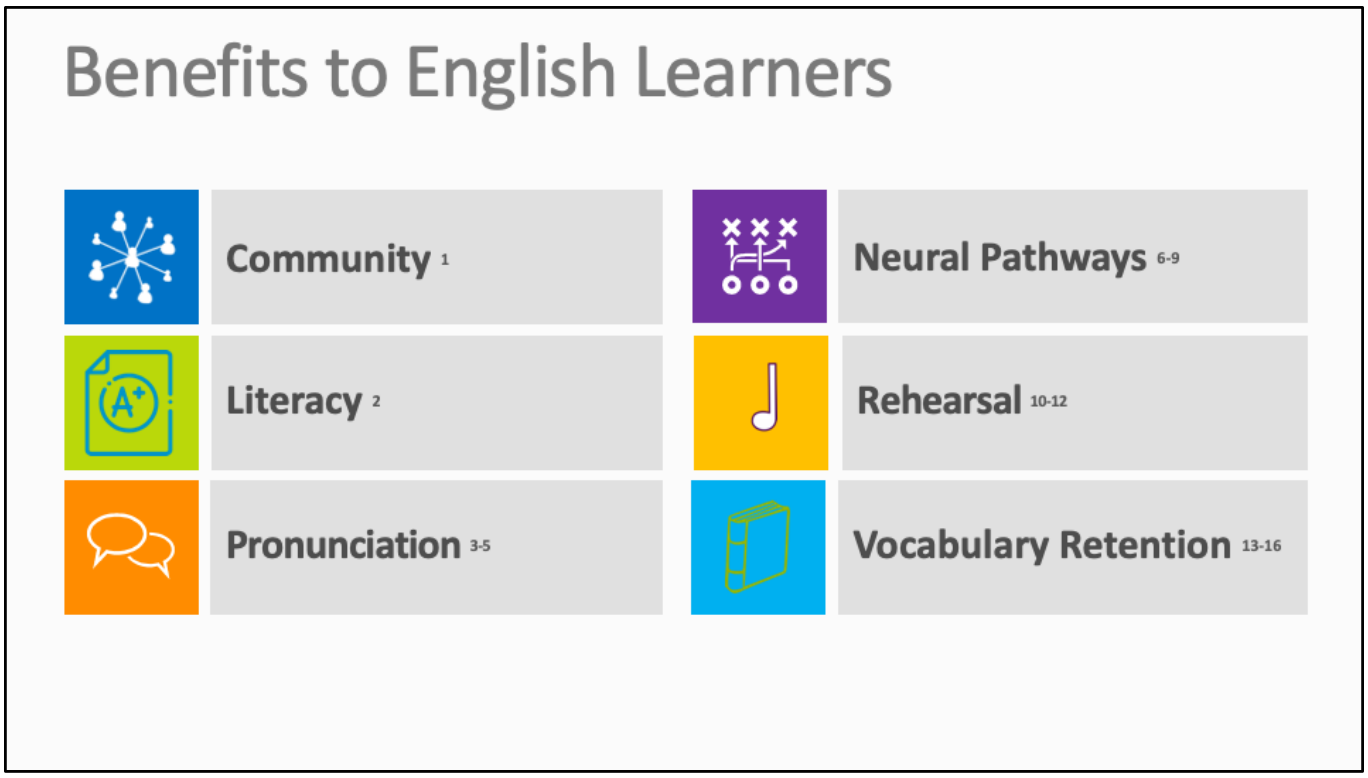
This presentation serves as a template for music teachers to use in advocating for English Learners in their classes. It covers recent research on the benefits of musical engagement to English Learners. Teachers might use this presentation at a faculty meeting in conjunction with presentations to the School Board and administration in order to facilitate a group commitment towards active recruitment of English Learners into music classrooms. All slides are meant to be modified.

"I am excited to introduce a new initiative here at our school driven at the active recruitment of English Learners into the music classroom. I will present recent research that indicates various academic and social benefits of musical engagement, particularly for English Learners. Then I will discuss the ways in which we as a school community can work together to get more English Learners into the music classroom."



"Who is impacted by English Learner enrollment in music? These five groups of people are the primary stakeholders in this endeavor.

First and foremost, our English Learners stand the most to gain from this initiative. Parents and schools also benefit, as I shall demonstrate. The first step for us as teachers is to all be on the same page in understanding why this is so important for our English Learners and what we can do as a school to get them involved in programs that can help them."



"There are a myriad of benefits that music education can endow on all learners, but especially English Learners.

As you can see on the handout in front of you, the first benefit of music for English Learners is a sense of community. When surveyed, most high school students said that they chose band or choir because of the sense of community that those classes provided (Baker, 2009). This is especially important for our English Learners, as ELLs often report feelings of exclusion, isolation, segregation, and inequality on campus (Faltis & Arias, 2007).

Recent research indicates that music ability and literacy are correlated. In this study, preschoolers were tested on phonological awareness, working memory, and information retrieval, all of which are known indicators of pre-literacy. Those students who scored highly on these tasks also scored highly on tasks related to musical perception and production. While musical aptitude may be partly genetic, research has found that prolonged practice can increase musical aptitude (Moreno et al., 2009). Just like you can learn to read, you can learn to be musical, and since the two appear to be linked, training in one may transfer over to ability in the other.

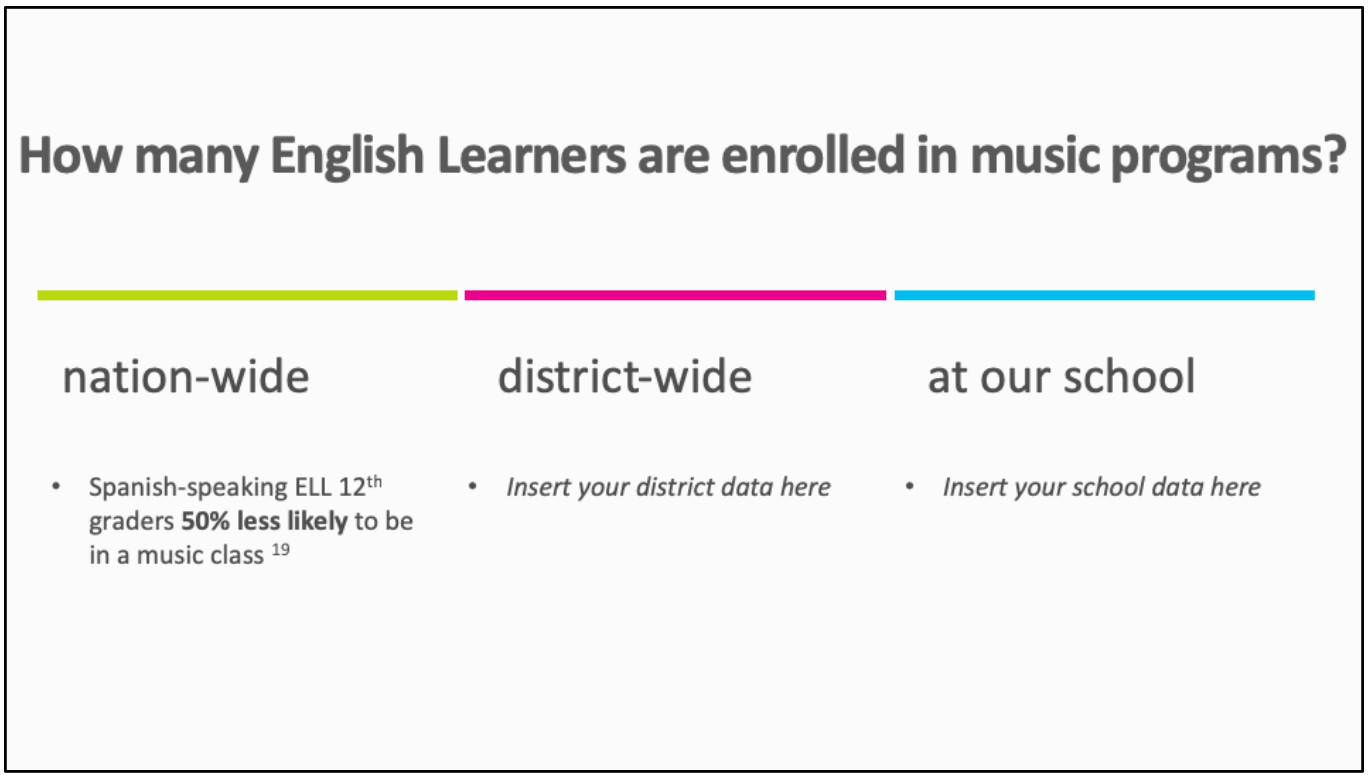
There have been many studies that examine the effects of music on pronunciation. Choral music in particular can positively influence pronunciation, as the act of singing draws attention to phonological features of language (Patel, 2013). Slevc and Miyake (2006) found that there is a strong positive correlation between musical ability and L2 phonological ability (both receptive and productive), measured through the identification and repetition of minimal pairs in words, phrases, and sentences. In other words, students with greater musical aptitude had better pronunciation.

Perhaps the reason that there are so many transfer effects between music and language is because both activate similar parts of the brain. Many different studies have used brain imaging scans such as fMRI's and PET scans to examine what parts of the brain are activated during musical and linguistic activity. Scans have revealed that many parts of the brain are activated during both music and language activities.

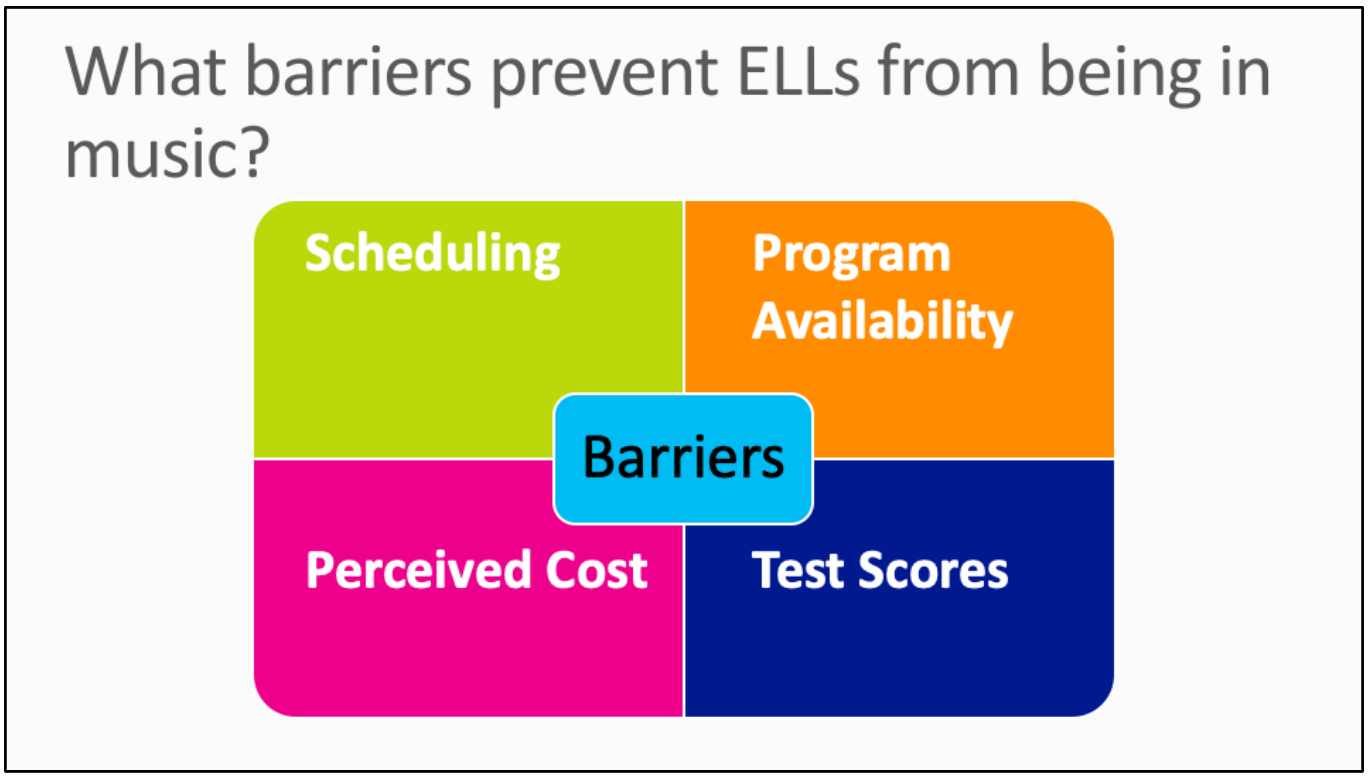
As we will explore, songs improve vocabulary and text recall. One simple reason could just be that they got stuck in your head! Have you ever had a song stuck in your head, that you couldn't get out? Well, it's a real thing! When you unconsciously rehearse the same tune over and over in your brain, it's called the song stuck in my head phenomenon (Murphey, 1990). There's a similar phenomenon for language. Linguists call it din, when you repeat words or phrases over and over in your head without even thinking about it (Barber, 1980). Din is a crucial step towards second language acquisition, and setting text to music seems to speed that process along.

Perhaps due to that song stuck in my head phenomenon, many researchers have found that learners remembered vocabulary much better when they learned them through song (Legg, 2009; Rukholm, 2015). It appears that the melody is the important

variable, as learning vocabulary through rap didn't seem to improve vocabulary gains (Rukholm, 2015)."



"Clearly, music education can greatly benefit our English Learners. But where are the English Learners? If you walk into a music classroom in a given secondary school in the United States, you probably won't find many English Learners in there. In fact, Spanish-speaking English Learners were 50% less likely than their native English-speaking peers to be in a music class as seniors in high school. How does that compare to our district data? To our school?"



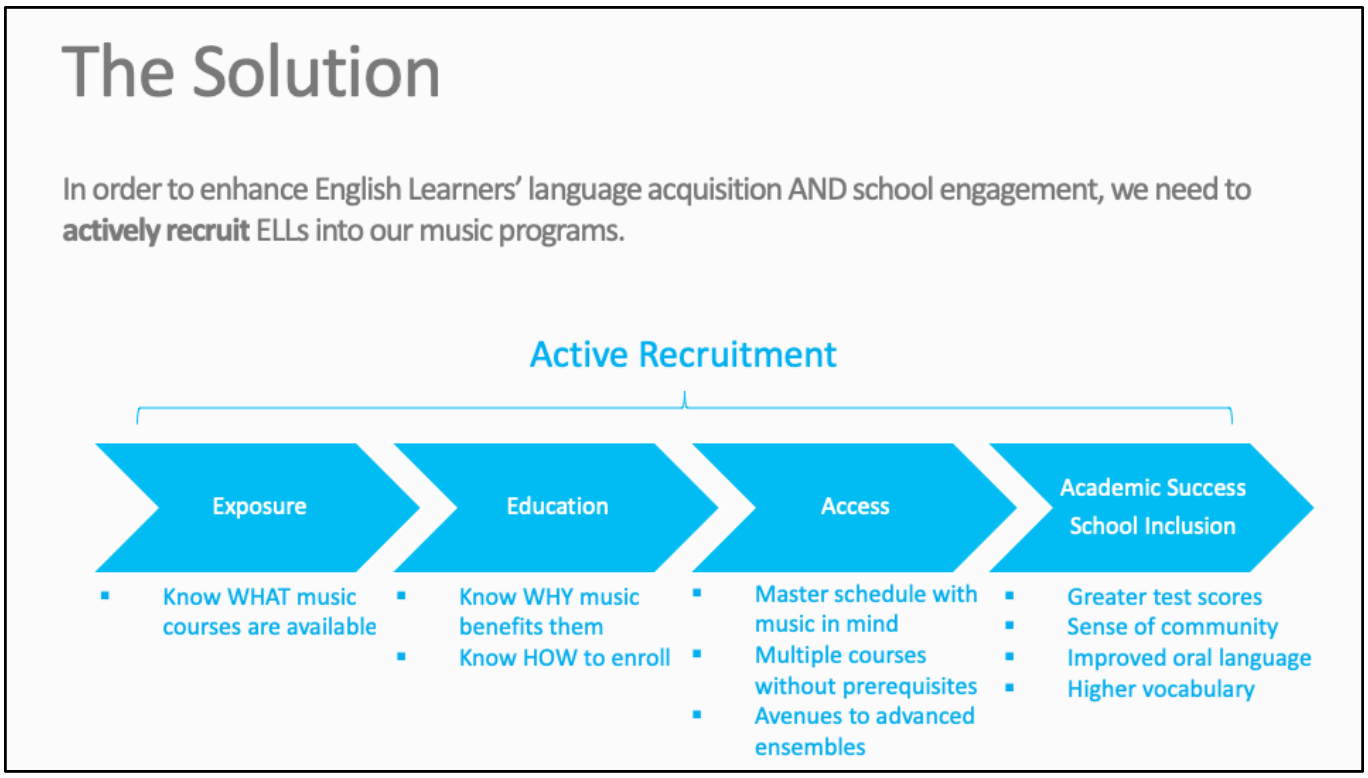
"If music is so good for English Learners, why aren't they enrolled in music classes? There must be something getting in the way. I examined several barriers that may be obstructing English Learners from enrolling in music classes.

One of the primary barriers to enrollment in a musical ensemble for all students is scheduling (Baker, 2009). Scheduling factors such as block schedules, college requirements (such as the A-G requirements here in California), limited AP and IB classes, and room for only one elective make it difficult for many students to persist in music education. This is particularly exacerbated for ELLs, as their schedules tend to be highly restrictive (Faltis & Coulter, 2007). Many English Language Learners are placed into ELD classes and sheltered content classrooms, in which curriculum is altered to suit ELLs. Because of low test scores compared to native English speakers, English Learners are also put into remedial courses. Due to the constraints on their schedules, they have less access to elective courses and are less included in school-wide activities in general (Lorah et al., 2014). By the time that ELL's have time in their schedule for music, they are behind their native-speaking peers who have already been taking music.

Another potential barrier to ELL enrollment in music programs is the nature of music offerings in most schools across America, particularly in secondary schools. Many secondary schools offer auditioned musical ensembles that perform primarily Western European art music (Horne, 2007). As a response, many researchers and music educators have called for culturally relevant pedagogy that includes and celebrates the home and youth cultures of our students (Shaw, 2012).

While ELLs are enrolled at a lesser rate than native English speakers in school musical ensembles, socioeconomic status (SES) has been found to be a stronger predictor of music participation than language status (Lorah, Sanders, & Morrison, 2014). ELLs are more likely to be in a lower SES household. In 2010, 74-85% of English Language Learners in California lived in poverty, as opposed to only 21% of their native English-speaking peers (Hill, 2012). So what does music education cost? Well, as we all know, public schools are not allowed to require that students pay for music. However, there are many costs, some of which are laid out here. Part of making music accessible to all learners, not just our English Learners, is to make it very clear what financial resources are available for support.

I listed test scores again, even though I discussed it when speaking about scheduling, because I feel that this is really a false dilemma. All of these documented benefits that are outlined on your handouts show that music can *improve* English Learners' test scores, so low test scores shouldn't be used as a reason to *prevent* them from enrolling in music."



"So how do we overcome these barriers and get English Learners into the music classrooms?

In order to get more English Learners involved in music, we need active recruitment measures. That means exposing students and parents to WHAT courses are available as well as WHY music benefits them in particular and HOW to enroll. From a macro level, it means creating a master schedule with music in mind, starting with English Learners and students with special needs, and then looking to performing arts. Schools need to provide multiple music courses that are at the introductory level, and provide multiple avenues to advanced ensembles so that students who were historically excluded from music have the opportunity to come to it later in their school careers. This may even benefit their language learning, as we discussed earlier and is outlined on your handouts. It may lead to a greater investment in our school community.

The first step starts with exposure, and that can start here at the staff-level. I am presenting to our school board, administrators, and counselors in order to work out the nitty gritty details of scheduling and course offerings. You as staff can support our students and parents if they have concerns, and educate them on what you know about music for English Learners.

Access to a high-quality public education is a right, not a privilege. It is up to us as educators to ensure that *all* of our students have access to the best quality education possible, including our English Learners. That education ought to include music

education. I thank you for your time and will now turn to any questions you may have."

Works Cited

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2. Degé, F., Kubicek, C., & Schwarzer, G. (2015). Associations between musical abilities and precursors of reading in preschool aged children. *Frontiers in Psychology, 6.*
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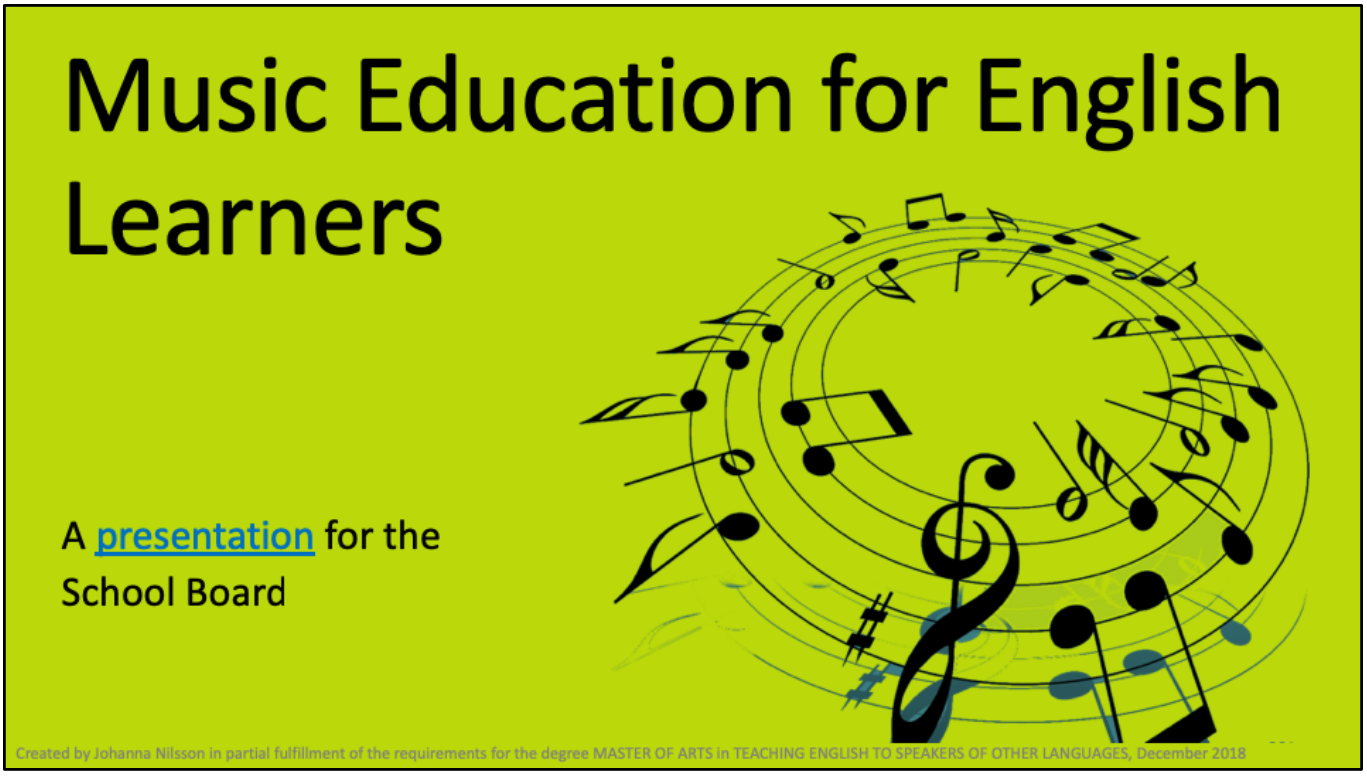

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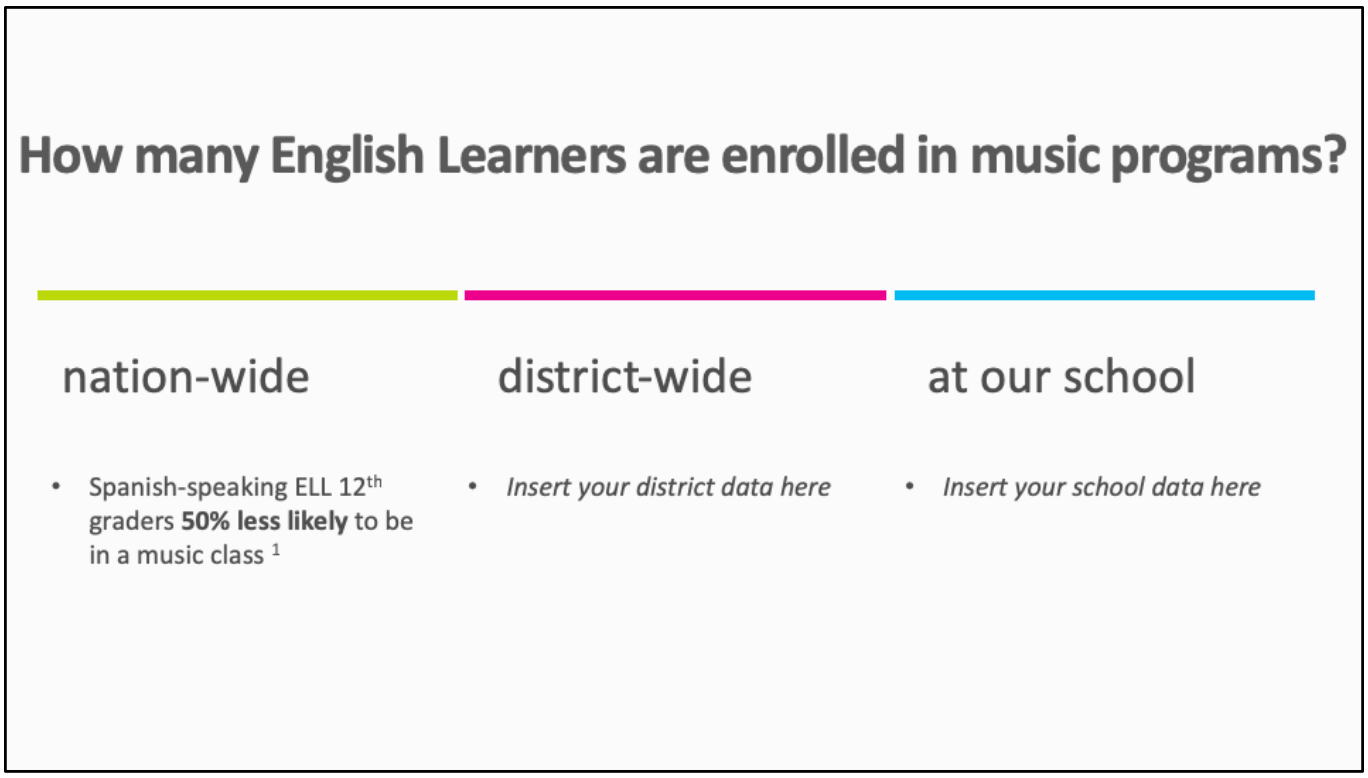
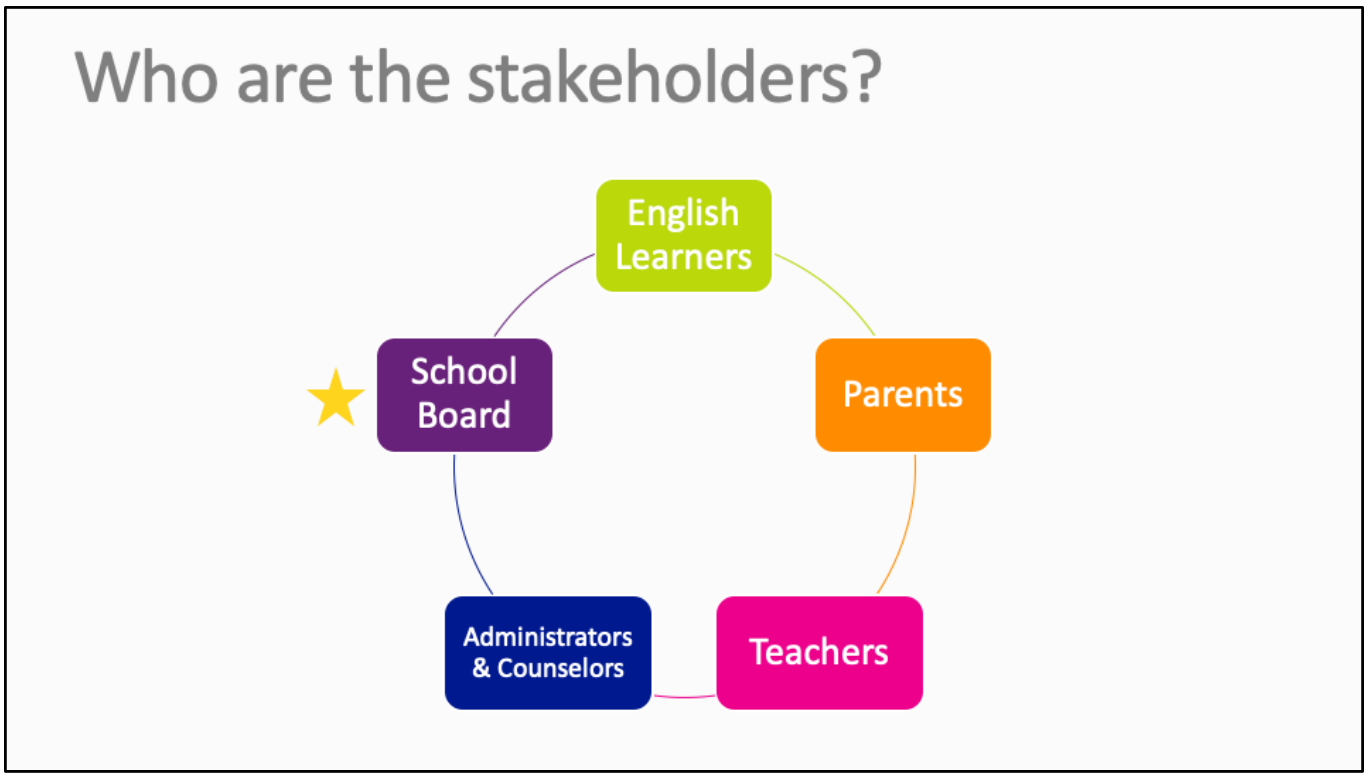
"I am excited to introduce a new initiative here in our district driven at the active recruitment of English Learners into the music classroom. I will present recent research that indicates various academic and social benefits of musical engagement, particularly for English Learners. Then I will discuss the ways in which we as a school district can work together to get more English Learners into the music classroom."



"Why are we talking about English Learners today? As I shall demonstrate in this presentation, English Learners stand to benefit greatly from music education. But where are the English Learners? If you walk into a music classroom in a given secondary school in the United States, you probably won't find many English Learners in there. In fact, Spanish-speaking English Learners were 50% less likely than their native English-speaking peers to be in a music class as seniors in high school. How does that compare to our district data?"



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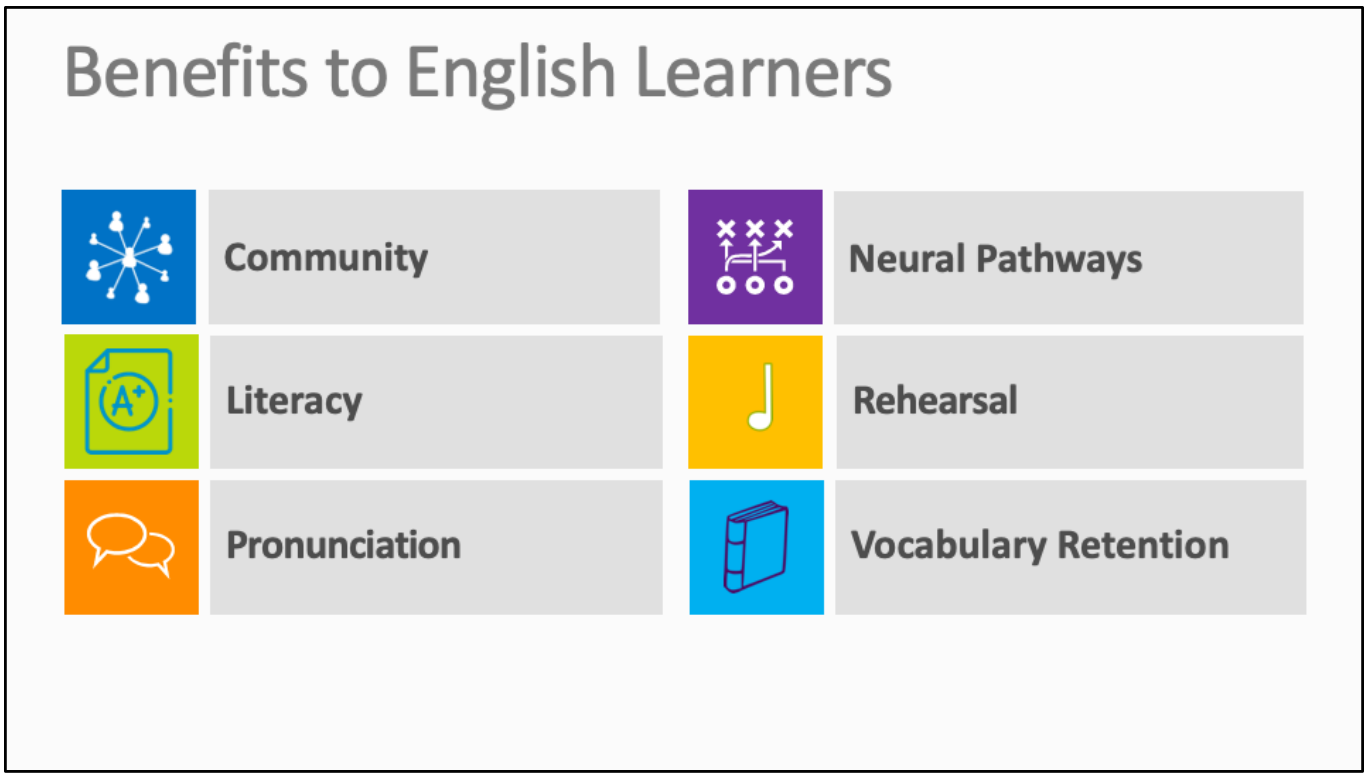
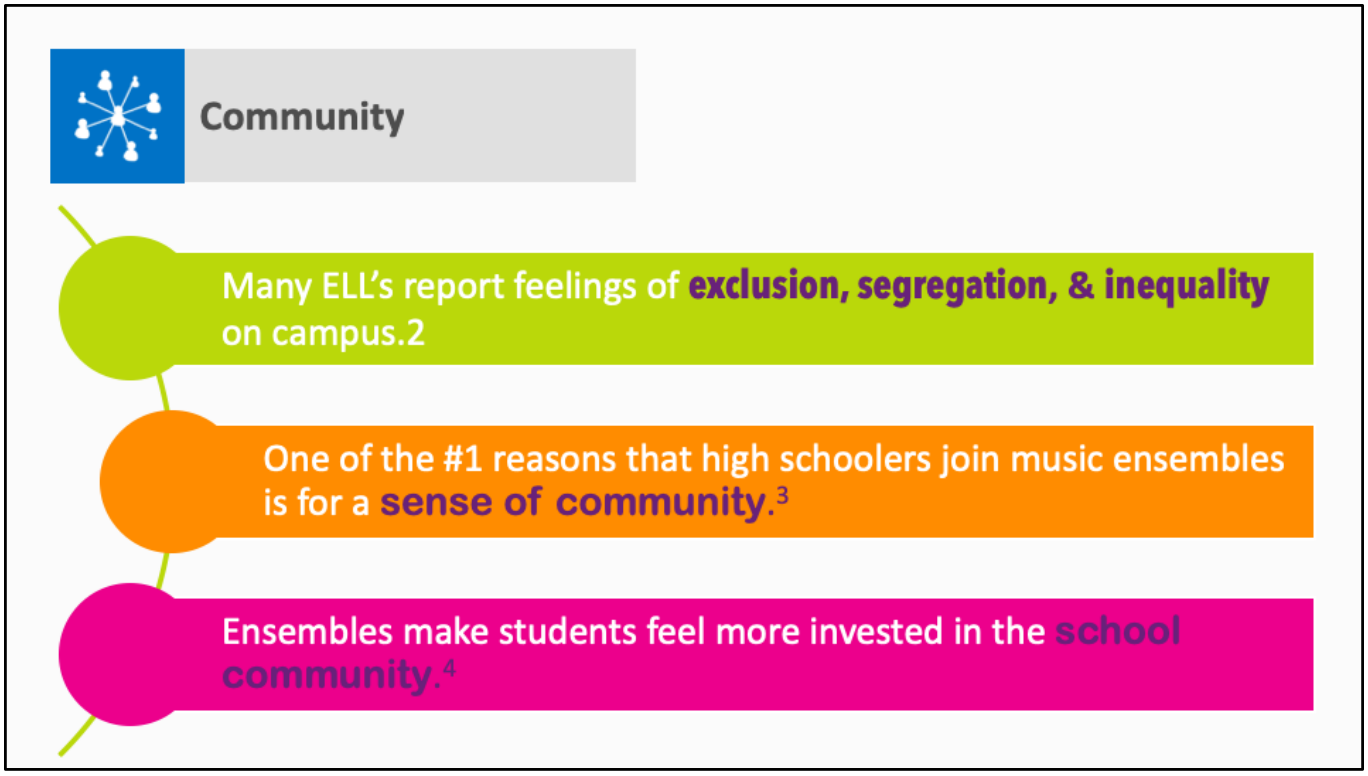


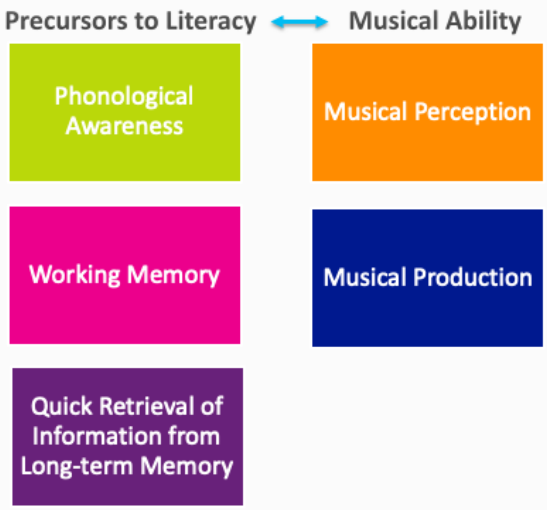
"There are a myriad of benefits that music education can endow on all learners, but especially English Learners. Please refer to your handout as I go through these benefits."



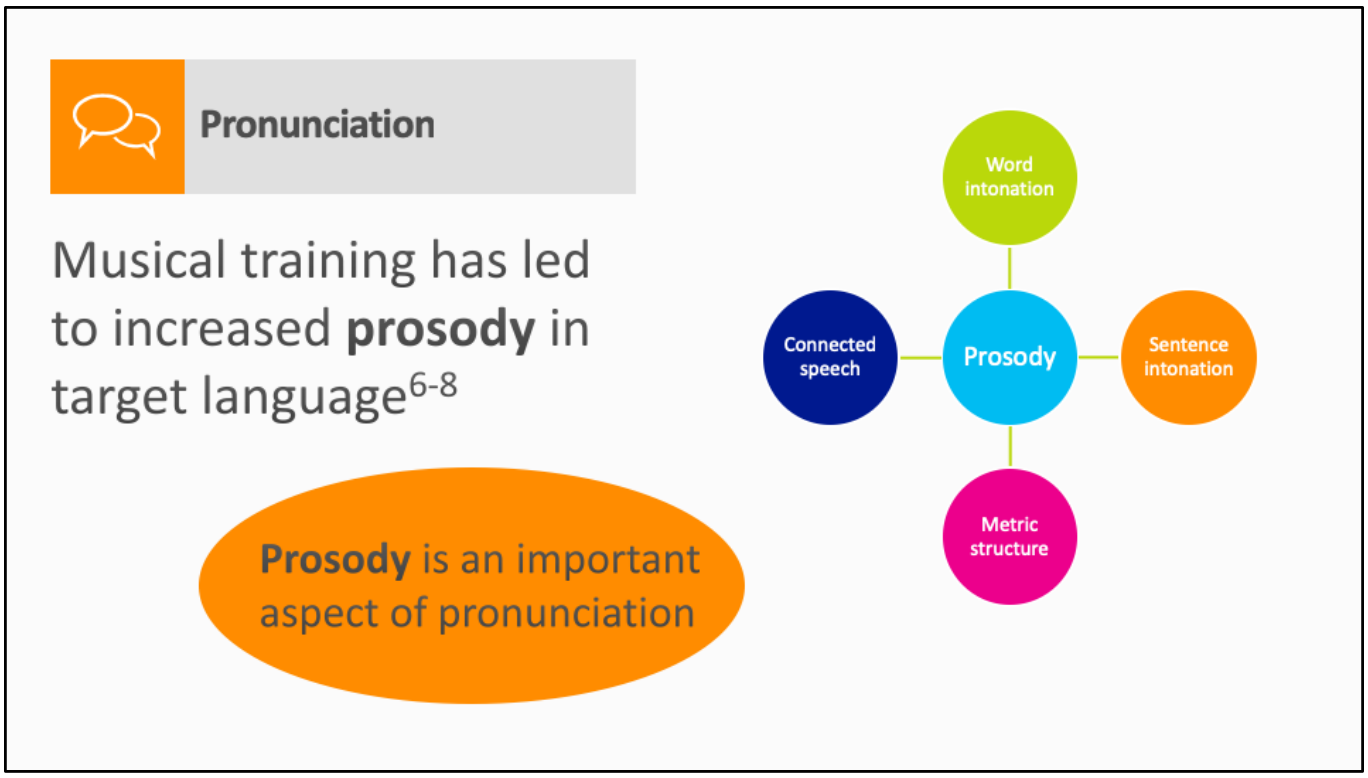
"As you can see on the handout in front of you, the first benefit for English Learners is a sense of community. Unfortunately, English Learners often report feelings of exclusion, isolation, segregation, and inequality on campus (Faltis & Arias, 2007). When surveyed, most high school students said that they chose band or choir because of the sense of community that those classes provided (Baker, 2009). In fact, ensembles make students feel more invested in the school community (Hallam, 2010), which could help us engage and incorporate our English Learners who may currently feel isolated."

Literacy

Degé *et al.* (2015) found **strong associations** between several precursors to literacy and musical ability in preschoolers.[5]



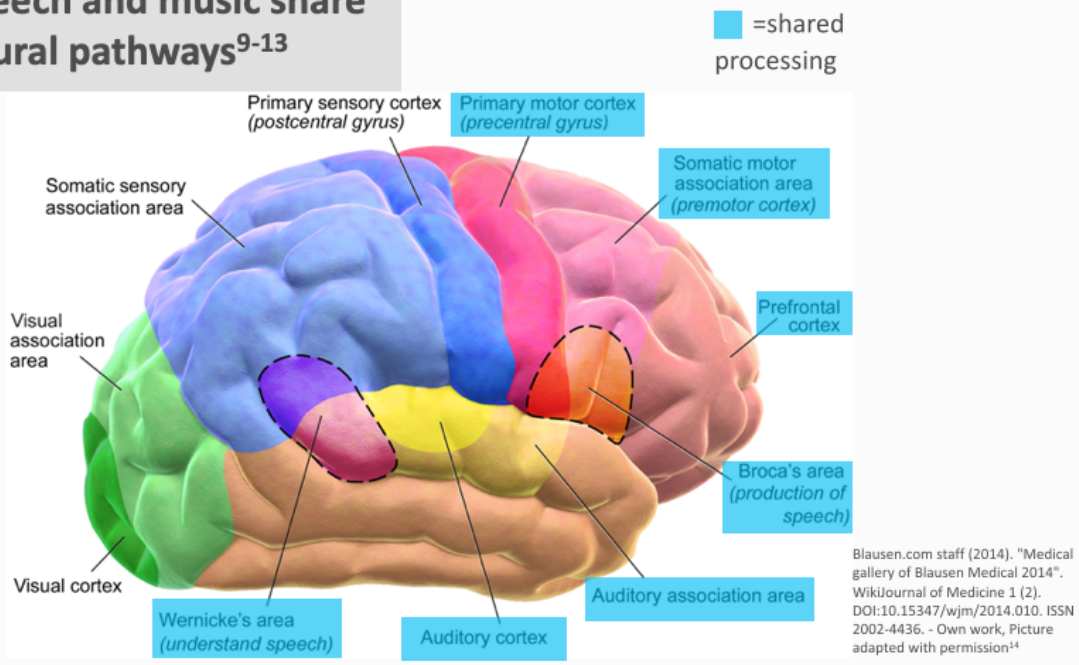
"Recent research indicates that music ability and literacy are correlated. In this study, preschoolers were tested on phonological awareness, working memory, and information retrieval, all of which are known indicators of pre-literacy. Those students who scored highly on these tasks also scored highly on tasks related to musical perception and production. While musical aptitude may be partly genetic, research has found that prolonged practice can increase musical aptitude (Moreno et al., 2009). Just like you can learn to read, you can learn to be musical, and since the two appear to be linked, training in one may transfer over to ability in the other."



"There have been many studies that examine the effects of music on pronunciation. Choral music in particular can positively influence pronunciation, as the act of singing draws attention to phonological features of language (Patel, 2013). Slevc and Miyake (2006) found that there is a strong positive correlation between musical ability and L2 phonological ability (both receptive and productive), measured through the identification and repetition of minimal pairs in words, phrases, and sentences. In other words, students with greater musical aptitude had better pronunciation.

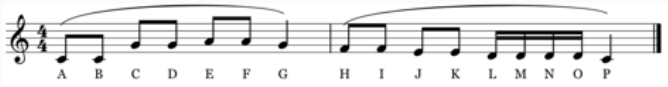
Then, in addition to the phonological aspects of pronunciation, there are the prosodic features, such as intonation, rhythm, structure, and stress. Musical training also improves prosody, allowing speakers to connect speech better (Ashtiani & Zafarghandi, 2015) and replicate the metric structure of the English language better (Patel & Daniele, 2003)."

Speech and music share neural pathways[9-13]



"Perhaps the reason that there are so many transfer effects between music and language is because both activate similar parts of the brain. Many different studies have used brain imaging scans such as fMRI's and PET scans to examine what parts of the brain are activated during musical and linguistic activity. Scans have revealed that many parts of the brain are activated during both music and language activities. Some of those areas have been highlighted on this slide."

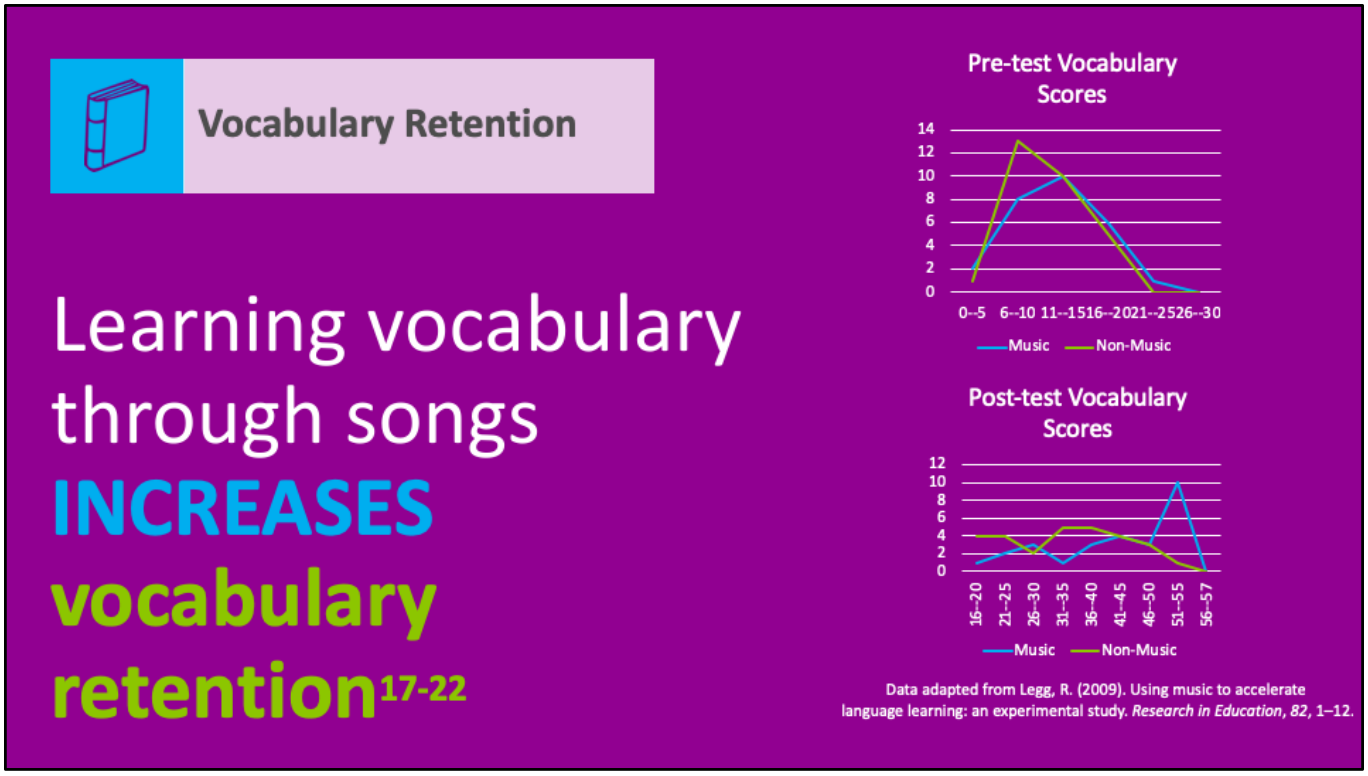
Rehearsal



The **Song Stuck In My Head Phenomenon**: information in songs is acquired and stored in long-term memory for quick retrieval.[15]

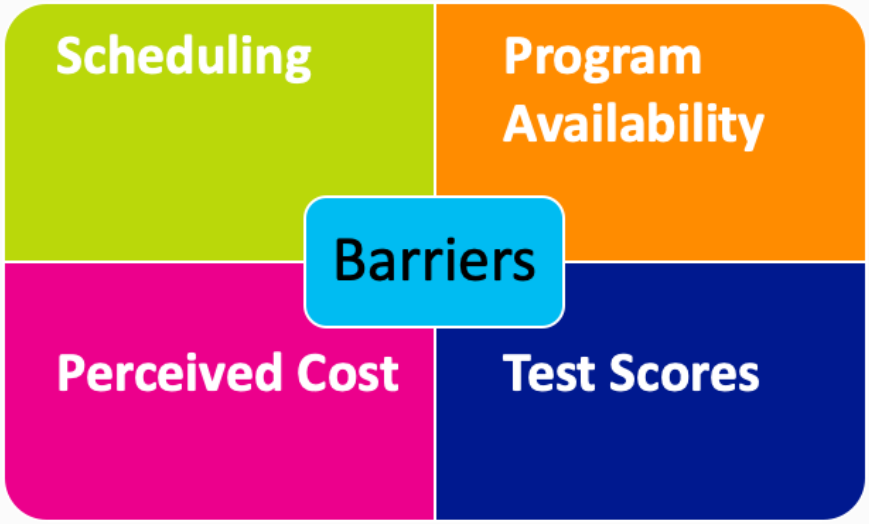
Unconscious mental rehearsal is **key** to language acquisition.[16]

"As we will explore, songs improve vocabulary and text recall. One simple reason could just be that they got stuck in your head! Have you ever had a song stuck in your head, that you couldn't get out? Well, it's a real thing! When you unconsciously rehearse the same tune over and over in your brain, it's called the song stuck in my head phenomenon (Murphey, 1990). There's a similar phenomenon for language. Linguists call it din, when you repeat words or phrases over and over in your head without even thinking about it (Krashen, 1983). Din is a crucial step towards second language acquisition, and setting text to music seems to speed that process along."

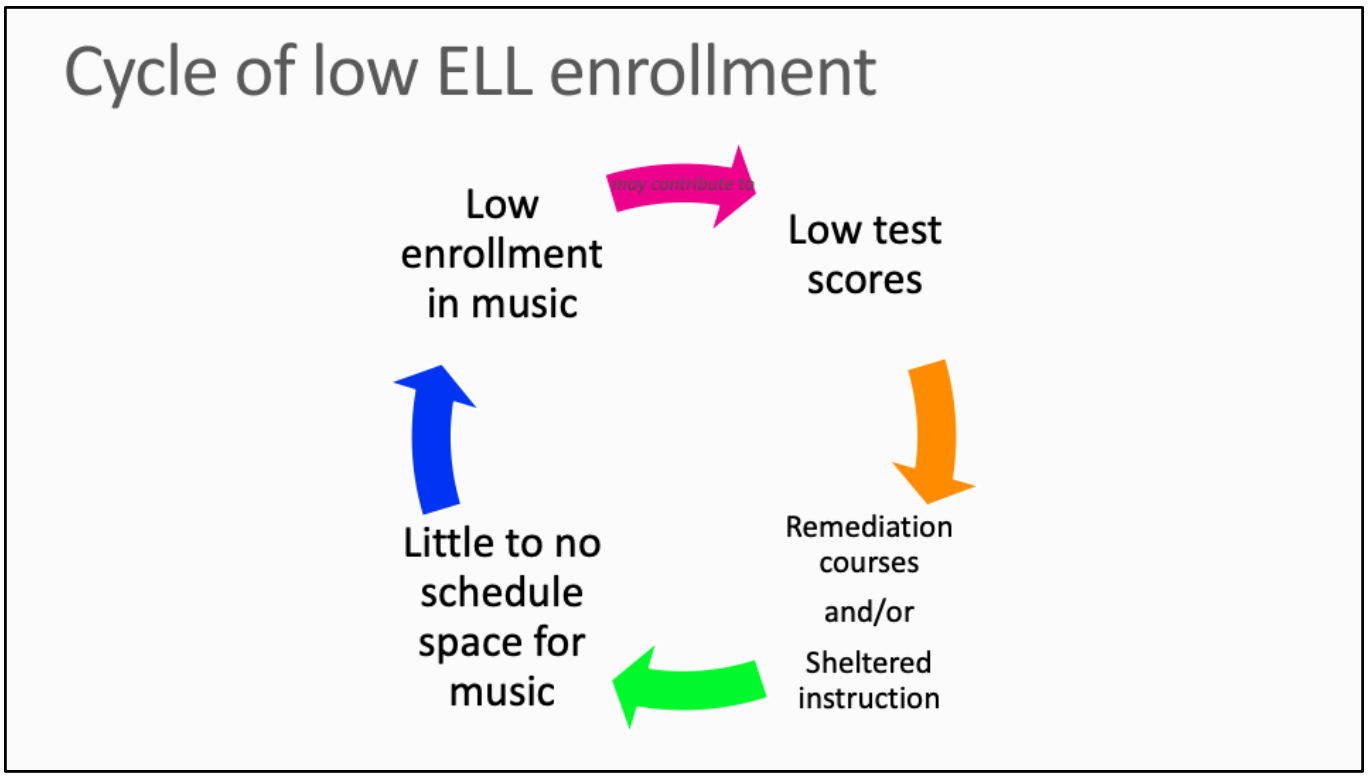


"Perhaps due to that song stuck in my head phenomenon, many researchers have found that learners remembered vocabulary much better when they learned them through song (Legg, 2009; Rukholm, 2015). It appears that the melody is the important variable, as learning vocabulary through rap didn't seem to improve vocabulary gains (Rukholm, 2015). Indeed, if you look at these pre-test and post-test vocabulary scores here, the group that learned vocabulary through song scored much higher on the post-test than their non-music peers (Legg, 2009)."

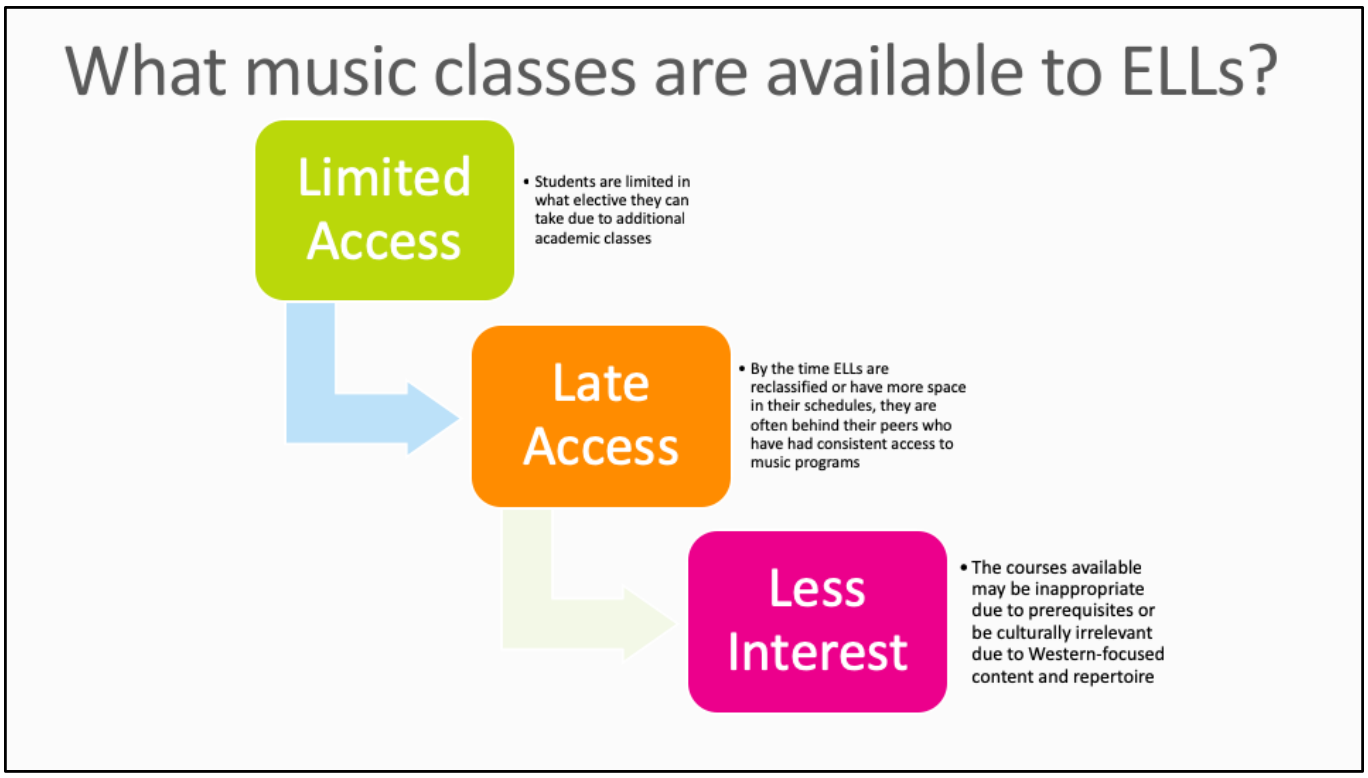
What prevents ELLs from enrolling in music?



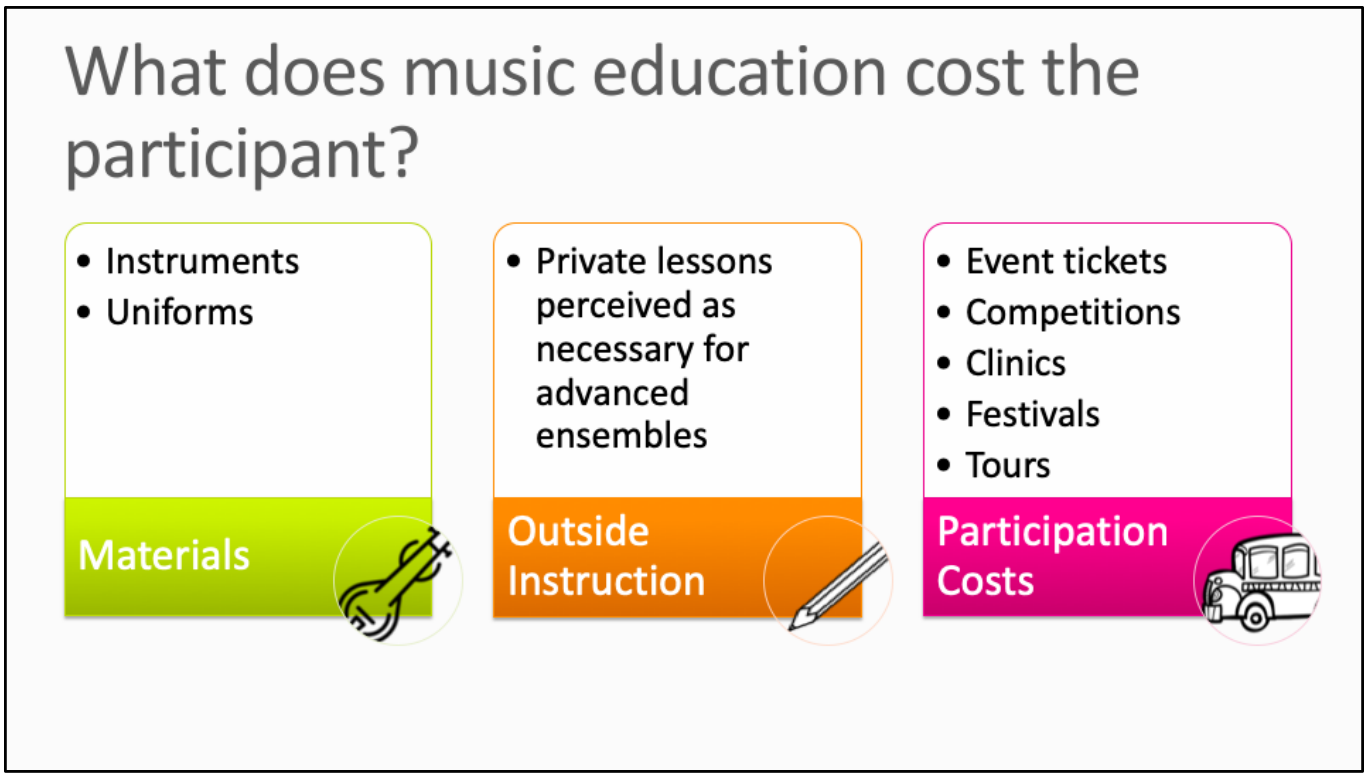
"If music is so good for English Learners, why aren't they enrolled in music classes? There must be something getting in the way. Here I examine several barriers that may be obstructing English Learners from enrolling in music classes."



"One of the primary barriers to enrollment in a musical ensemble for all students is scheduling (Baker, 2009). Scheduling factors such as block schedules, college requirements (such as the A-G requirements here in California), limited AP and IB classes, and room for only one elective make it difficult for many students to persist in music education. This is particularly exacerbated for ELLs, as their schedules tend to be highly restrictive (Faltis & Coulter, 2007). Many English Language Learners are placed into ELD classes and sheltered content classrooms, in which curriculum is altered to suit ELLs. Because of low test scores compared to native English speakers, English Learners are also put into remedial courses. Due to the constraints on their schedules, they have less access to elective courses and are less included in school-wide activities in general (Lorah et al., 2014). By the time that ELL's have time in their schedule for music, they are behind their native-speaking peers who have already been taking music."



"So, English Learners are often limited in their access to musical education and therefore come late to the table. By the time that English Learners are reclassified or have more space in their schedules, they are often behind their peers who had consistent access to the musical offerings at school. But then we face a whole other issue, the issue of what types of course offerings are available, particularly in secondary schools. Many secondary schools offer auditioned musical ensembles that perform primarily Western European art music (Horne, 2007). As a response, many researchers and music educators have called for culturally relevant pedagogy that includes and celebrates the home and youth cultures of our students (Shaw, 2012). But forget for a moment what types of repertoire is performed in these groups—if these groups are auditioned, that automatically excludes students who haven't had prior enrollment in musical training. So not only are we offering courses that are culturally exclusive, we are offering courses that are logistically exclusive by their very advanced nature."



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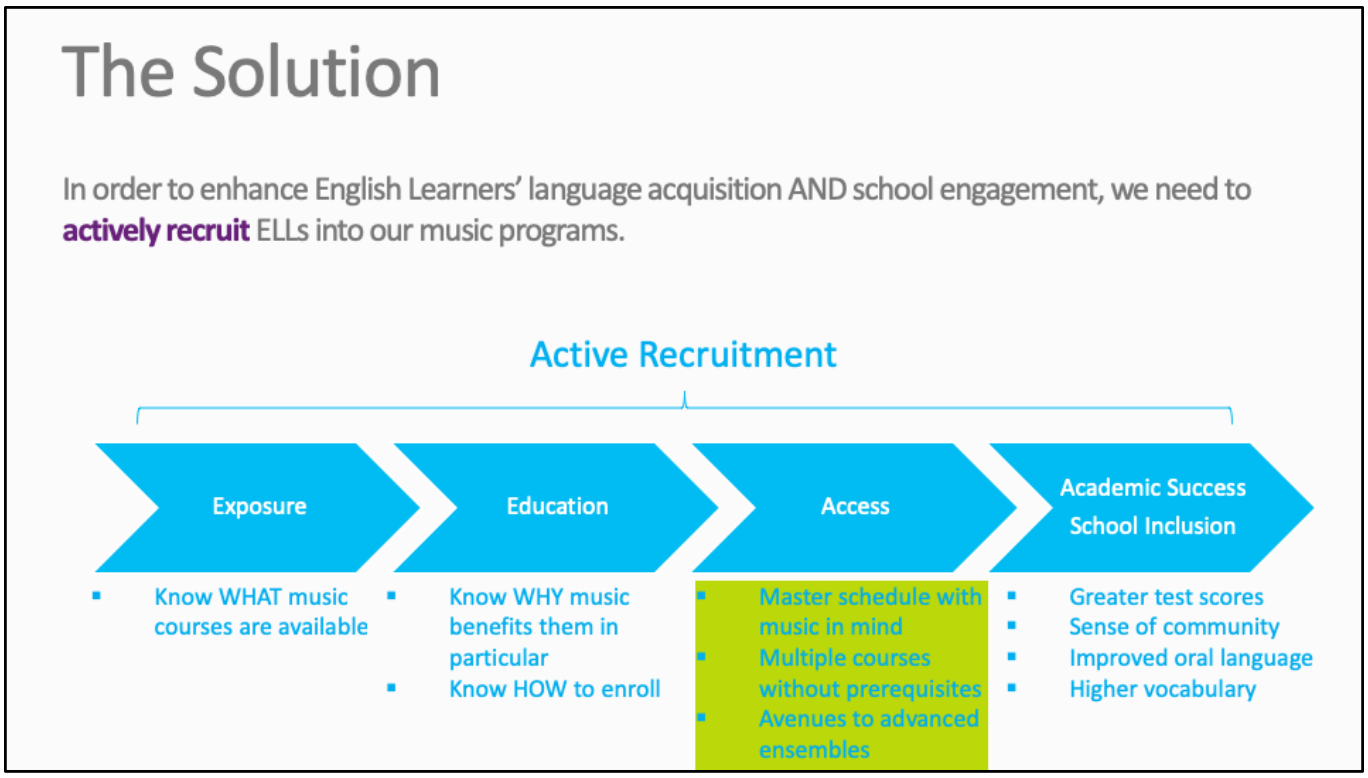

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Works Cited

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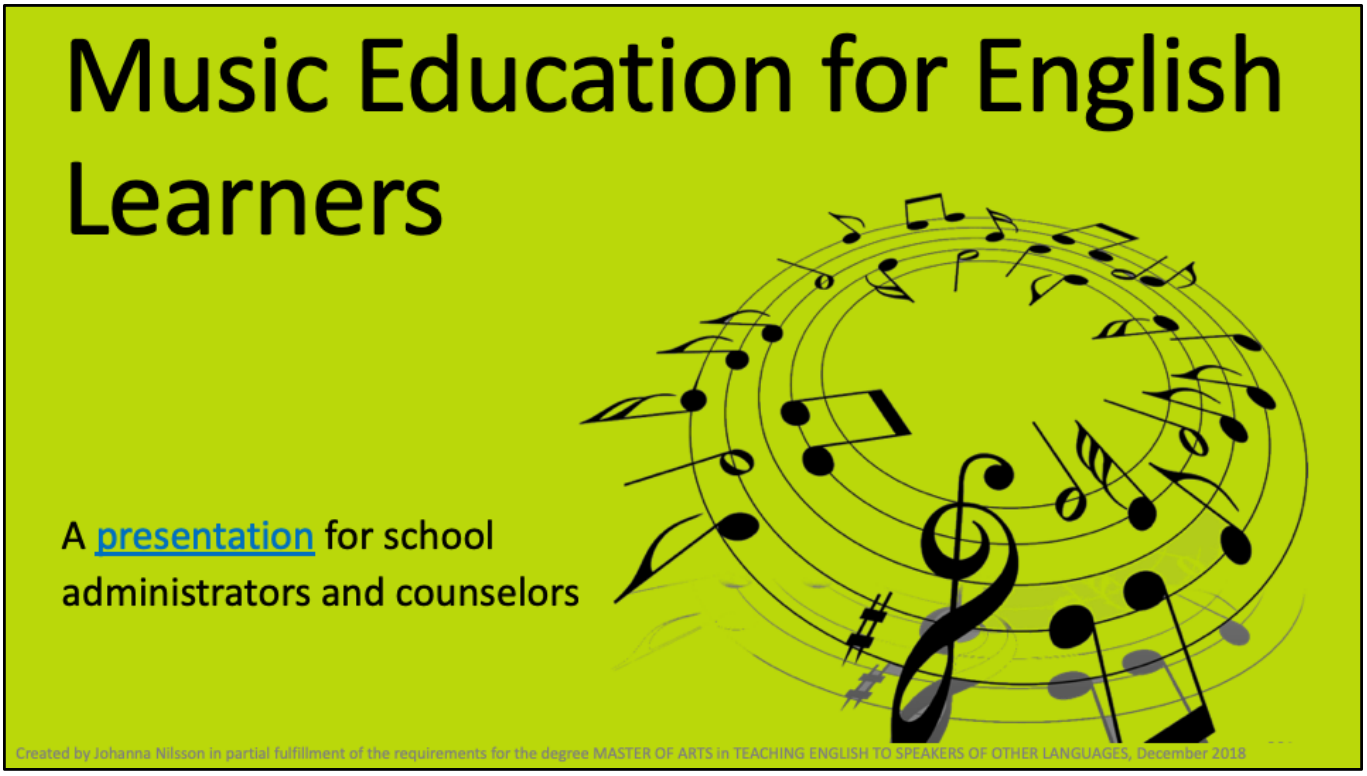
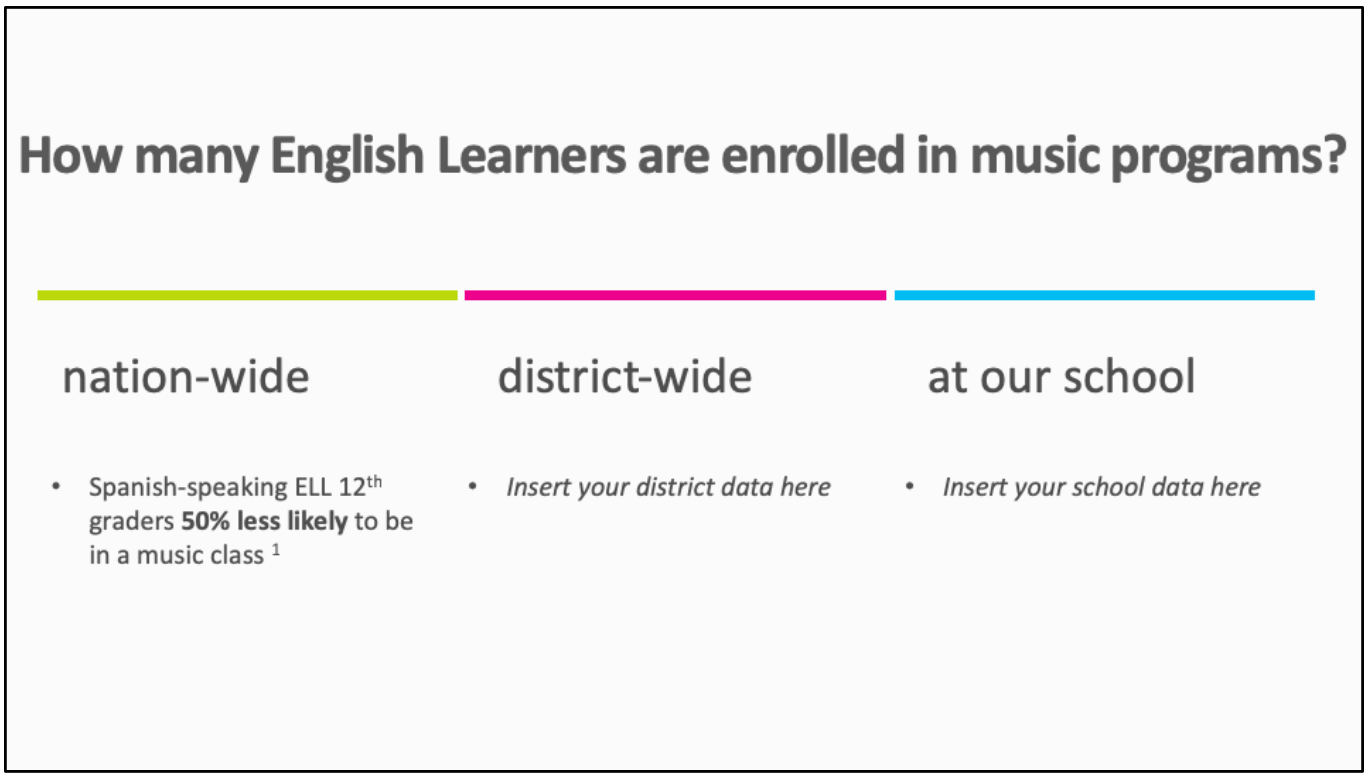
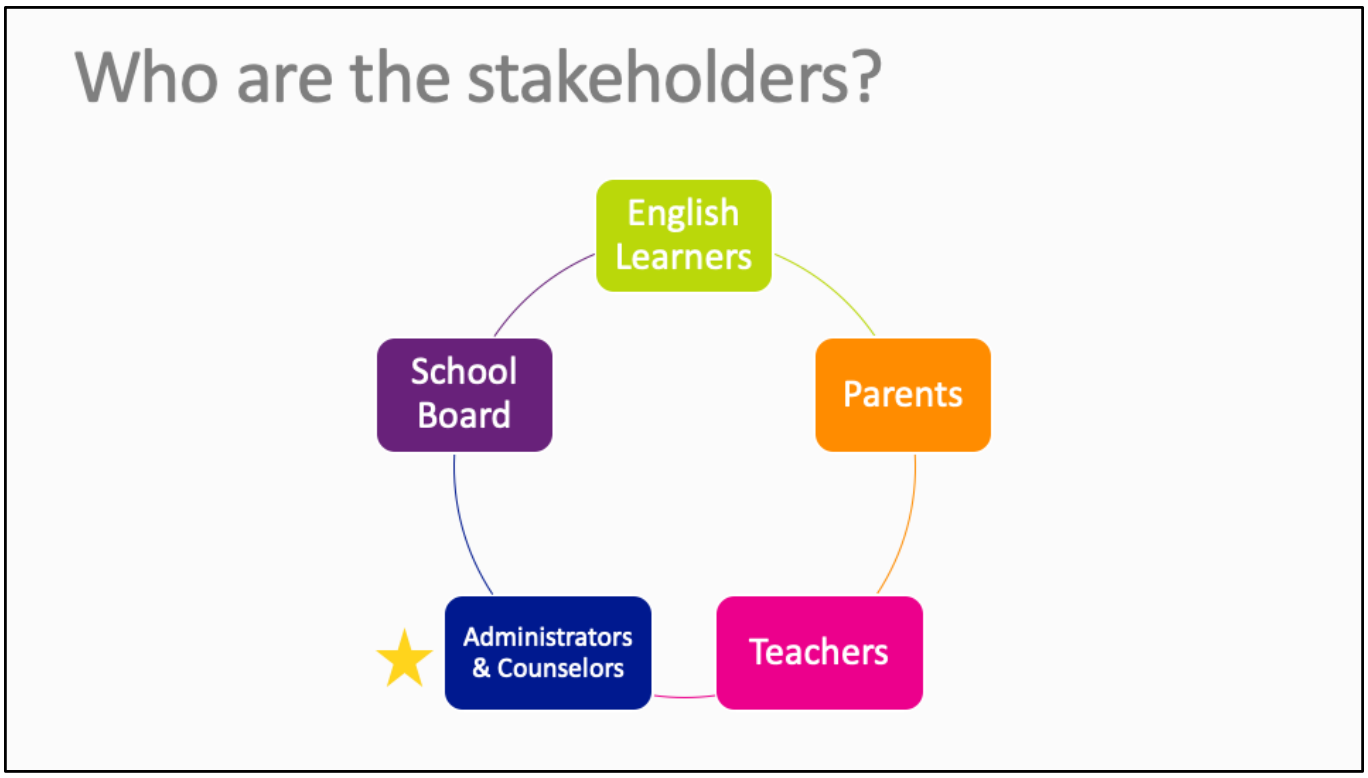


This presentation serves as a template for music teachers to use in front of their school administrators and counselors while advocating for English Learners in their classes. It covers recent research on the benefits of musical engagement to English Learners. All slides are meant to be modified.

"I am excited to introduce a new initiative here in our district driven at actively recruiting English Learners into the music classroom. I will present recent research that indicates various academic and social benefits of musical engagement, particularly for English Learners. Then I will discuss the ways in which we as a school community can work together to get more English Learners into the music classroom."

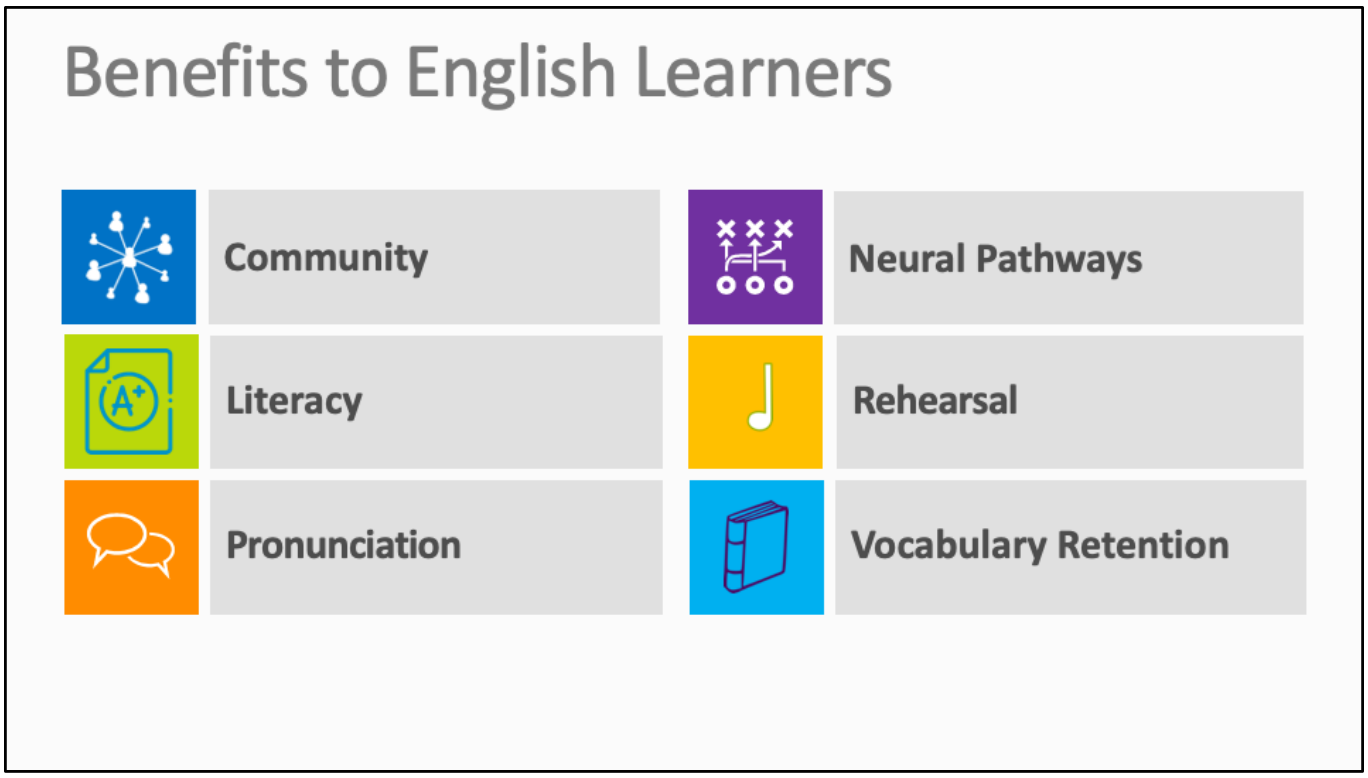


"Why are we talking about English Learners today? As I shall demonstrate in this presentation, English Learners stand to benefit greatly from music education. But where are the English Learners? If you walk into a music classroom in a given secondary school in the United States, you probably won't find many English Learners in there. In fact, Spanish-speaking English Learners were 50% less likely than their native English-speaking peers to be in a music class as seniors in high school. How does that compare to our district data? To our school data?"

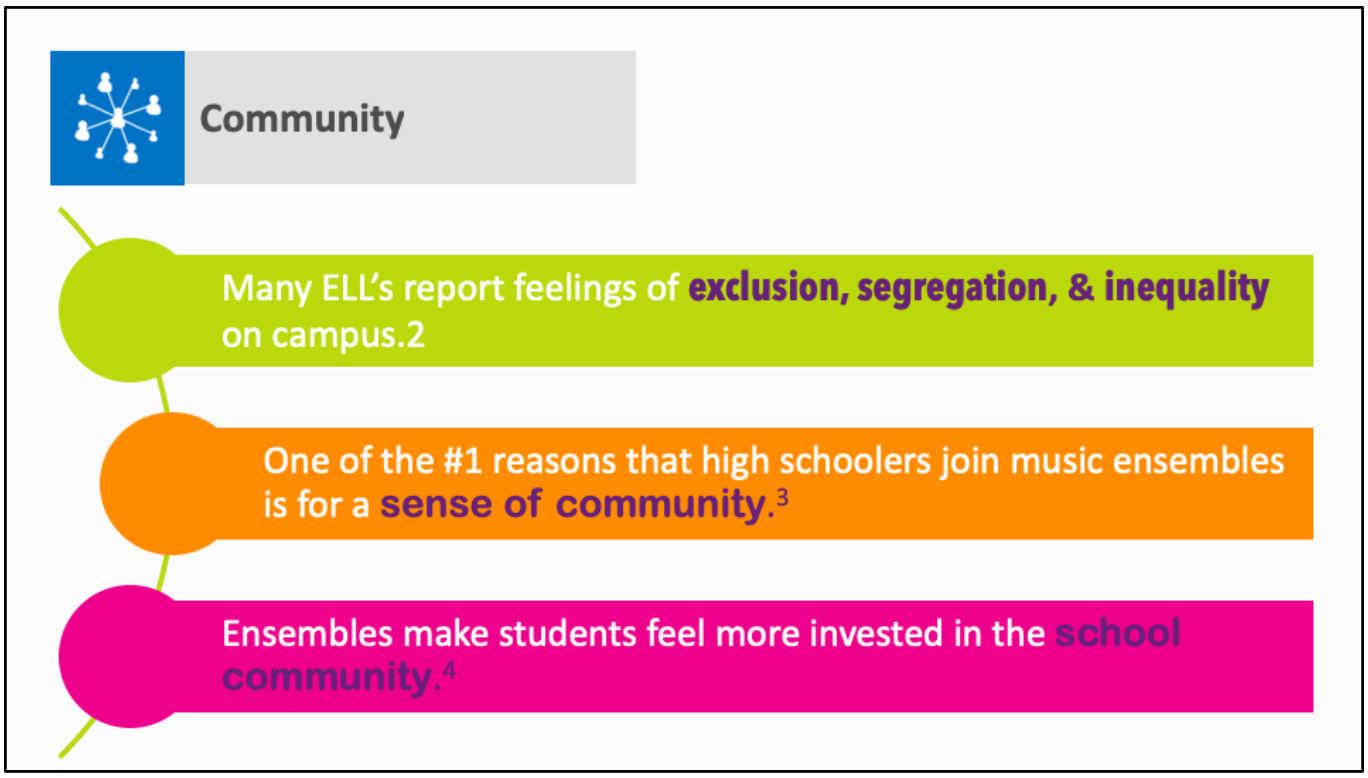


"Who is impacted by English Learner enrollment in music? These five groups of people are the primary stakeholders in this endeavor.

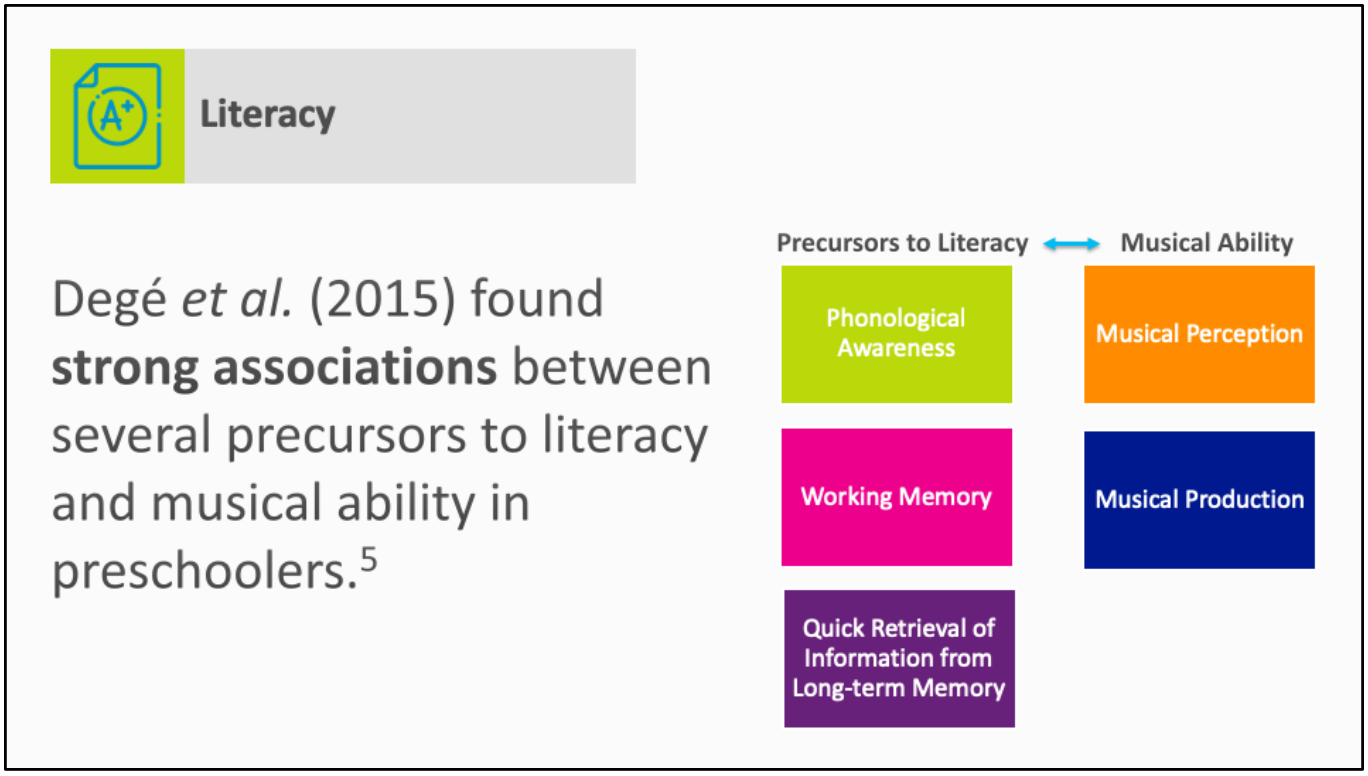
First and foremost, our English Learners stand the most to gain from this initiative. Parents and schools also benefit, as I shall demonstrate. The first step for us as educators is to all be on the same page in understanding why this is so important for our English Learners and what we can do as a school to get them involved in programs that can help them."



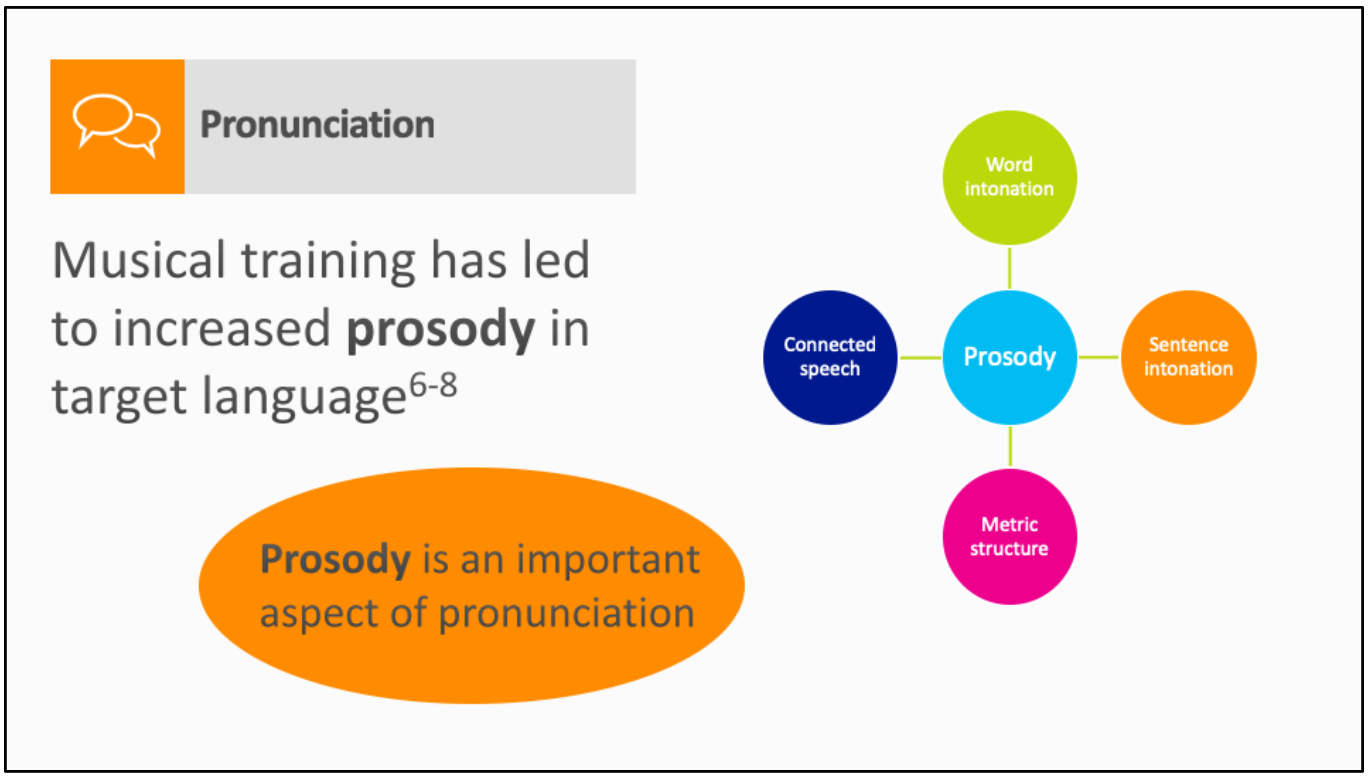
"There are a myriad of benefits that music education can endow on all learners, but especially English Learners. Please refer to the handout in front of you as I outline some of the literature on music education for language learners."



"As you can see on the handout in front of you, the first benefit for English Learners is a sense of community. Unfortunately, English Learners often report feelings of exclusion, isolation, segregation, and inequality on campus (Faltis & Arias, 2007). When surveyed, most high school students said that they chose band or choir because of the sense of community that those classes provided (Baker, 2009). In fact, ensembles make students feel more invested in the school community (Hallam, 2010), which could help us engage and incorporate our English Learners who may currently feel isolated."



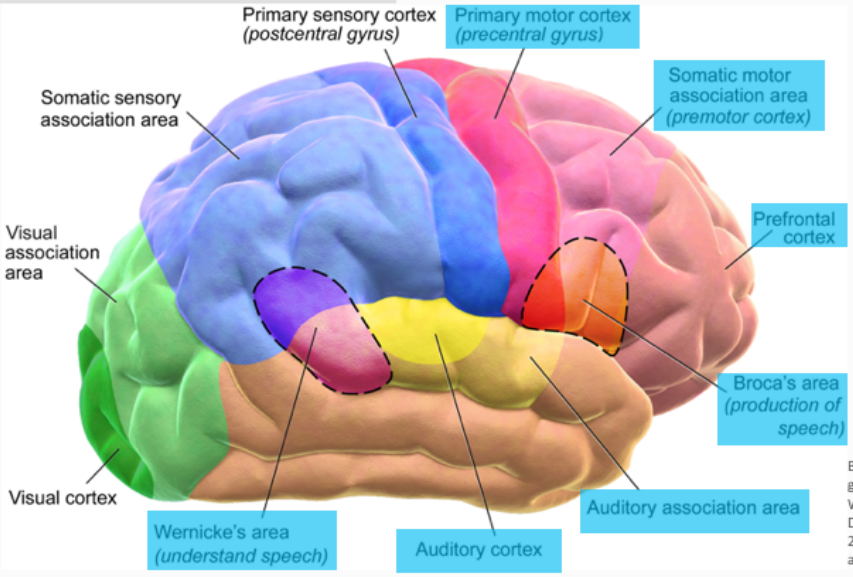
"Recent research indicates that music ability and literacy are correlated. In this study, preschoolers were tested on phonological awareness, working memory, and information retrieval, all of which are known indicators of pre-literacy. Those students who scored highly on these tasks also scored highly on tasks related to musical perception and production. While musical aptitude may be partly genetic, research has found that prolonged practice can increase musical aptitude (Moreno et al., 2009). Just like you can learn to read, you can learn to be musical, and since the two appear to be linked, training in one may transfer over to ability in the other."



"There have been many studies that examine the effects of music on pronunciation. Choral music in particular can positively influence pronunciation, as the act of singing draws attention to phonological features of language (Patel, 2013). Slevc and Miyake (2006) found that there is a strong positive correlation between musical ability and L2 phonological ability (both receptive and productive), measured through the identification and repetition of minimal pairs in words, phrases, and sentences. In other words, students with greater musical aptitude had better pronunciation.

Then, in addition to the phonological aspects of pronunciation, there are the prosodic features, such as intonation, rhythm, structure, and stress. Musical training also improves prosody, allowing speakers to connect speech better (Ashtiani & Zafarghandi, 2015) and replicate the metric structure of the English language better (Patel & Daniele, 2003)."

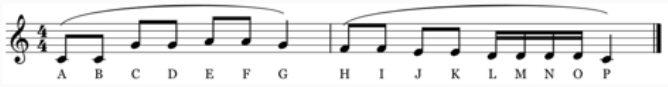
Speech and music share neural pathways[9-13]



Blausen.com staff (2014). "Medical gallery of Blausen Medical 2014". WikiJournal of Medicine 1 (2). DOI:10.15347/wjm/2014.010. ISSN 2002-4436. - Own work, Picture adapted with permission[14]

"Perhaps the reason that there are so many transfer effects between music and language is because both activate similar parts of the brain. Many different studies have used brain imaging scans such as fMRI's and PET scans to examine what parts of the brain are activated during musical and linguistic activity. Scans have revealed that many parts of the brain are activated during both music and language activities. I have highlighted some of these shared parts of the brain on this slide."

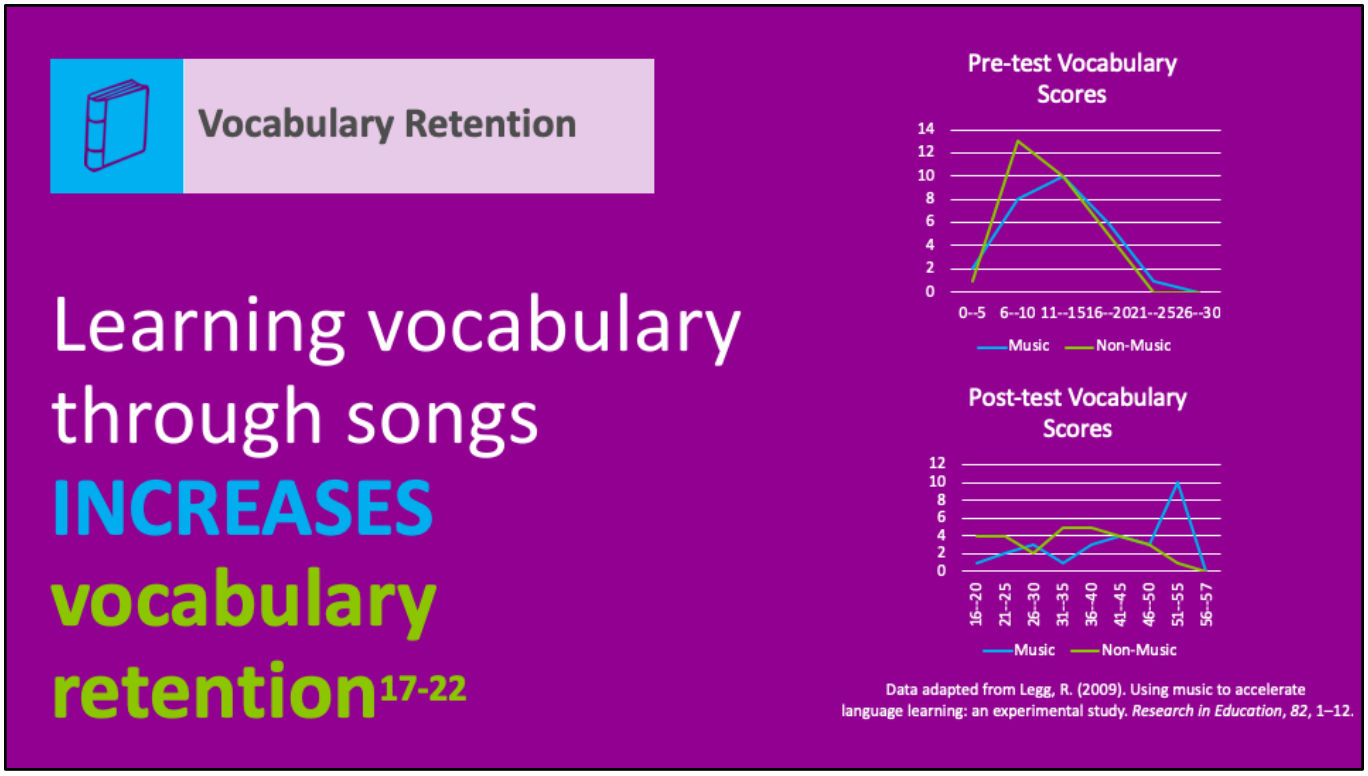
Rehearsal



The **Song Stuck In My Head Phenomenon**: information in songs is acquired and stored in long-term memory for quick retrieval.[15]

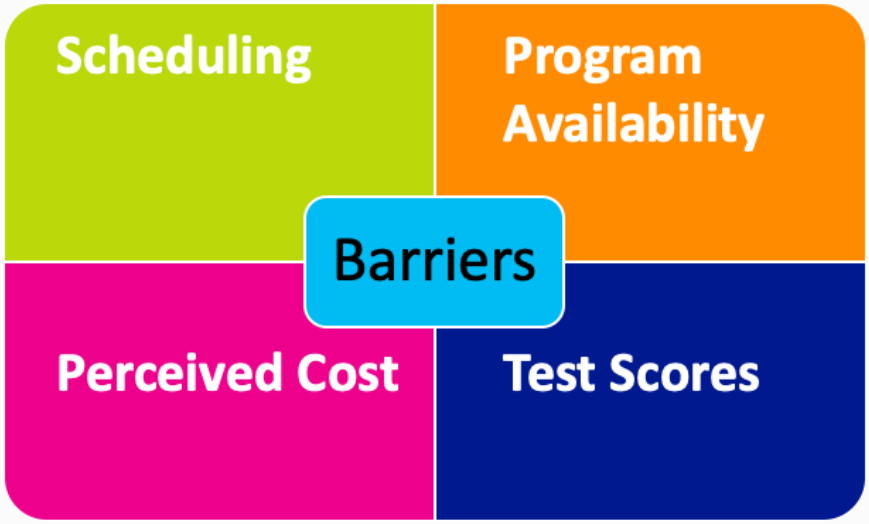
Unconscious mental rehearsal is **key** to language acquisition.[16]

"As we will explore, songs improve vocabulary and text recall. One simple reason could just be that they got stuck in your head! Have you ever had a song stuck in your head, that you couldn't get out? Well, it's a real thing! When you unconsciously rehearse the same tune over and over in your brain, it's called the song stuck in my head phenomenon (Murphey, 1990). There's a similar phenomenon for language. Linguists call it din, when you repeat words or phrases over and over in your head without even thinking about it (Barber, 1980). Din is a crucial step towards second language acquisition, and setting text to music seems to speed that process along."

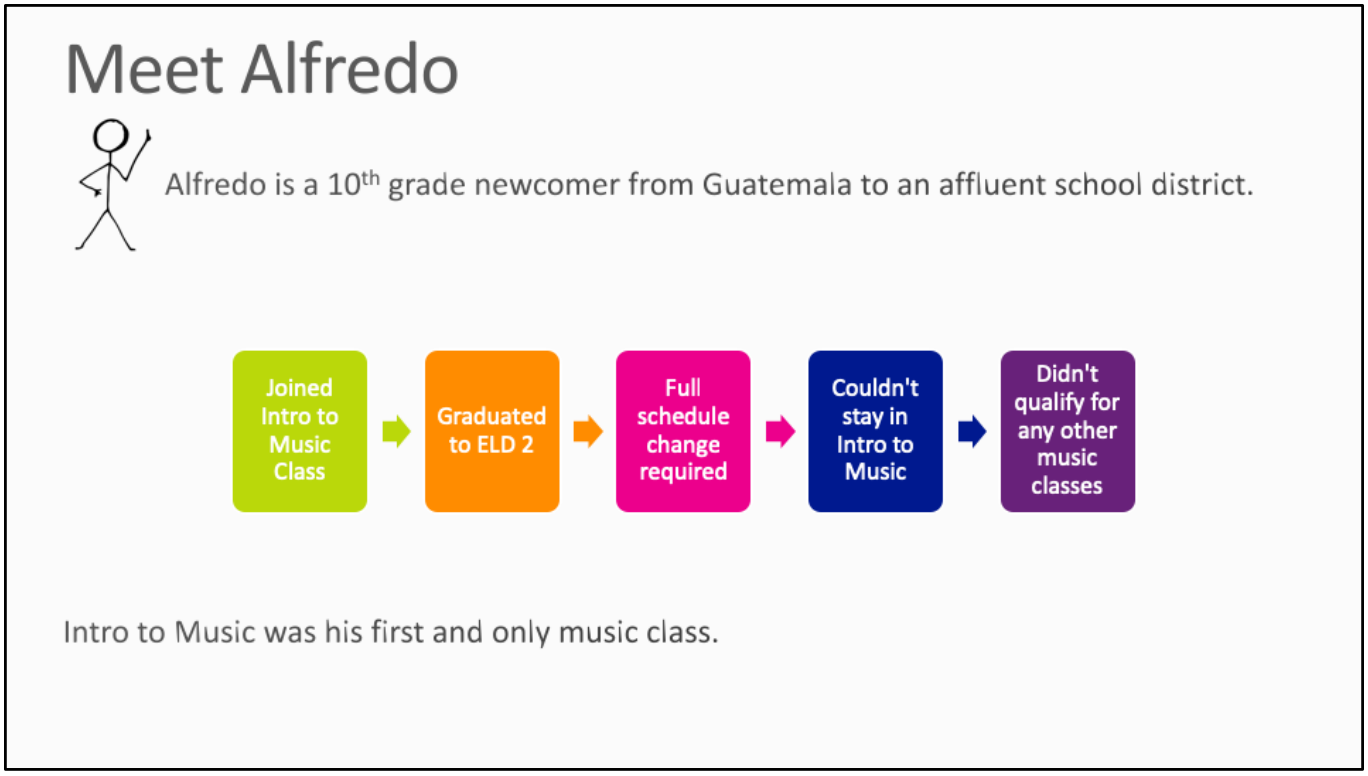


"Perhaps due to that song stuck in my head phenomenon, many researchers have found that learners remembered vocabulary much better when they learned them through song (Legg, 2009; Rukholm, 2015). It appears that the melody is the important variable, as learning vocabulary through rap didn't seem to improve vocabulary gains (Rukholm, 2015). Indeed, if you look at these pre-test and post-test vocabulary scores here, the group that learned vocabulary through song scored much higher on the post-test than their non-music peers (Legg, 2009)."

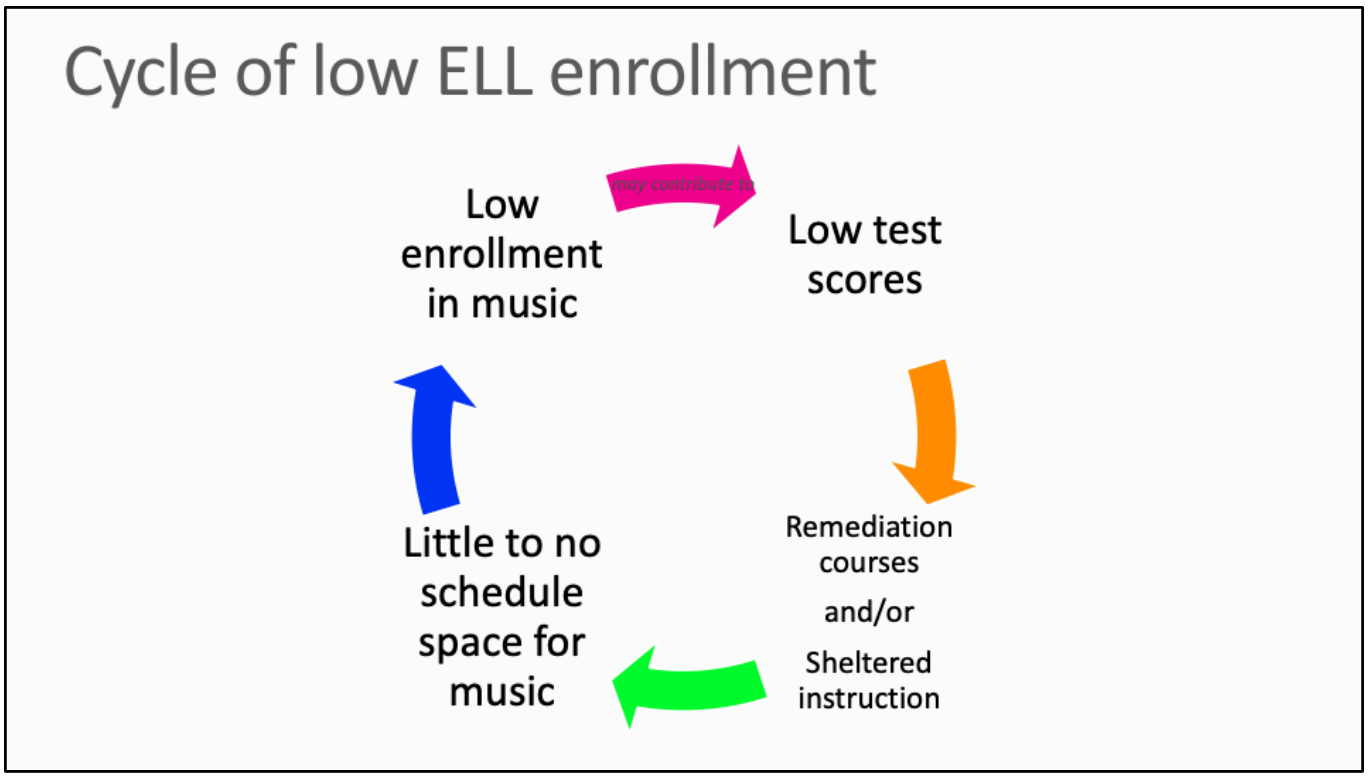
What prevents ELLs from enrolling in music?



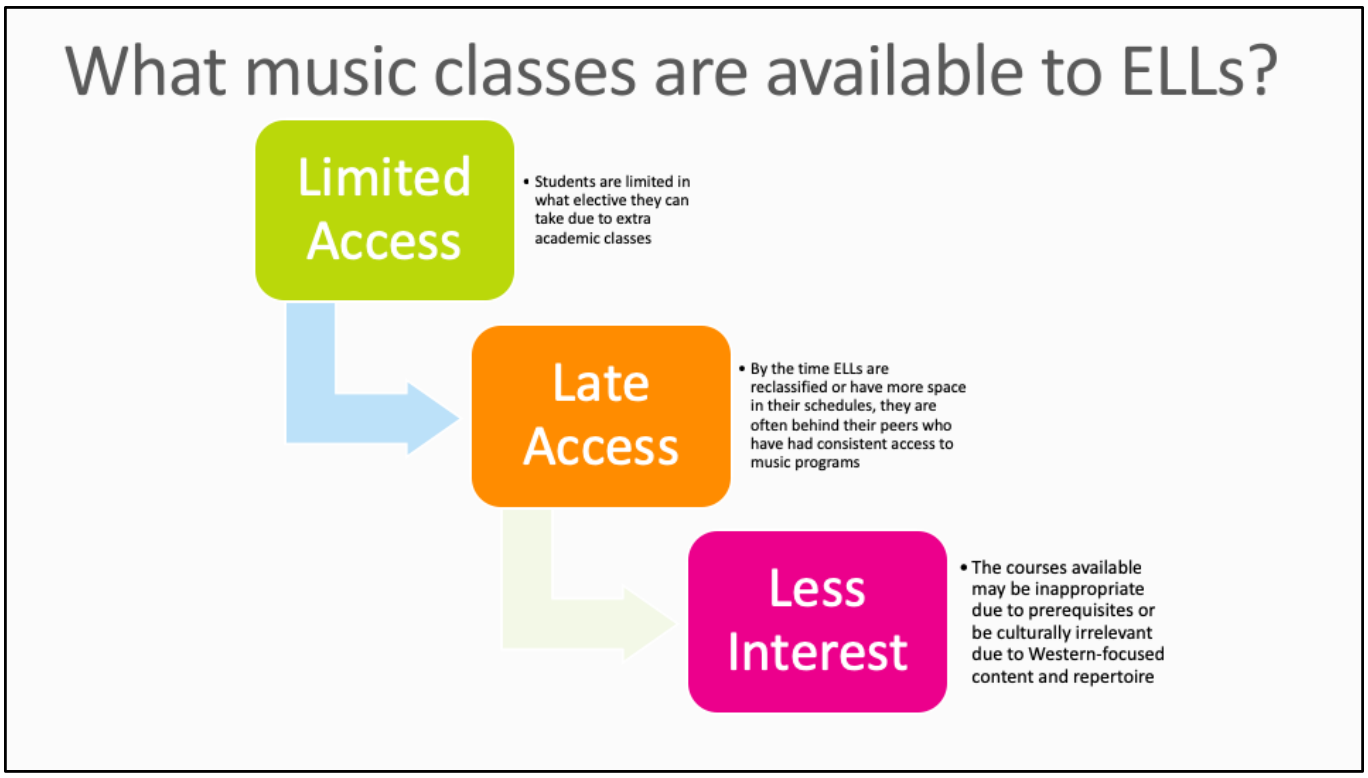
"If music is so good for English Learners, why aren't they enrolled in music classes? There must be something getting in the way. Here I examine several barriers that may be obstructing English Learners from enrolling in music classes."



”Let me share with you a brief story from my first year teaching. I was assisting in a high school Introductory music class, called Introduction to Music. This class exposed students to piano, ukulele, guitar, and percussion techniques, as well as to general music theory and reading. The class was quite small and consisted largely of English Learners. Alfredo was a newcomer from Guatemala, who had never taken music before. He joined the Intro to Music class and it quickly became his favorite class. After a few months, however, he tested out of ELD 1 and into ELD 2. This involved a complete schedule change, as the master schedule wasn’t designed for English Learners to easily test out of courses. His new ELD class was only offered during the same period as Intro to Music, so he had to withdraw from the course. He wanted to continue with music, but all of the other music courses offered at his high school required prior experience except for choir (and he didn’t want to sing). There was no place for him.”

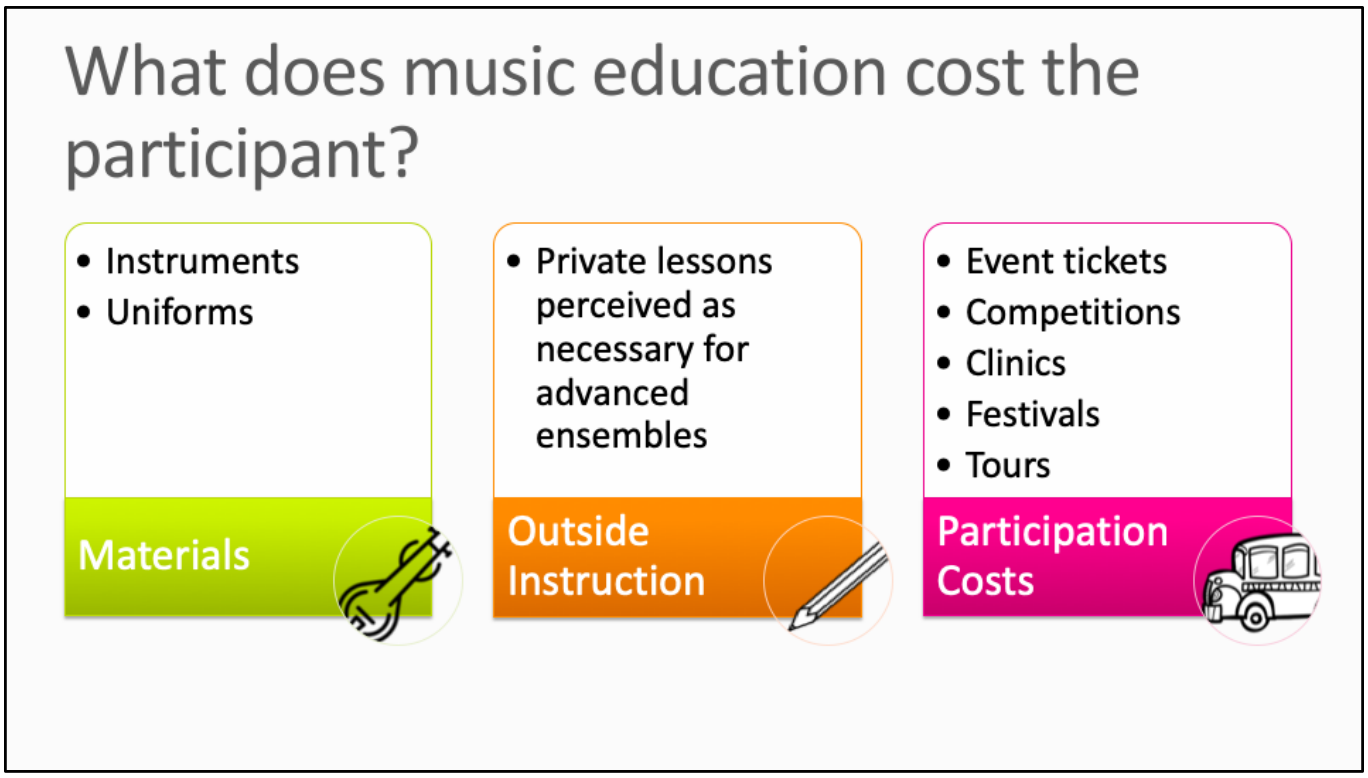


"Alfredo's story is not uncommon. One of the primary barriers to enrollment in a musical ensemble for all students is scheduling (Baker, 2009). Scheduling factors such as block schedules, college requirements (such as the A-G requirements here in California), limited Advanced Placement and International Baccalaureate classes, and room for only one elective make it difficult for many students to persist in music education. This is particularly exacerbated for ELLs, as their schedules tend to be highly restrictive (Faltis & Coulter, 2007). Many English Language Learners are placed into ELD classes and sheltered content classrooms, in which curriculum is altered to suit ELLs. Due to the constraints on their schedules, they have less access to elective courses and are less included in school-wide activities in general (Lorah et al., 2014). By the time that ELL's have time in their schedule for music, they are behind their native-speaking peers who have already been taking music. As we will discuss, it is possible that English Learners would benefit academically from being in music."



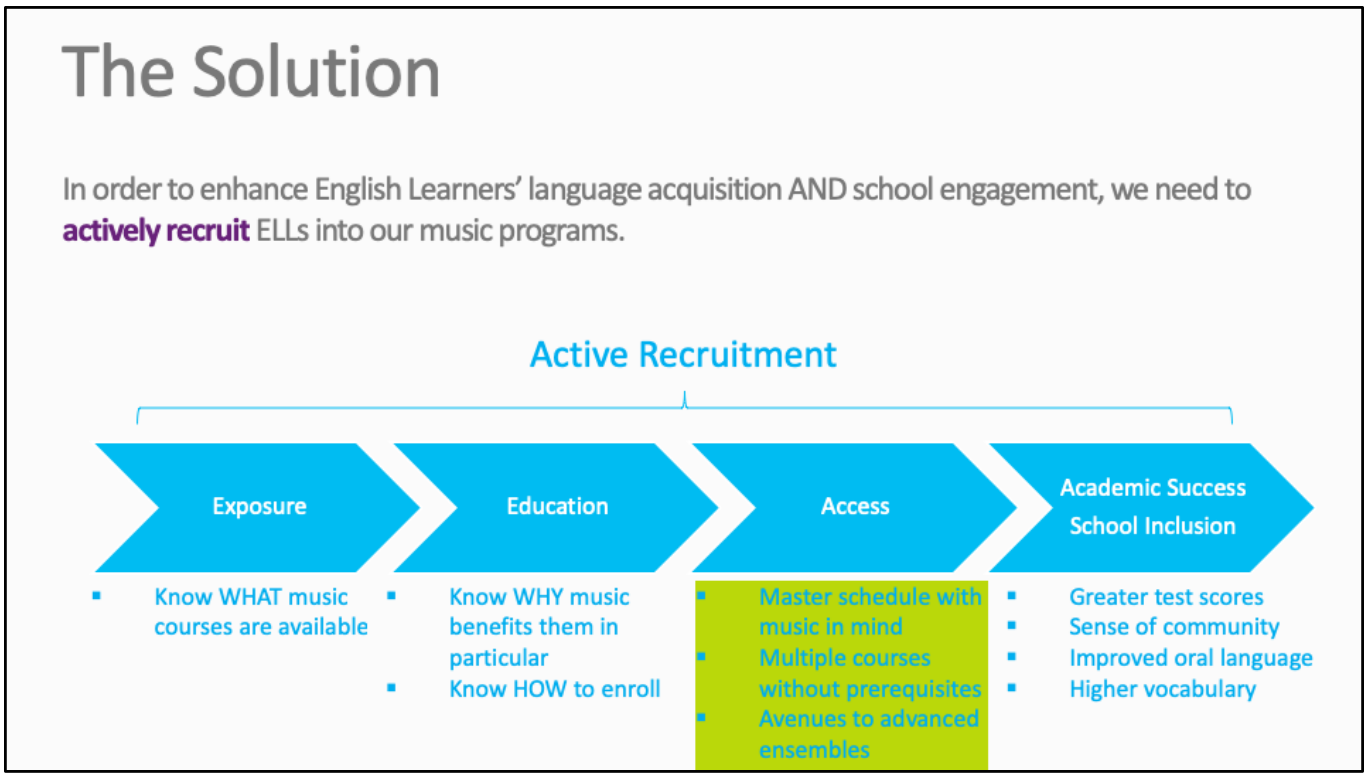
"Like Alfredo, many English Learners are busy taking English classes during their elective periods and come to music later than their native-English speaking peers. That puts them behind in most traditional ensembles.

So, English Learners are often limited in their access to musical education and therefore come late to the table. By the time that English Learners are reclassified or have more space in their schedules, they are often behind their peers who had consistent access to the musical offerings at school. But then we face a whole other issue, the issue of what types of course offerings are available, particularly in secondary schools. Many secondary schools offer auditioned musical ensembles that perform primarily Western European art music (Horne, 2007). As a response, many researchers and music educators have called for culturally relevant pedagogy that includes and celebrates the home and youth cultures of our students (Shaw, 2012)."



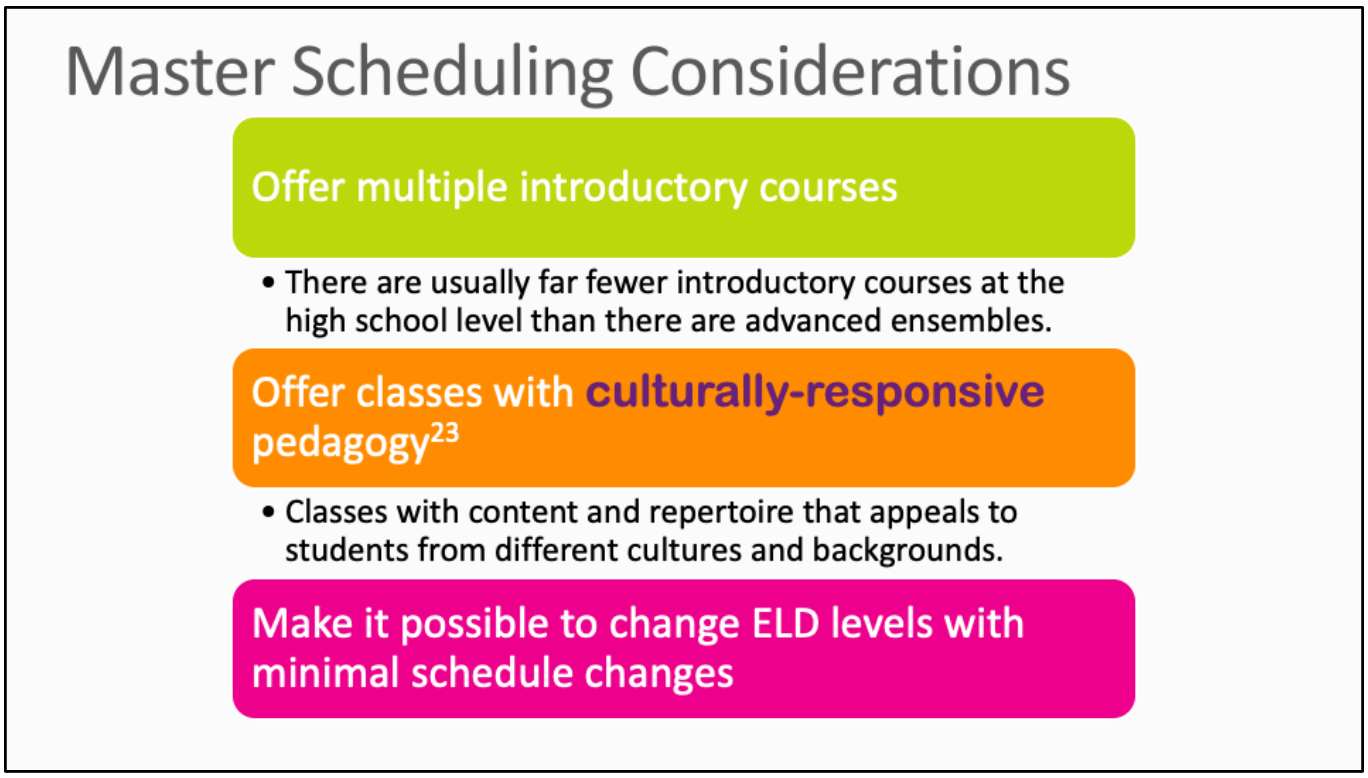
"While ELLs are enrolled at a lesser rate than native English speakers in school musical ensembles, socioeconomic status (SES) has been found to be a stronger predictor of music participation than language status (Lorah, Sanders, & Morrison, 2014). ELLs are more likely to be in a lower SES household. In 2010, 74-85% of English Language Learners in California lived in poverty, as opposed to only 21% of their native English-speaking peers (Hill, 2012). So what does music education cost?

Well, as we all know, public schools are not allowed to require that students pay for music. However, there are many costs, some of which are laid out here. Part of making music accessible to all learners, not just our English Learners, is to make it very clear what financial resources are available for support."



"So how do we overcome these barriers and get more English Learners like Alfredo into the music classrooms?

In order to get more English Learners involved in music, we need active recruitment measures. That means exposing students and parents to WHAT courses are available as well as WHY music benefits them in particular and HOW to enroll. From a macro level, it means creating a master schedule with music in mind, starting with English Learners and students with special needs, and then looking to performing arts. Schools need to provide multiple music courses that are at the introductory level, and provide multiple avenues to advanced ensembles so that students who were historically excluded from music have the opportunity to come to it later in their school careers. This may even benefit their language learning, as we discussed earlier and is outlined on your handouts. It may lead to a greater investment in our school community."



”As school administrators, you have control over our school’s master schedule. When scheduling music courses with English Learners in mind, please offer multiple introductory courses, not just one token course. Please offer courses with content and repertoire that are culturally relevant and responsive to our diverse students. And please, offer courses that will not conflict with ELD classes.”

Best Practices

Fresno Unified School District

Legally, all ELLs **must** have **equal access** to elective courses.[24]

”Legally, all English Learners must have equal access to elective courses, according to Title VI of Federal Law (US Department of Education, 2018). School districts such as Fresno Unified and Bakersfield City have made a conscious effort to schedule music for English Learners, by prioritizing music for English Learners.

Let us follow in their footsteps. Access to a high-quality public education is a right, not a privilege. It is up to us as educators to ensure that *all* of our students have access to the best quality education possible, including our English Learners. That education ought to include music education. I thank you for your time and will now turn to any questions you may have.”

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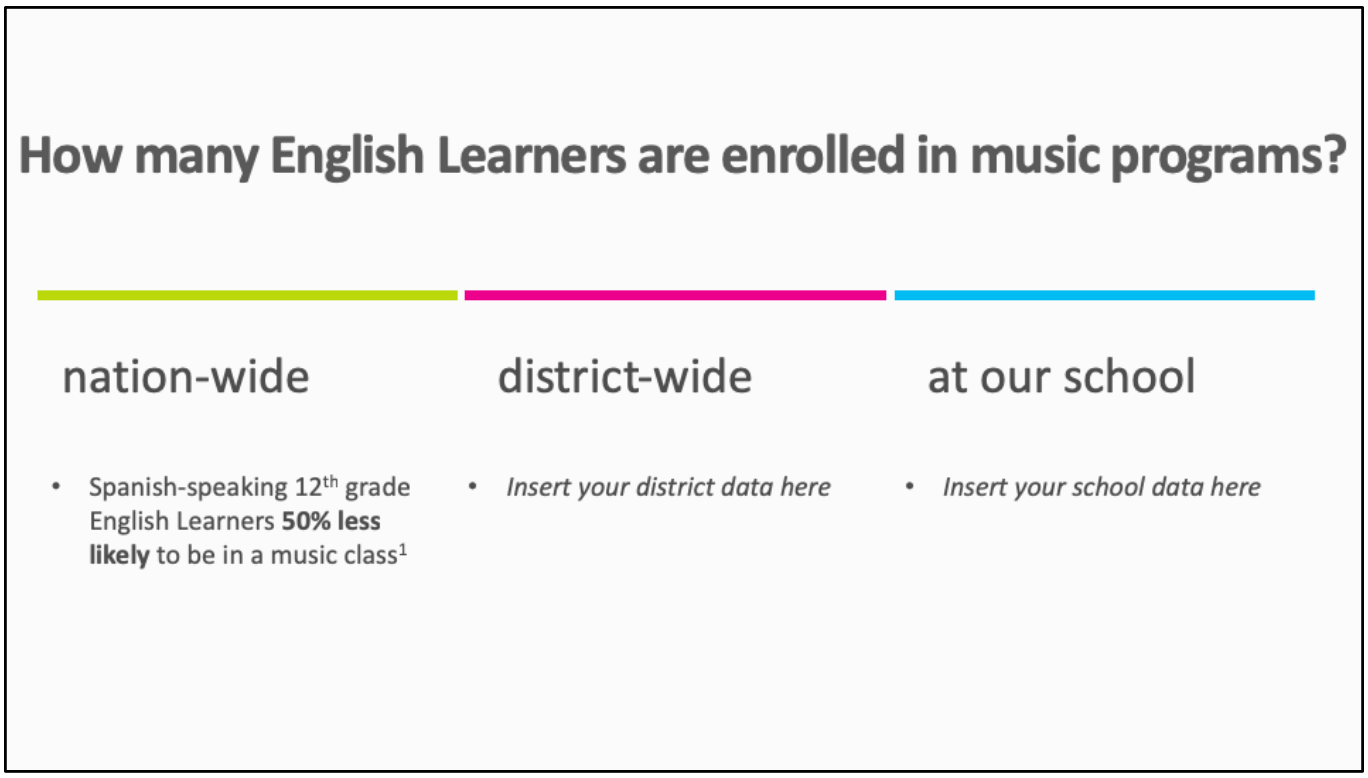
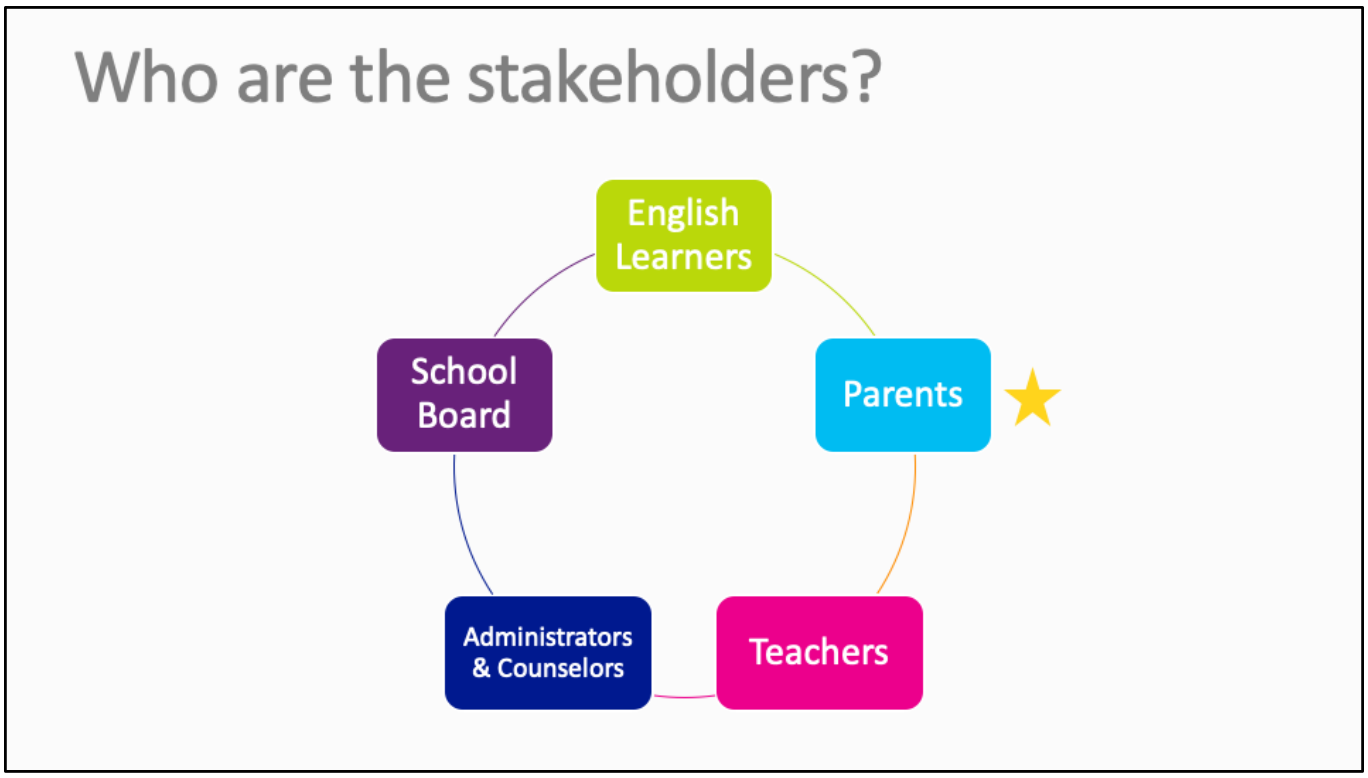
This presentation serves as a template for music teachers to use in front of parents of English Learners. It covers recent research on the benefits of musical engagement to English Learners. All slides are meant to be modified.

"I am excited to introduce a new initiative here at our school driven at getting English Learners into the music classroom. I will present recent research that shows how music can help English Learners socially and academically."

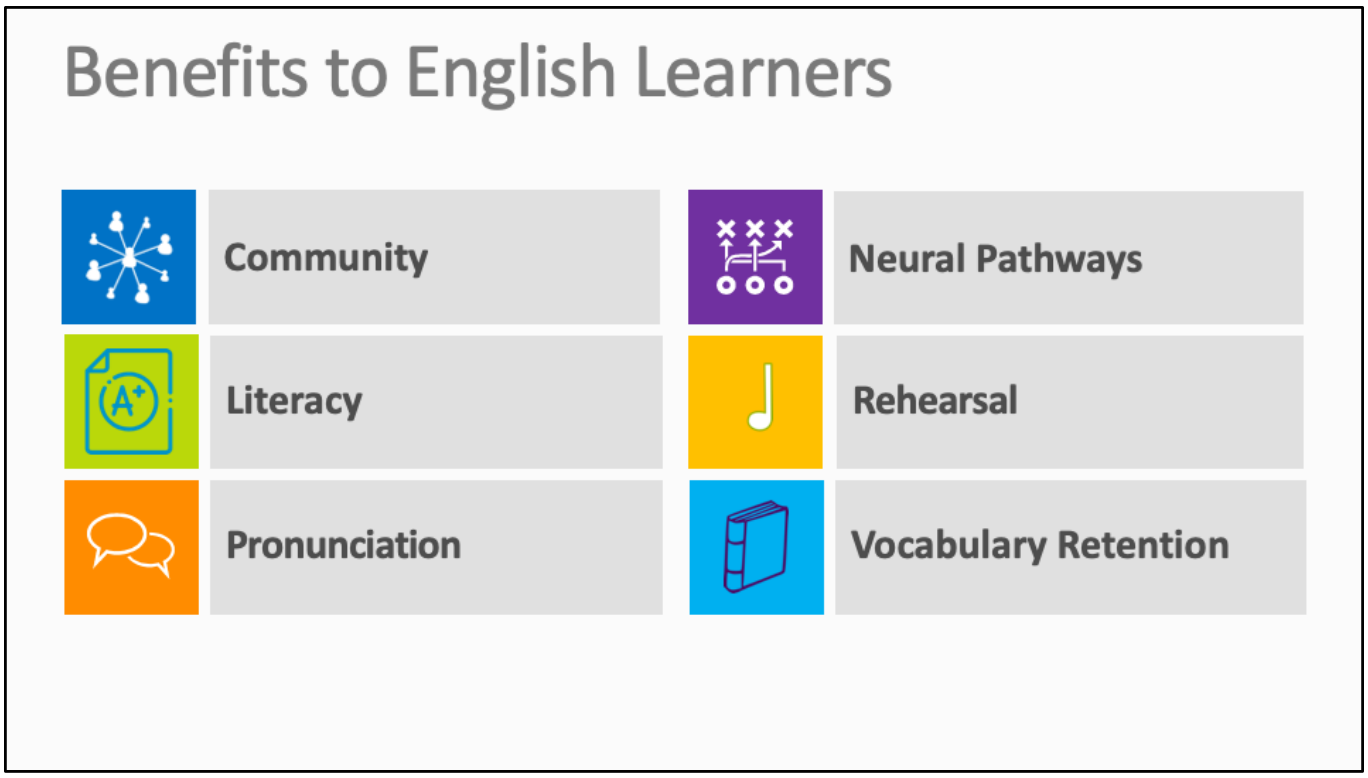


”Why is our school focusing on recruiting English Learners into music programs? Well, the fact is that right now English Learners aren’t getting the musical education that other students are. In fact, Spanish-speaking 12th grade English Learners are 50% less likely to be in a music class than their native English-speaking peers (Elpus & Abril, 2011). How does that compare with our district data? With our school data?”



"This impacts teachers, school administrators and counselors, the School Board, but most importantly, English Learners and their parents."

"Music Education for English Learners: A presentation for parents of English Learners."
In Partial Fulfillment of the Requirements for the Degree MASTER OF ARTS in TEACHING ENGLISH TO SPEAKERS OF OTHER LANGUAGES by Johanna Nilsson, December 2018



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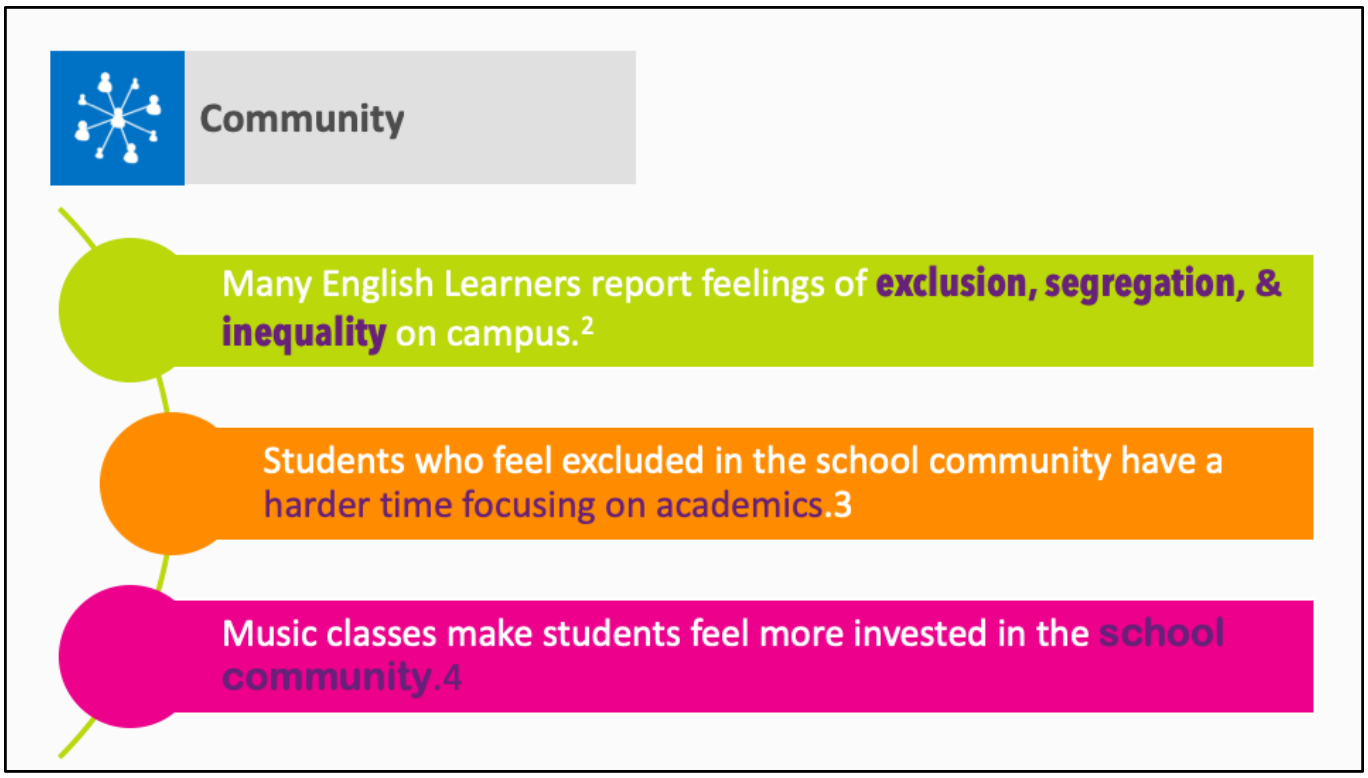

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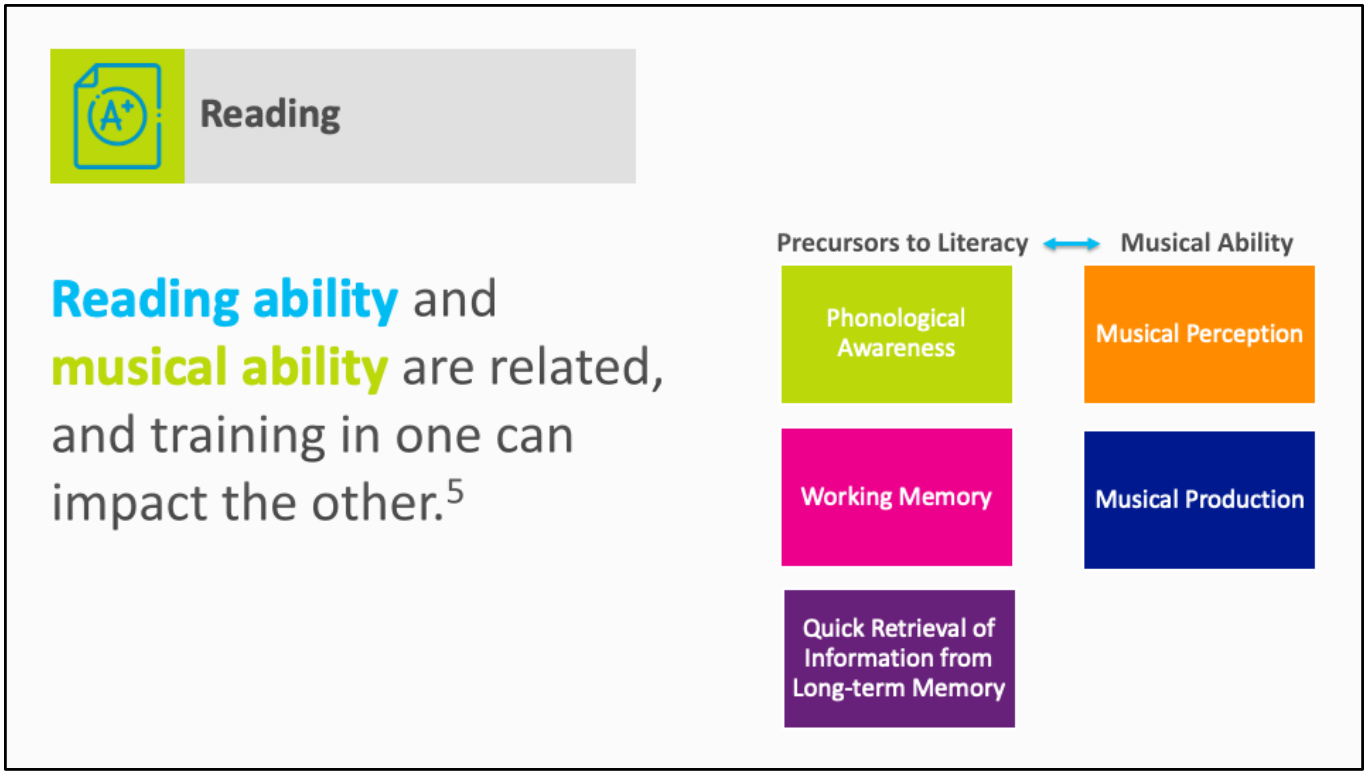
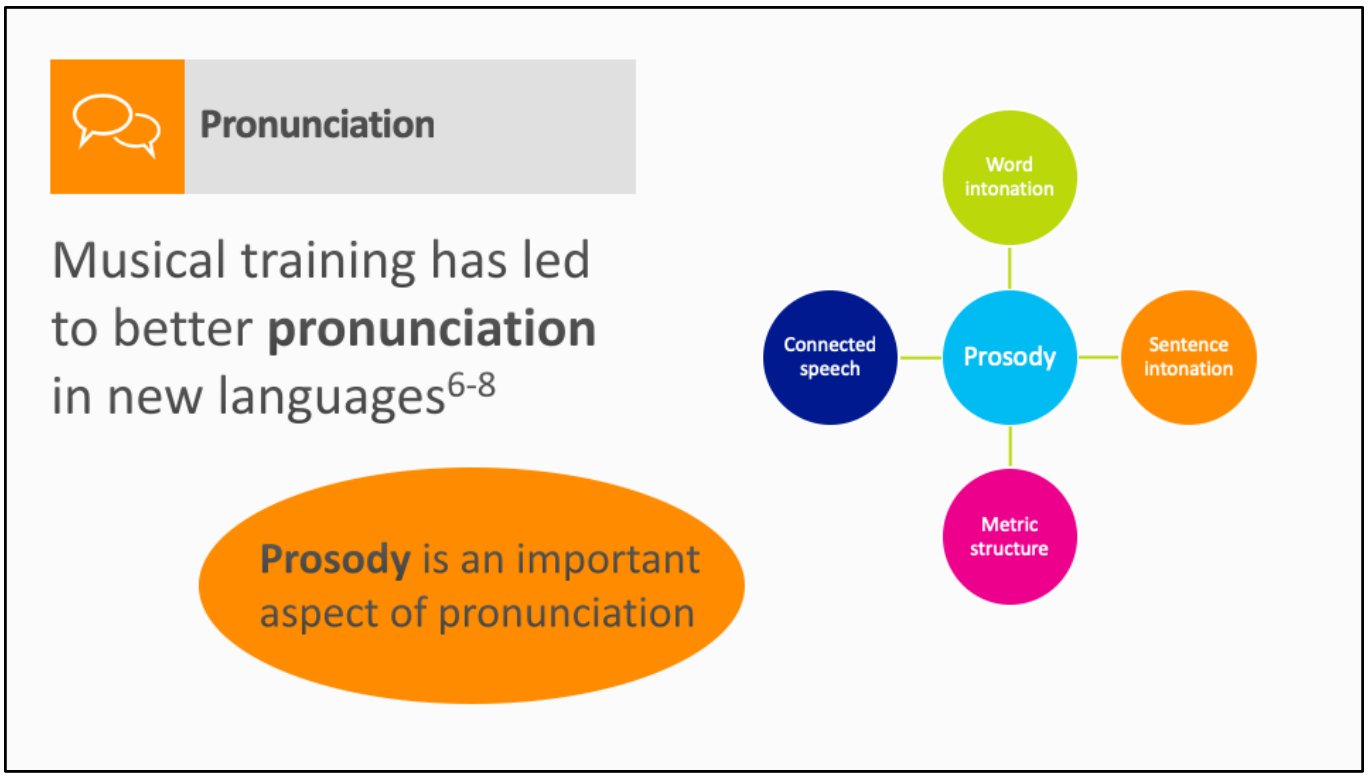
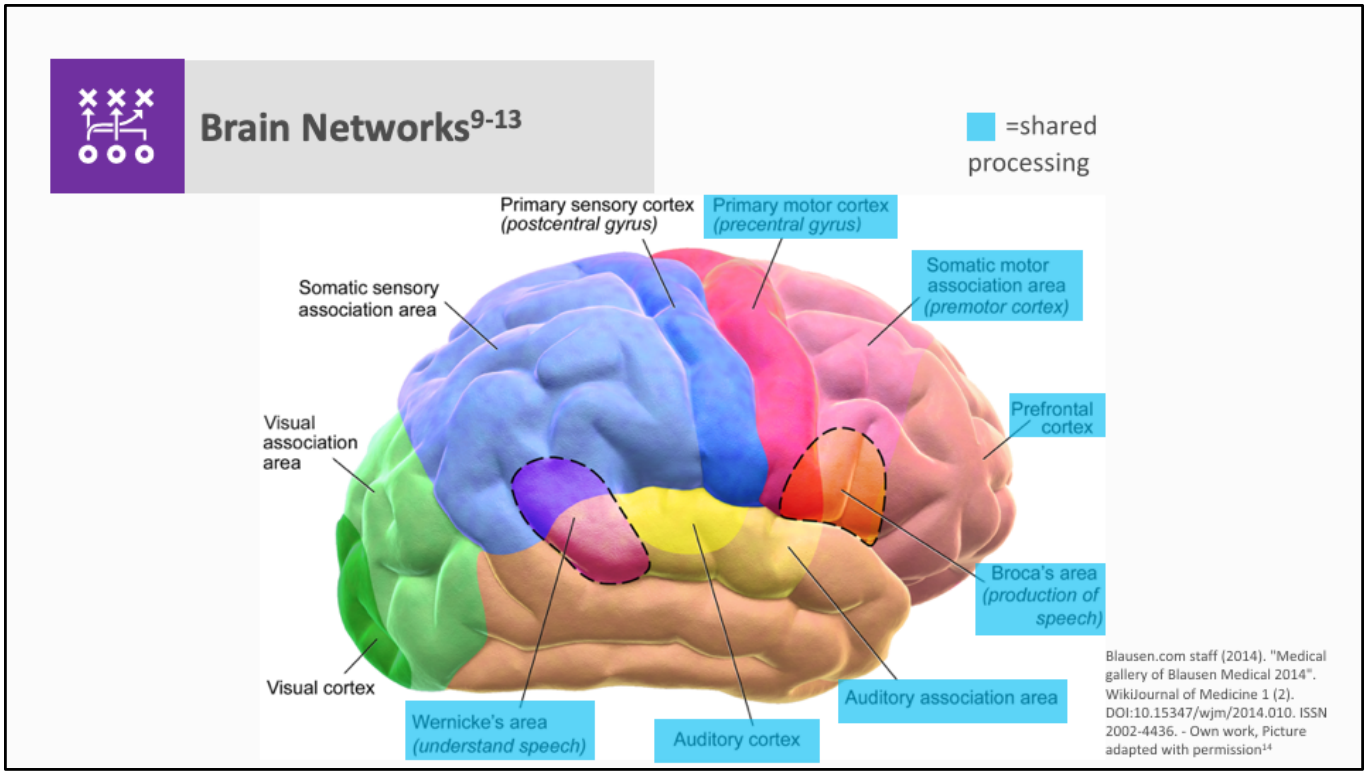


"Recent research indicates that reading ability and musical ability are related. In this study, preschoolers were tested on a number of things that are related to reading, including memory. Those students who scored highly on these tasks also scored highly on musical tasks. While being good at music may be partly genetic, research shows that practice can also make you better at music (Moreno et al., 2009). Just like you can learn to read, you can learn to be musical, and since the two appear to be linked, training in one may transfer over to ability in the other."



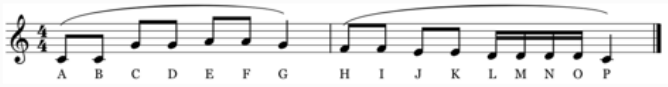
"There have been many studies that examine the effects of music on pronunciation. Choir especially can improve pronunciation, as singing involves paying special attention to pronunciation (Patel, 2013). Slevc and Miyake (2006) found that usually being good at music meant that students were also good at pronunciation in a new language. In other words, students with greater musical aptitude had better pronunciation.

Then, there are the prosodic features of pronunciation, such as intonation, rhythm, structure, and stress. Musical training also improves prosody, allowing speakers to connect speech better (Ashtiani & Zafarghandi, 2015) and replicate the metric structure of the English language better (Patel & Daniele, 2003)."



"Perhaps the reason that there are so many transfer effects between music and language is because both usee similar parts of the brain. Many different studies have used brain imaging scans such as fMRI's and PET scans to examine what parts of the brain are activated during musical and linguistic activity. Scans have revealed that many parts of the brain are activated during both music and language activities. I have highlighted some of these shared parts of the brain on this slide."

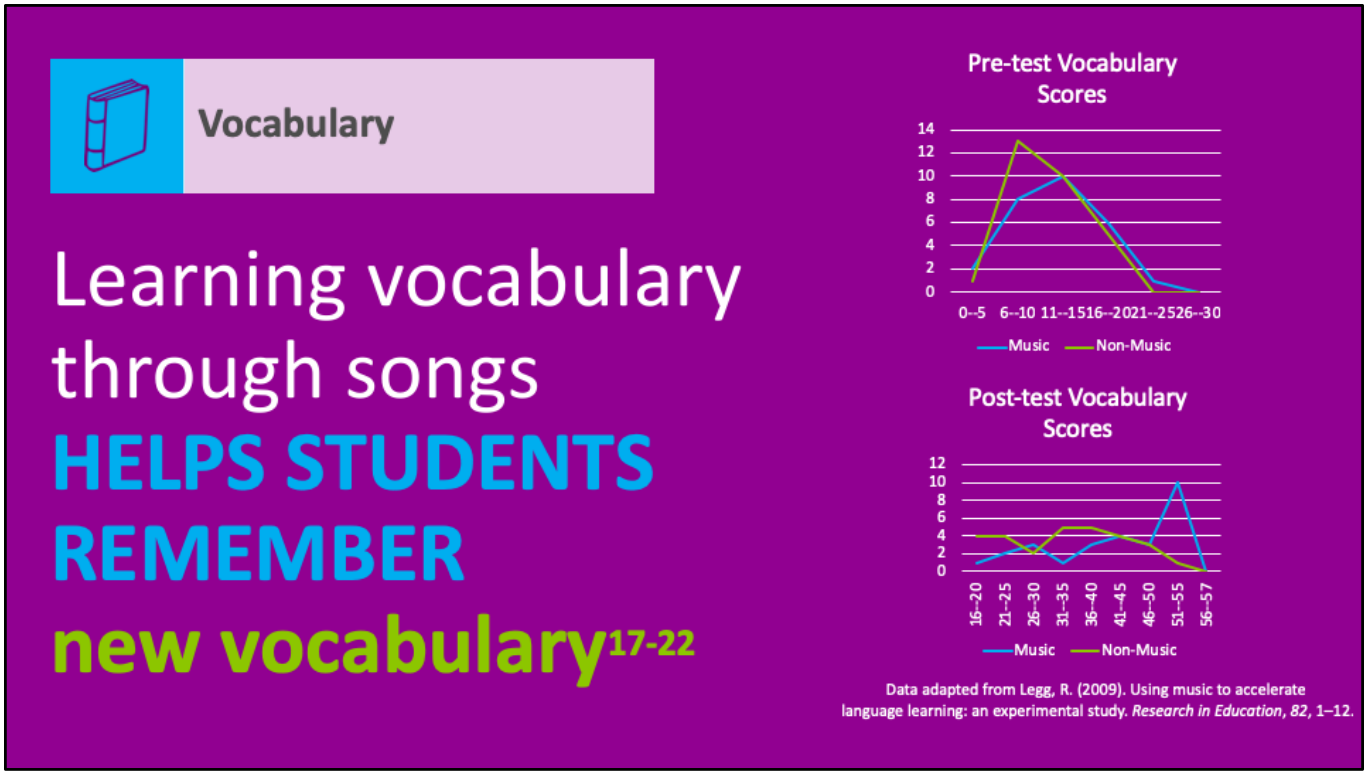
Rehearsal



The **Song Stuck In My Head Phenomenon**: information in songs gets stuck in your head and it is easier to remember.[15]

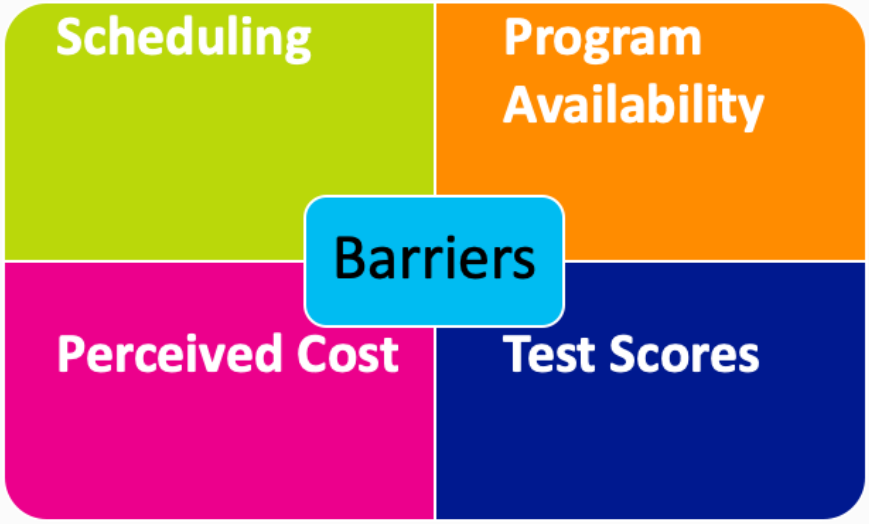
This is **key** to learning a language.[16]

"Have you ever had a song stuck in your head, that you couldn't get out? Well, it's a real thing! When you unconsciously rehearse the same tune over and over in your brain, it's called the song stuck in my head phenomenon (Murphey, 1990). There's a similar phenomenon for language. Linguists call it din, when you repeat words or phrases over and over in your head without even thinking about it (Barber, 1980). Din is an important step towards learning a new language, and setting text to music seems to speed that process along."

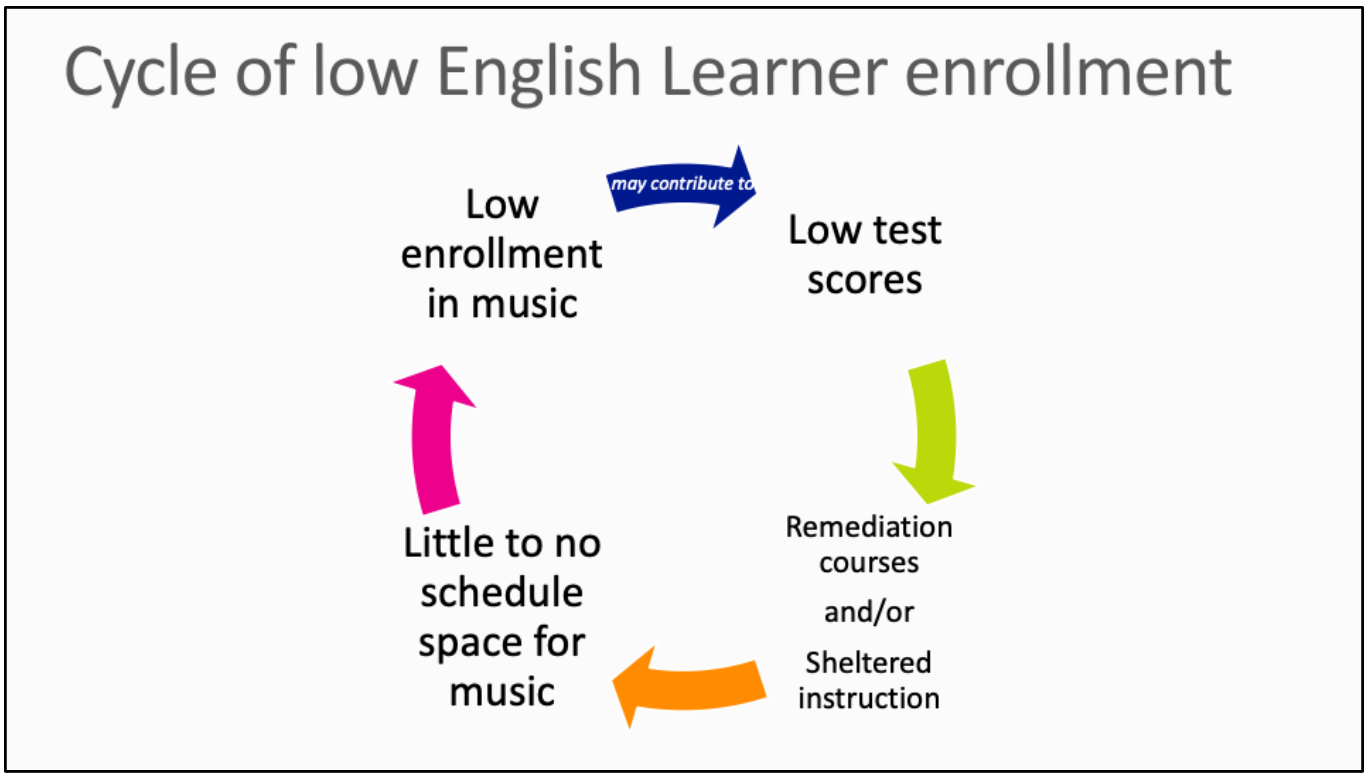


"Maybe because of that song stuck in my head phenomenon, many researchers have found that learners remembered vocabulary much better when they learned them through song (Legg, 2009; Rukholm, 2015). Ifyou look at these pre-test and post-test vocabulary scores here, the group that learned vocabulary through song scored much higher on the post-test than their non-musical peers (Legg, 2009)."

What prevents English Learners from enrolling in music?



"If music is so good for English Learners, why aren't they enrolled in music classes? There must be something getting in the way. Here I examine several barriers that may be keeping English Learners from enrolling in music classes."



"One of the main barriers for all students is scheduling (Baker, 2009). Scheduling factors such as block schedules, college requirements (such as the A-G requirements here in California), limited advanced classes, and limited electives make it difficult for many students to continue taking music classes. This is especially hard for ELLs, as their schedules tend to be even more difficult (Faltis & Coulter, 2007). Many English Language Learners are placed into English Language Development classes and sheltered content classrooms, in which curriculum is altered to suit ELLs. Then, because they're learning a new language, many times English Learners score poorly on tests, even when they understand the content, which means that they get put into classes that are supposed to catch them up. All of these factors combined mean that they have less access to elective courses and are less included in school-wide activities in general (Lorah et al., 2014). By the time that ELL's have time in their schedule for music, they are behind their native-speaking peers who have already been taking music."

How much does it cost?

California State Law mandates that all classes must be **FREE** for students.[23]

Scholarships are always available.

"Sometimes parents or students will come up to me and say they can't sign up for choir because it costs too much. They look at the expensive trips and the concert tickets and think that it's too much money. But that is not true. By law, ALL public school classes have to be free for students. Even though music classes have extra costs, there are always scholarships available. Do not let money keep your child from joining choir, because we will find them the money."

Music options

- *Insert information about your course offerings here*
- *Describe each class*
- *Include pre-requisites, if any*

Talk your programs up here. Include what the class is about, what the requirements and performances entail, and the costs AS WELL AS scholarship information.

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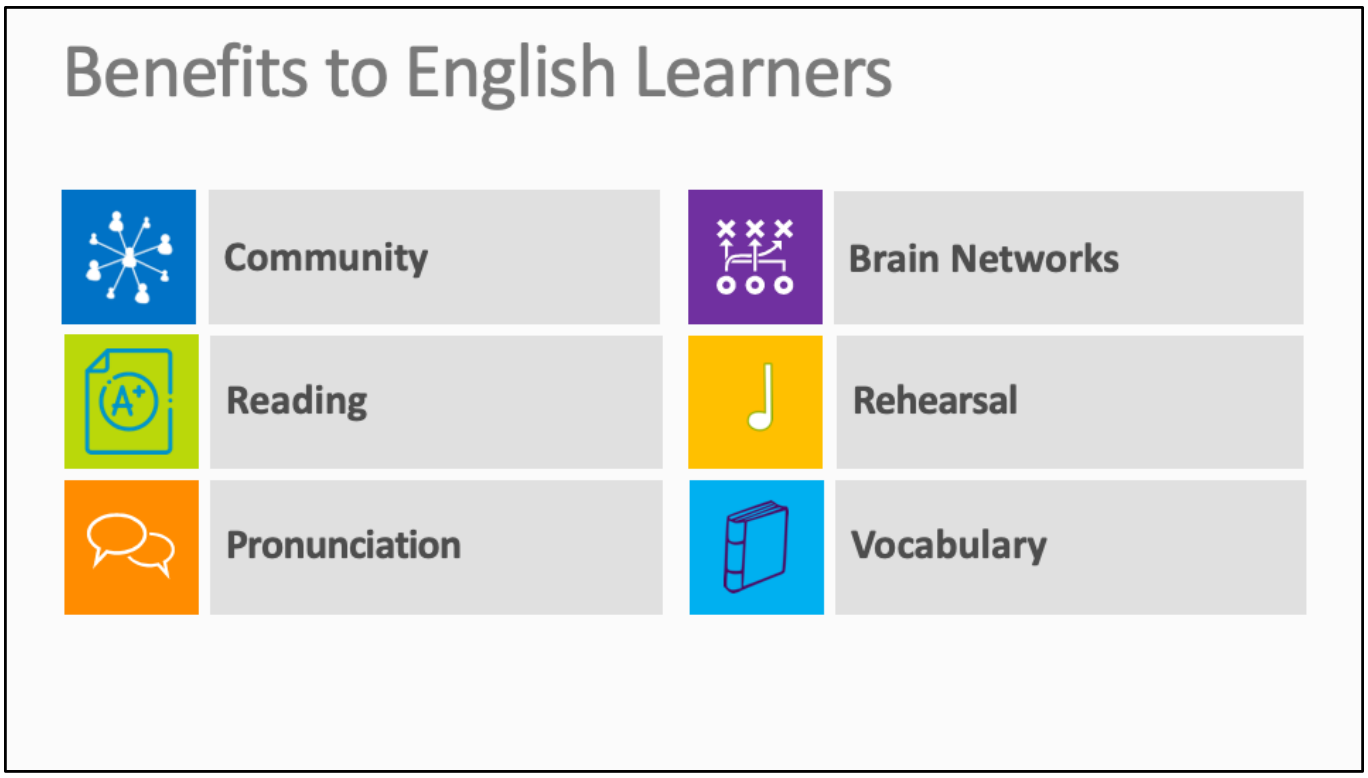
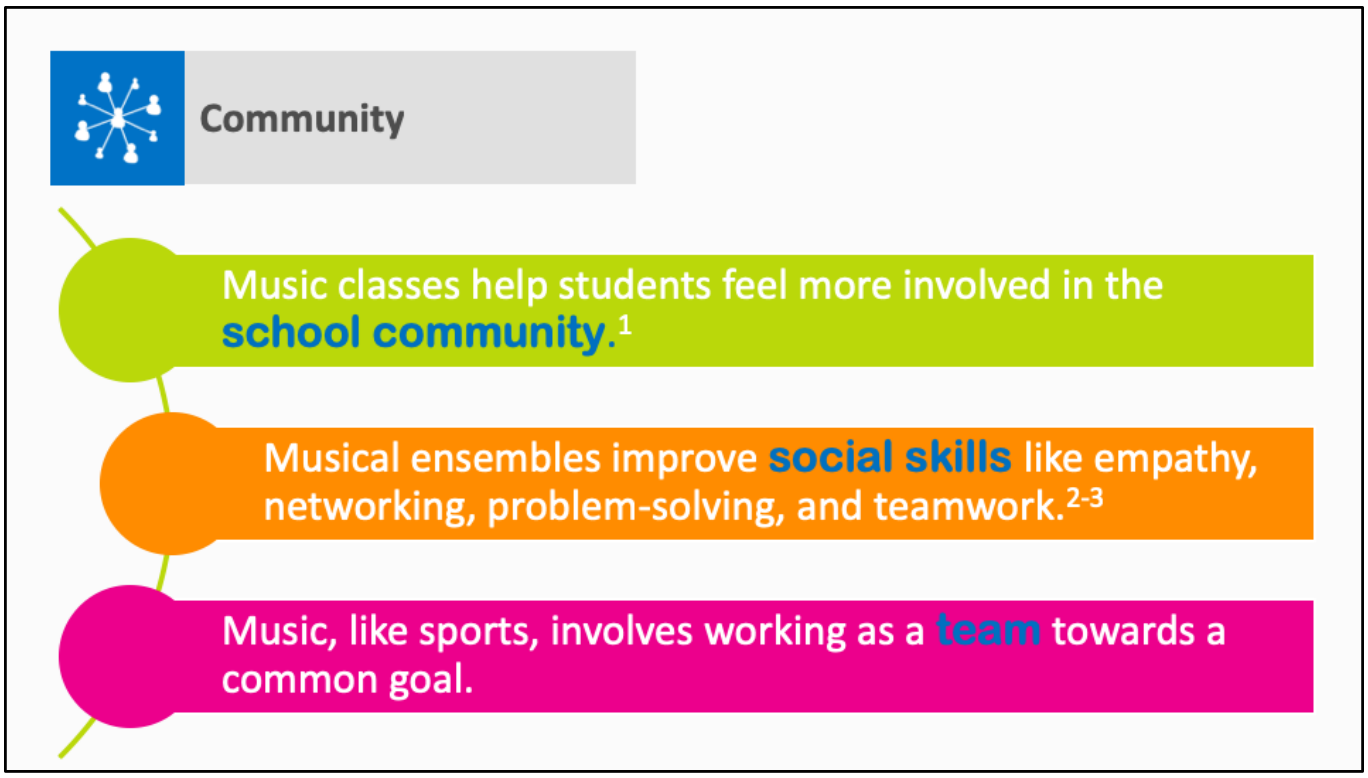
This presentation serves as a template for music teachers to use in front of English Learners. I wrote about Choir, but it can also be modified to be about Band or any other music class. It covers recent research on the benefits of musical engagement to English Learners. All slides are meant to be modified.

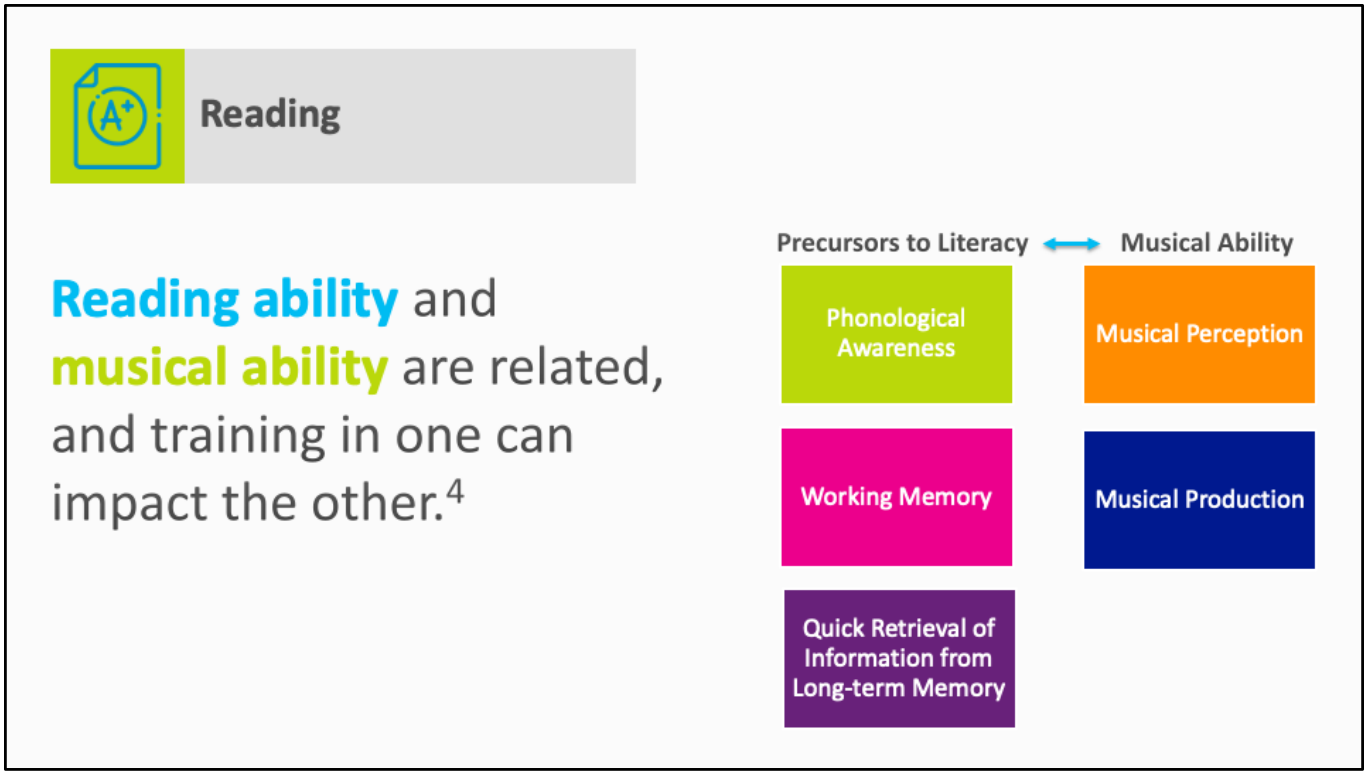
"I am here today to talk about what music classes are offered here at our school, and why YOU should all sign up for music if you are interested. I will present recent research that shows how music can help English Learners like you, both socially and academically."



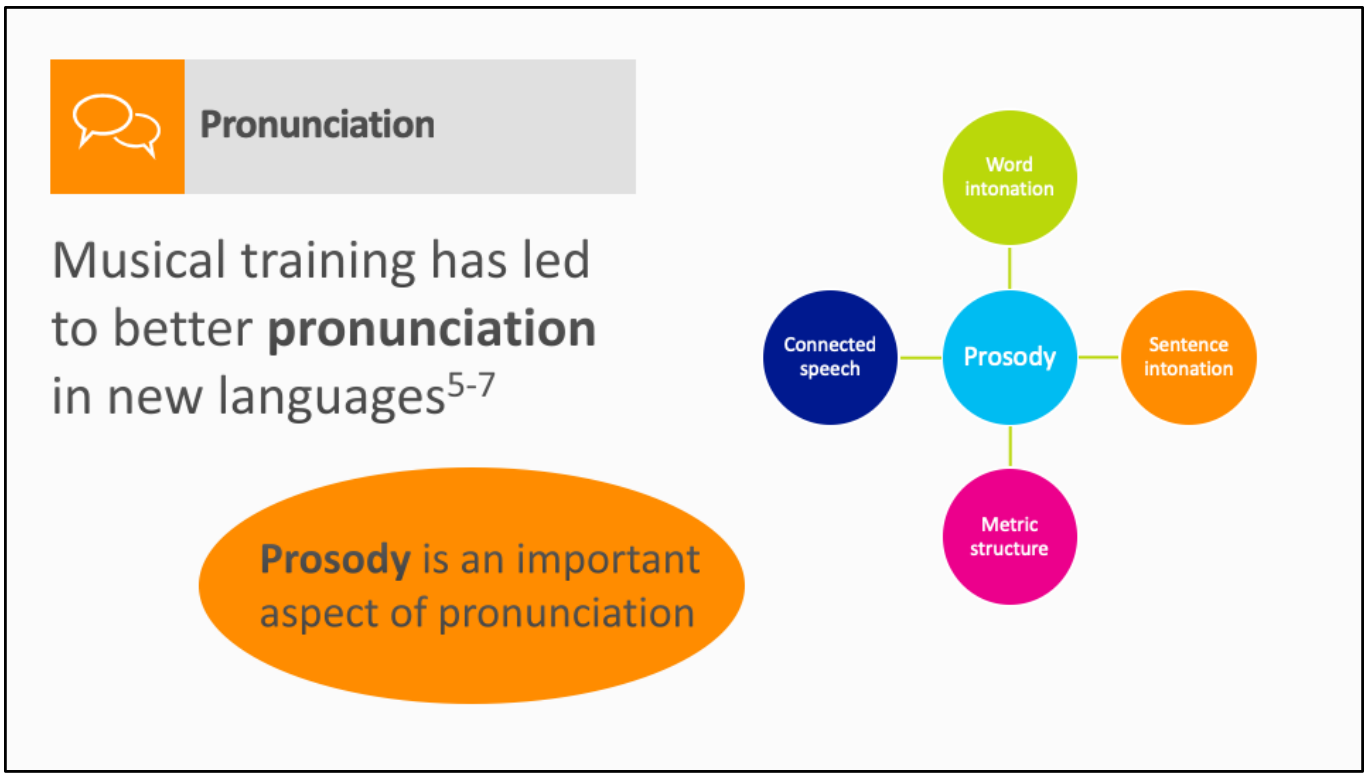
"There are many benefits that music education can endow on all learners, but especially English Learners. Please refer to the handout in front of you as I discuss some of the research on music education for language learners."



"First of all, choir is a family. Music classes help students feel more involved in the school community. Making music is like being on a sports team—it involves working together towards a common goal, which improves social skills like empathy, networking, problem-solving, and teamwork, all of which are important skills in any job you will have."



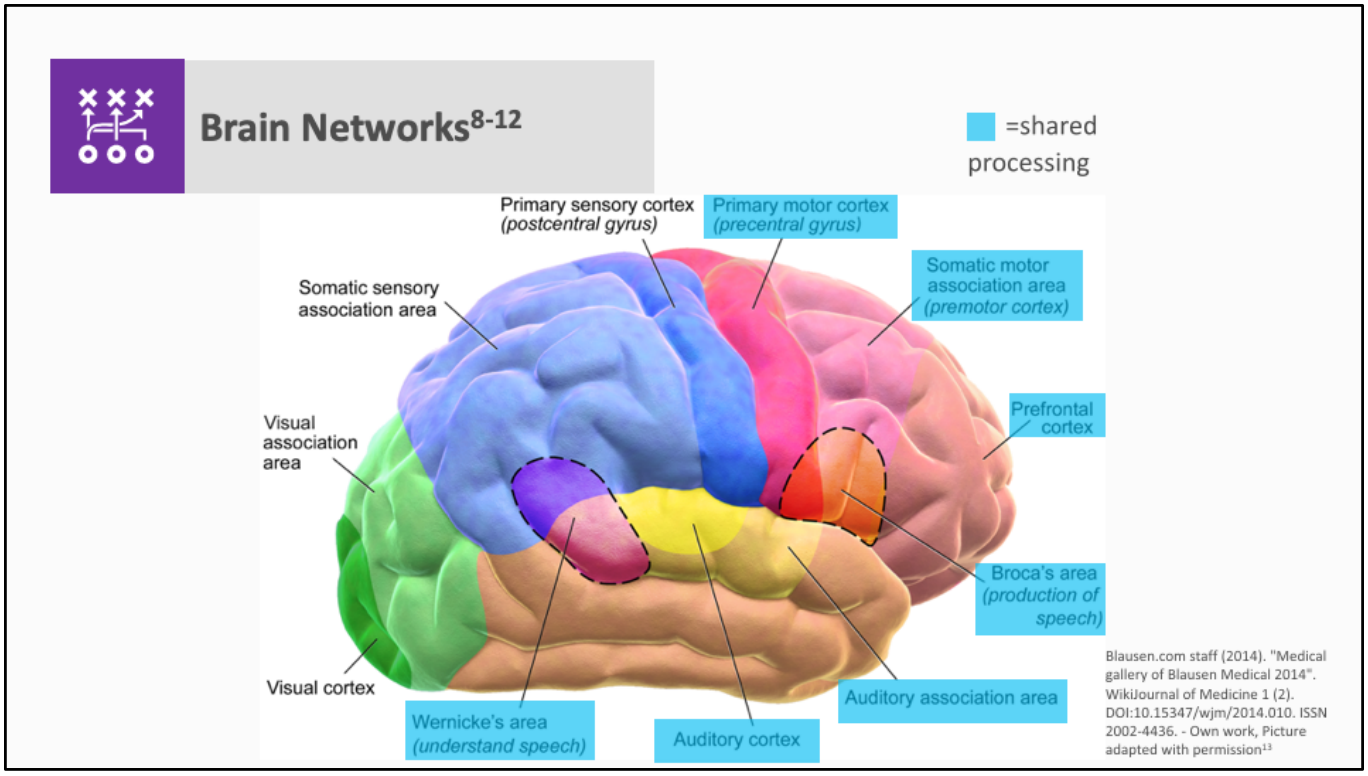
"Recent research indicates that reading ability and musical ability are related. In this study, preschoolers were tested on a number of things that are related to reading, including memory. Those students who scored highly on these tasks also scored highly on musical tasks. While being good at music may be partly genetic, research shows that practice can also make you better at music (Moreno et al., 2009). Just like you can learn to read, you can learn to be musical, and since the two appear to be linked, training in one may transfer over to ability in the other. What does that mean? Even if you're not good at music now, you can learn to be. And if you learn to get better at music, it may even help you be better at reading."



"There have been many studies that examine the effects of music on pronunciation. Choir especially can help, since singing involves paying special attention to pronunciation (Patel, 2013). Slevc and Miyake (2006) found that usually being good at music meant that students were also good at pronunciation in a new language. In other words, students with greater musical aptitude had better pronunciation.

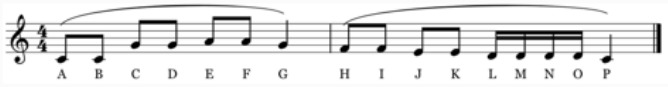
Then, there are the prosodic features of pronunciation, such as intonation, rhythm, structure, and stress. Musical training also improves prosody, allowing speakers to connect speech better (Ashtiani & Zafarghandi, 2015) and replicate the metric structure of the English language better (Patel & Daniele, 2003).

What's all that mean? It means that if you sign up for choir you might become better at speaking English."



"Perhaps the reason that there are so many transfer effects between music and language is because both usee similar parts of the brain. Many different studies have used brain imaging scans such as fMRI's and PET scans to examine what parts of the brain are activated during musical and linguistic activity. Scans have revealed that many parts of the brain are activated during both music and language activities. I have highlighted some of these shared parts of the brain on this slide."

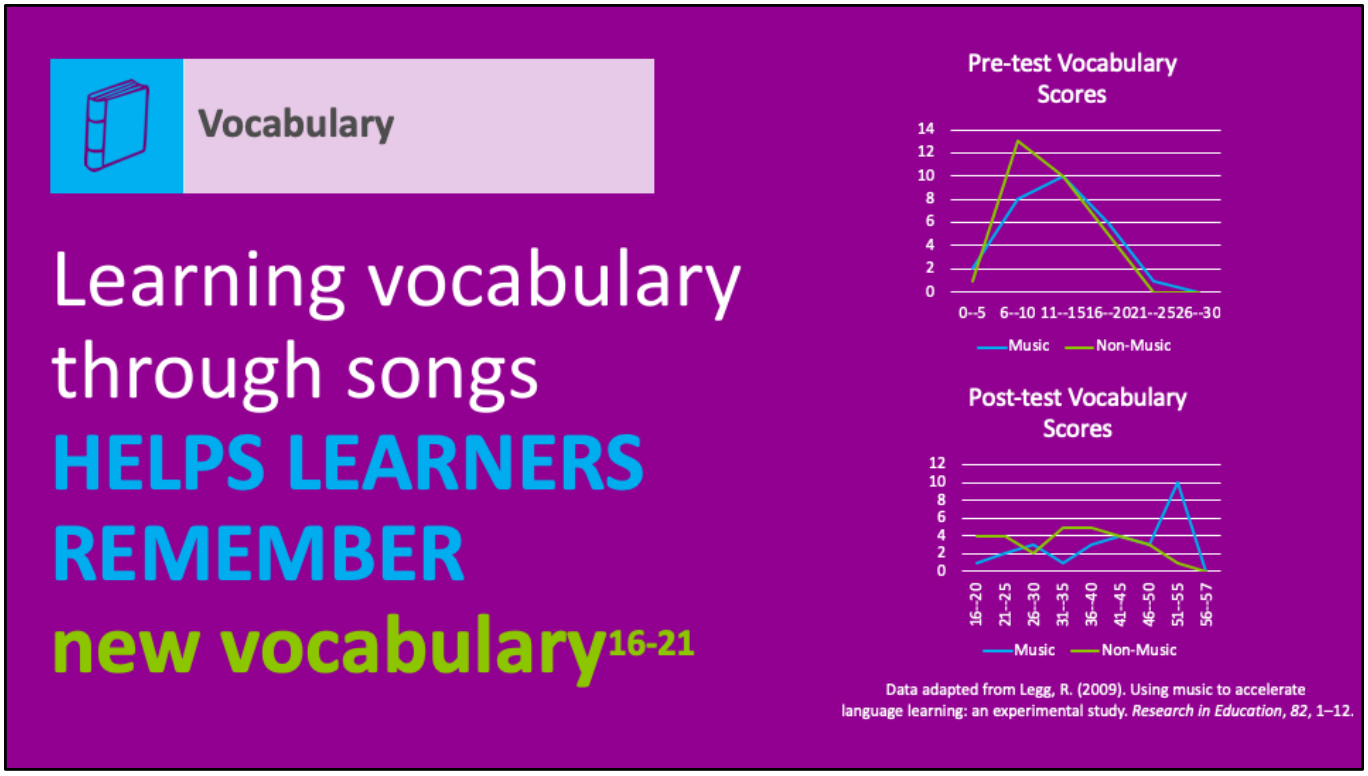
Rehearsal



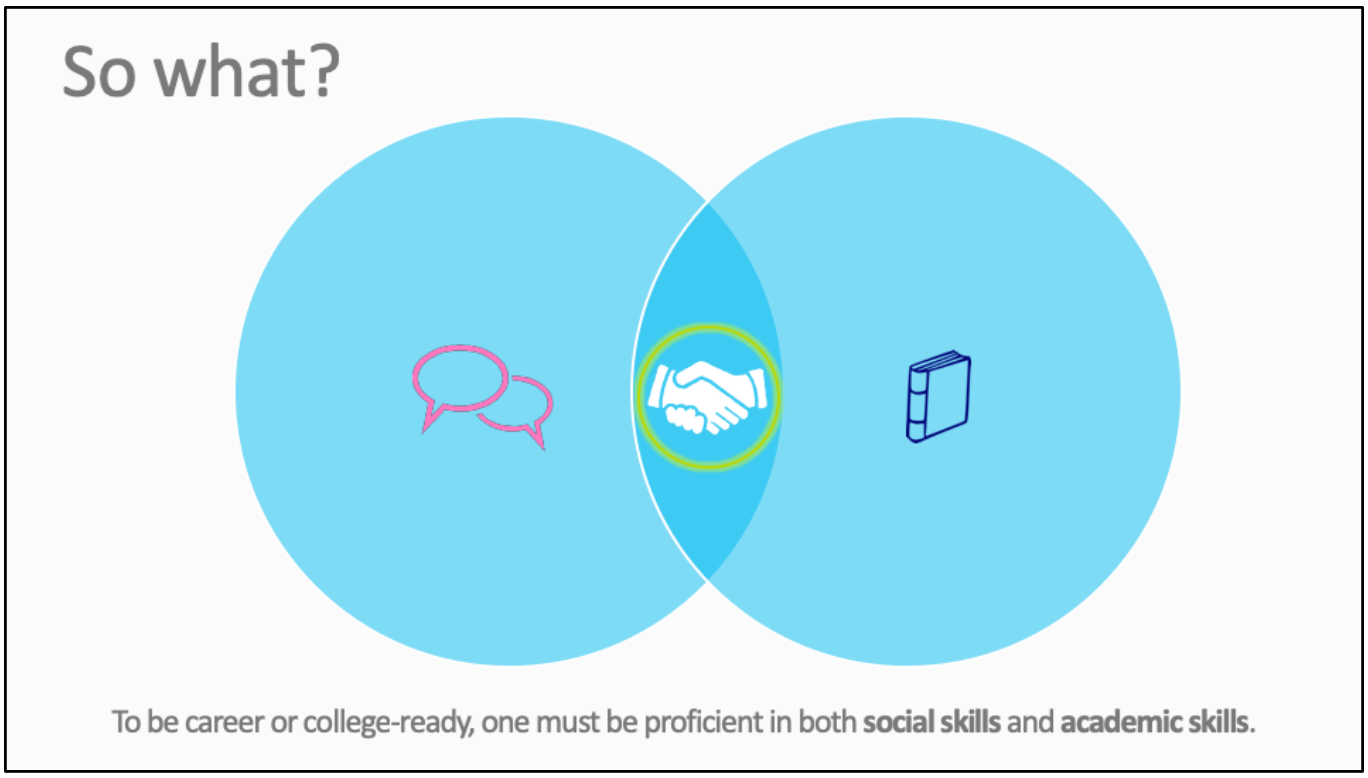
The **Song Stuck In My Head Phenomenon**: information in songs gets stuck in your head and it is easier to remember.[14]

This is **key** to learning a language.[15]

"Have you ever had a song stuck in your head, that you couldn't get out? Well, it's a real thing! When you unconsciously rehearse the same tune over and over in your brain, it's called the song stuck in my head phenomenon (Murphey, 1990). There's a similar phenomenon for language. Linguists call it din, when you repeat words or phrases over and over in your head without even thinking about it (Krashen, 1987). I don't know about you guys, but when I was living in Costa Rica and learning Spanish, I would repeat the dumbest things in my head without even meaning to. Like, for some reason any time something weird happened or somebody told me something surprising, I'd think, *'No me digas!'* without meaning to. I wouldn't even say it, I'd just think it, and then it'd get stuck in my head and I couldn't stop thinking, *'No me digas, no me digas'* over and over. It was super annoying. But annoying or not, din is an important step towards learning a new language, and setting text to music seems to speed that process along."



"Maybe because of that song stuck in my head phenomenon, many researchers have found that learners remembered vocabulary much better when they learned them through song (Legg, 2009; Rukholm, 2015). If you look at these pre-test and post-test vocabulary scores here, the group that learned vocabulary through song scored much higher on the post-test than their non-musical peers (Legg, 2009). I don't know how often you already do that here in class, but if you learn new vocabulary in the context of a catchy song, you will be more likely to ace your next vocabulary test."



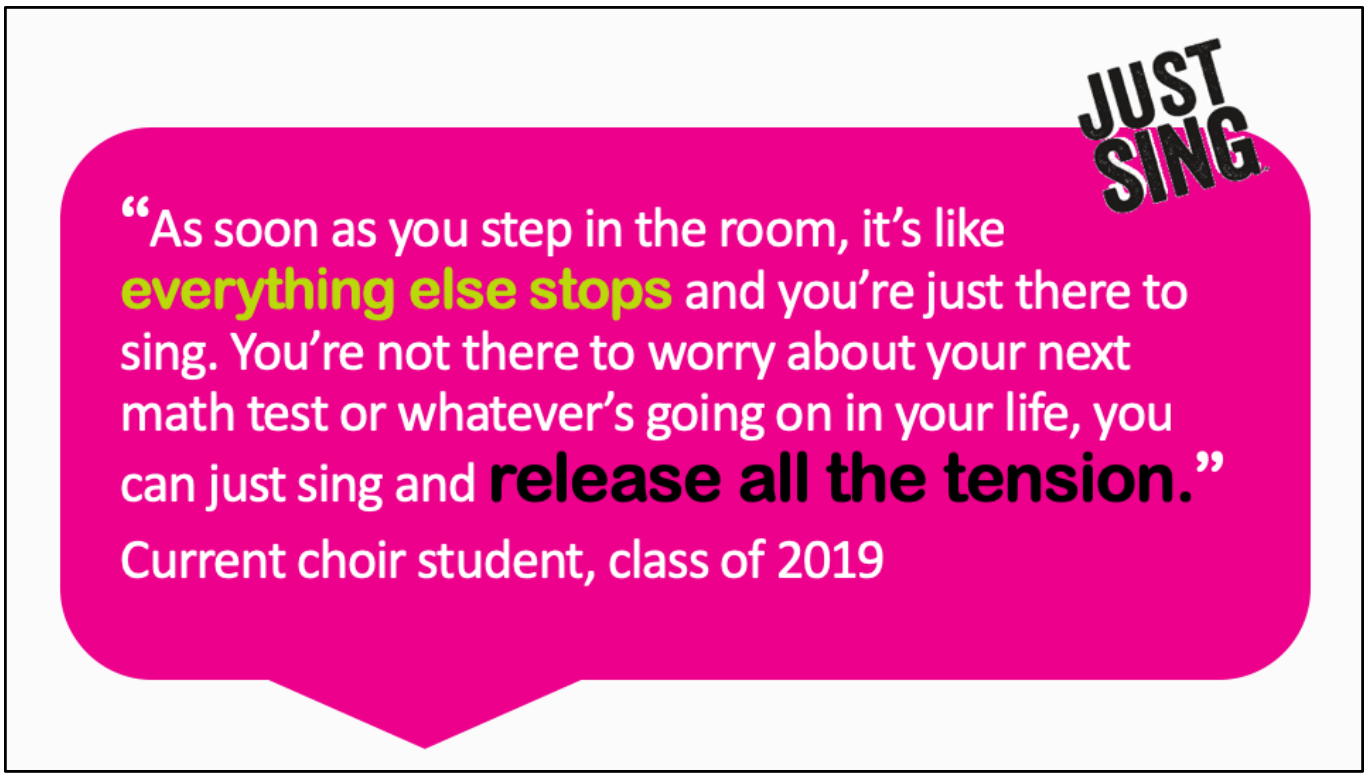
So, what does all of this mean? Well, being in music can help you both socially and academically, which is good in the short term here at school but also in the long term for your college and careers later in life.

How much does it cost?

California State Law mandates that all classes must be **FREE** for students.[22]

Scholarships are always available.

"Sometimes students will come up to me and say they can't sign up for choir because it costs too much. They look at the expensive trips and the concert tickets and think that it's too much money. But that is not true. By law, ALL public school classes have to be free for students. Even though music classes have extra costs, there are always scholarships available. Do not let money keep you from joining choir, because we will find you the money."



"But enough about why research says you should join choir, and enough about why I think you should join choir. What are current choir students saying? Kayla says, 'As soon as you step in the room, it's like everything else stops and you're just there to sing. You're not there to worry about your next math test or whatever's going on in your life, you can just sing and release all the tension.'"

"Another student who used to be in choir last year said, 'My favorite part about choir is the fact that everybody has their own individual voice and sound, but you can all come together with the right work ethic and create something beautiful out of all our different individual voices.'" I like this quote a lot because sometimes I have kids come up to me and say they like singing in the shower or in the car or even solo in front of people, but they don't like the idea of conforming to a group. But amazing soloists become even better when they learn how to sing in a group, and there's something really, really powerful about all working together and lifting each others' voices up. So, if you like singing alone in the shower or in the car, I say—rock on! But join choir too!"

Music options

- *Insert information about your course offerings here (consider a slide per course).*
- *Include pre-requisites, if any*
- *If you have a recruitment video, include it! If not, make one! Videos with recordings of concerts, rehearsals, student interviews, and fun activities go a long way towards making choir seem fun and showing what it's all about!*

Insert information, pictures, videos, etc. here

Works Cited

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