Music Making and Learning at a School for the Visually Impaired: A Case Study

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MUSIC MAKING AND LEARNING AT A SCHOOL FOR THE VISUALLY IMPAIRED: A CASE STUDY

A Thesis

Submitted to the Graduate Faculty of the Louisiana State University and Agricultural and Mechanical College in partial fulfillment of the requirements for the degree of Master of Music Education in The School of Music

by

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Abstract

The purpose of this case study was to investigate the learning environment and the teaching methodologies of teachers at a state school for the visually impaired. Data collection included interviews and observations with field notes with two teachers at LSVI (one music and one non-music teacher) and an interview with a member of the administration. The semi-structured interviews and observations took place in three phases: 1) preliminary interviews in which the participants answered questions about goals for their classrooms, background information, common strategies/methods/tools that they have at their disposal, 2) observations of a class/classes with each of the teachers, 3) follow-up interviews with the teachers. In addition to interview and observation data, a researcher field-note journal was kept to document real time reactions, thoughts, and questions. The analysis of this data resulted in three primary themes emerging: 1) community, 2) Assistive Technology, and 3) Ability vs. Disability. These themes were also the basis for an in-depth discussion about the visually impaired experience at this particular state school, with focus on braille sheet music and inclusivity, and representation within the teaching profession.
Chapter 1. Introduction

There are countless challenges faced by aspiring musicians and research that follows those challenges, whether it is about the socioeconomic backgrounds in which the students grew up, or learning and cognitive disabilities that students have. There are also numerous studies about the physical challenges faced by students trying to play instruments, like facial structure differences and how they affect playing wind instruments, or more commonly how people with hearing challenges and disabilities learn, process/perceive, and utilize music. It seems so obvious to analyze why the ear is important to interacting with music in daily life, but what about a physical struggle that is less obviously connected to music?

Specifically, I wanted to know what aspects of music making are visual and what reliance there is on those aspects in music making and learning. As someone who has a visual impairment in one of their eyes, this is something that I have always been fascinated by. Our reliance on sheet music in most school music ensembles alone creates an extreme dependence on vision during the music making process. From my experience, there were many self-taught strategies that I had to adopt in order to be a successful student in music classrooms. The most common compromise that I had to make in my own music making career was to memorize the last measure of a line and the first measure of the next line just to give my eyes a chance to keep up. I have gone through the process of enlarging music, trying different colored paper, memorization and so on to keep on track with my peers. This process just became normal, and I did not question if there were better strategies for quite some time. Reflection on my own experiences led me to want to investigate expert teachers working with student populations with visual impairments. What if there were specific strategies that these expert teachers utilize that we can take from their classroom setting and implement into a sighted music classroom, improving the
quality of music instruction for all students involved? That question has become the fundamental basis for this thesis project.
Chapter 2. Review of Literature

Before one can investigate the available research on visual impairment in music, it is important to define what visual impairments and blindness are. That task itself has proven difficult as there is no single agreed upon definition, and currently there are calls being made by medical and educational researchers alike to change the existing models for defining these terms. Historically speaking, definitions for these terms have been split into two categories: 1) Functional definitions based on disability, and 2) Definitions based on the measurement and quantification of visual impairment (visual acuity [VA] and visual field) (Gupta et al., 2017).

According to Gupta et al. (2017), the definition presented by the World Health Organization (WHO) was more concise than that of the National Programme for Control of Blindness (NPCB). In 2006, WHO ratified a change to their definition of blindness and visual impairment to be grouped into five categories based on visual acuity with both eyes open (Table 1, Gupta et al. 2017): (1) Category 1 (Moderate Visual Impairment): <20/70-20/200 in the better eye, (2) Category 2 (Severe Visual Impairment): <20/200-20/400 in the better eye, and (3) Categories 3-5 (Blindness): <20/400, or a visual field of no more than 10° in a radius around the central point of fixation in the better eye.

This definition by WHO is the current, internationally recognized definition of blindness and visual impairment. However, other definitions do exist, like that from the NCPB in India, who defined blindness as “persons having no perceptions of light” (Gupta et al. 2017).

According to Heidary, Kran, Lawrence, and Mayer (2019), the definitions by organizations like WHO are flawed because they focus solely on visual acuity and visual field. This is problematic because it excludes issues of the brain in defining visual impairment, meaning many children who may need specialized visual services do not qualify because the standard definitions of
visual impairment do not include Cerebral/Cortical Visual Impairments (CVI). These are visual impairments caused by injury to “retro-geniculate visual pathways and brain structures which subserve visual processing” (Heidary et al. 2019, p. 25). With these definitions in mind, we can begin to discuss music education history through a more accurate lens. In the United States, we have begun to utilize definitions proposed in research by Heidary et al. (2019) in education settings.

2.1. Historical Development of Music Education for the Visually Impaired

The history of blind education in the United States is a complicated one. Around the turn of the nineteenth century, several New England states began to track and count the number of blind individuals within their state. In 1830, the U.S. government tried to aid in this effort by including blind individuals on the census for the first time (Hash, 2015). This effort was not great, however; within New York City alone, only 46 people were counted as blind residents on the census, but there were a known 50 blind individuals living in a local almshouse alone (Hash, 2015). In 1831, the New York Institution for the Blind (NYIB) was granted a charter by the federal government and much like the European counterparts, music was a large part of the curriculum. Dr. Samuel Akerly served as the institute’s first president and began fundraising attempts for the books and materials necessary to teach these blind students. After struggling to come up with the funds, Akerly decided the best way to convince the public that this was worthwhile was to display that blind children could be educated in a public demonstration. In 1833, the NYIB hired a woman, who remained unnamed in the documentation, to become the first music instructor at the school, to teach singing to the students. The board of directors for the NYIB initially decided that all students must attend an hour of singing and voice instruction per day, but only those students that demonstrated the possibility to make a livelihood in music, may
receive instrumental music instruction (Hash, 2015). The NYIB hired Anthony Reiff, to be co-founder, bassoonist, and vice president of the Philharmonic Society of New York (now the New York Philharmonic), as the first Music Master and first fully employed music instructor in 1835 (Hash, 2015; see also Shanet, Krehbiel, Huneker, & Erskine, 1979). By 1836, Reiff had created private instruction on piano, organ, guitar, strings, and winds; a concert band; and a piano tuning course.

As to be expected, there were several pedagogical issues that arose from instructors without visual impairments trying to teach students with visual impairments for the first time. In the early 1840’s, the NYIB did not have access to books and technologies that could aid their efforts in teaching their students. The challenge for instructors, according to George Frederick Root, the new vocal instructor at the NYIB, was to teach what he “very well understood himself” through “no medium but the ear” (Hash, 2015; see also Hash, 2012). This idea became largely informative in his teaching of not only blind students, but also normal sighted students at his Normal Musical Institute. It completely changed the way he, along with his students, taught music in the classroom. He opted to instead teach the ear first, before teaching the eyes, avoiding moments where students thought harmonies “did not look right” on paper (Hash, 2015). Other prominent musical figures hired as instructors of the NYIB included Charles A. Foeppel, a member of the New York Philharmonic Society, who taught counterpoint and harmony to George Ives (who would then teach his son, Charles Ives).

2.2. Perception of Music

There has been a great deal of research trying to understand what parts of the brain process aid our perception of music, from both passive and active perspectives. This includes several studies on blind or visually impaired individuals and comparisons to sighted populations.
Eitan, Ornoy, and Granot (2012) worked to map the exact areas of the brain that are used for music making in exact detail. Their focus was on individuals that had congenital or early blindness (CEB), doing comparative research with normal-sighted individuals. The goal of this study was to determine what parts of the music learning process were visual and which were aural. In their first experiment, Eitan, et al (2012) focused their attention on “Motion Imagery”. The researchers sought to analyze how participants associated pitch direction, loudness change and tempo change with motion features. The results of this experiment showed a surprising lack of association between pitch direction and vertical motion in CEB individuals. This result implies that there is something strictly visual about how we learn to associate the vertical alignment and motion of music.

In the second of two experiments conducted by Eitan, et al. (2012), the researchers sought to replicate a study done by Eitan and Timmers (2010). In both studies, researchers utilized Beethoven’s Piano Sonata, op. 111 (mm. 65-72, and 73-80). The experiment sought to focus on “Metaphors for Pitch Height”, examining how CEB individuals and normal sighted individuals perceived pitches that were high or low. In the experiment, the participants were given five sets of antonym pairs and asked to select one of the words from the pair that best reflected the music and rate it on a 1-5 scale, based on how well the selected term fit the music. The results of this experiment showed that there was great similarity in how both groups perceived pitch height (high versus low). Although coming to similar conclusions, the CEB group was noted as giving more exaggerated ratings when compared to the normal-sighted group. This result implies that while CEB individuals perceive the pitch similarly, that they may be more sensitive to distance between pitches (Eitan, et al., 2012).
Park, et al. (2015) looked to analyze the difference in attitude and use of music between people with and without visual impairments, with hopes of discovering potential use of music as a means of communication and social expression between the groups during day-to-day interactions. The study took 137 participants from South Korea, 63 visually impaired and 74 sighted, and surveyed their attitudes on music and their use of music. The study received an 87% return rate and showed significant differences between the value of music as it related to interpersonal and communal survey dimensions. Both groups did however show similar results based on the intrapersonal dimensions of the survey. These results imply that while music holds similar, strong personal meanings to individuals of both participant groups, that those who are visually impaired have stronger connections and reliance on music as a way to communicate with others.

2.3. Problems Facing Visually Impaired Individuals in Education

According to Abramo and Pierce (2013), it is problematic to use the scientific definitions of disabilities in the context of educational settings and that we should instead use a social modelist view.

The meanings attributed to extraordinary bodies reside not in inherent physical flaws, but in social relationships in which one group is legitimated by possessing valued physical characteristics and maintains its ascendancy and its self-identity by systematically imposing the role of cultural or corporeal inferiority on others (Thompson, 1997, p. 7).

However, Shakespeare (2006) argued that the differences between impairment and disability are problematic because the meaning of impairment is “a social judgement…. The meaning of impairment is a cultural issue” that relates the attitudes and values of the greater society. These ideas are further expanded upon and addressed within the experiences of two preservice music educators. Researchers stated that the three main issues faced were: (1) accessible music, (2) the
reliance on others, and (3) the attitudes of individuals in their environments (Parker and Draves, 2017).

Abramo and Pierce (2013) described this as an issue stemming from education in the United States, not just music education. The greatest harm from a student having a disability comes from being treated differently in social settings in the public-school system. This difference in treatment can lead to various social anxieties in concern of vulnerabilities, control, and identity (Casper & Talley, 2005, p.115). In their study, Abramo and Pierce (2013) discovered that many of these issues were caused by a lack of accommodations available to students and teachers alike, within the public-school setting. A great deal of the social anxieties improved or disappeared when students switched to a school for the blind, where accommodations were readily available.

In Parker and Draves’ (2017) article discussing the stories of two preservice music teachers, they discussed factors that could improve the interactions between colleagues, peers, and students. The main way they discussed to improve these relationships was to recruit and support a more diverse teaching force to more similarly reflect the students that they teach. One of the standards of the Council of Accreditation of Education Programs (CAEP) is to diversify the teaching force to identify with more closely “the diversity of America’s P-12 students” (CAEP, 2013, p. 8). In the 2011-2012 school year, nearly 13% of the students attending public schools received special education services, which included individuals with disabilities (United States Department of Education, 2015). By increasing the teaching force to more closely reflect the number of students that receive special education services, it is believed that there will be a breakdown of the social barriers and negative perceptions of disabilities (Parker & Draves, 2017).

2.4. Music Making and Learning
With a basic understanding of definitions of visual impairment, as well as musical perception and problems facing visually impaired musicians, there is also research focused on the music making and learning process. A study, conducted by Hamilton, et al. (2004), sought to investigate the prevalence of “perfect” or absolute pitch in blind musicians, compared to their sighted counterparts. Absolute pitch is defined as the ability to identify any pitch of a Western musical scale without any sort of reference tone (Takeuchi, 1993; Miyazaki, 1988; Deutsch, 1982). While prevalent in the minority of the trained musician population, Hamilton, et al. (2004) sought to determine the percentage of absolute pitch found in two populations (one sighted population and one blind/severely visually impaired population). The study surveyed blind people with and without musical training and asked those with musical training whether they had or did not have absolute pitch. Of the 46 people surveyed, 21 had musical training, and 12 of those with musical training reported having absolute pitch. This percentage (roughly 57%) of the population of blind musicians with absolute pitch was significantly higher than the average population of sighted individuals with musical training that have absolute pitch (less than 20%). The study then used MRI to map the blind musicians’ brains and noticed that the asymmetry in the parts of the brain associated with absolute pitch were different than the images of brains of sighted individuals with absolute pitch. The results of this imaging have led researchers to believe that the pathways and structure of the brain as it relates to absolute pitch may be entirely different in individuals who are sighted and those that are blind.

Alves, et al. (2009), sought to determine the effects of assistive technologies on blind or visually impaired students in the classrooms of Brazil. The research team provided classrooms with assistive technologies for students, then monitored the students’ progress through teacher interviews. They used this data to analyze how effective having certain assistive technologies
was on a student’s ability to learn and participate in class. Results of this study showed that the technology did not necessarily help the students learn material better, but rather assisted them in interpreting and communicating ideas. It is ultimately still the teacher’s job to interject and supplement the student’s learning if they are struggling in the classroom.

There is also a large catalog of research documenting how music therapy has been able to assist visually impaired individuals that is beyond the scope of this study.

2.5. Need for the Study

Historically, Hash (2015; see also Hash, 2012) explored how the NYIB developed a working music education structure and the eventual influences it would have on educational institutions for the blind and visually impaired for the future. In these historical analyses we see that teachers and “music masters” have tried implementing the strategies they used with sighted students to no avail. Anthony Reiff was to teach “through no medium but the ear” as his other options relied too heavily on sight, but what does that process look like? What exactly are you to do when teaching through no medium but the ear?

Hamilton, et al. (2004) showed clear distinction in the perceptions of musical direction and vertical alignment between sighted and visually impaired participants. Are there implications for these results that are visible within the music classroom? If these results are noticeable within the classroom, what strategies are teachers using to develop that skillset within their music classrooms at a school for the visually impaired, and what can we learn from those strategies to help sighted students with the same musical issues? Despite the documented case in Hamilton, et al. (2004)’s study of a deficiency in one area of musical perception (experiment 1 of the study), we have also been shown that visually impaired individuals had a higher percentage of their population that measured to have “perfect pitch”. This leads to questions about whether
strategies have developed within the visually impaired community that rely on things like perfect pitch for learning music, that may be less transferrable to a sighted music classroom as a result.

With researchers disagreeing about the different definitions and approaches for blind and visually impaired individuals, educational research has elected to utilize definitions, like those proposed in Abramo and Pierce (2013), and Heidary et al (2019). The New York Institute of the Blind became foundational in music education programs at schools for the blind and visually impaired across the country. We have seen research showing how musical perception is different between sighted and visually impaired individuals. Researchers have also explored therapies and possible assistive technologies inside and outside of the music classroom for visually impaired individuals, but no research has been conducted about specific strategies for teaching music to students with visual impairments.

2.6. Purpose of the Study

The purpose of this case study was to investigate the experiences and teaching methodologies of teachers at a state school for the visually impaired and discuss whether those teaching methods would be translatable and beneficial in sighted music classrooms. Throughout the study, the researcher looked to answer the following questions: 1) How do blind/visually impaired students learn in general education and music education settings? 2) How do teaching strategies align with existing strategies for sighted students? and 3) what are the classroom experiences of the students of the visually impaired community as told by their teachers and school staff? Additionally, as a secondary investigation, the researcher sought information about the existing processes needed to work with students who are blind/visually impaired.
Chapter 3. Method

This case study sought to capture the experiences of the teachers and administration at a state school for the visually impaired. An emphasis was placed on experiences and teaching methodologies. At the end of the data collection process, I wanted to investigate the possibility for those teaching strategies to translate into a sighted music classroom and if so, how they might benefit sighted music education classrooms. The purpose of this study was to investigate the teaching of visually impaired students, with a primary focus within the music classroom. In music education programs at sighted schools, much of the learning process is visual, rather than aural due to our reliance on sheet music as a primary source of delivering content to students. An investigation was made as to what strategies can be utilized in a sighted classroom, if any, from a non-sighted classroom that is forced to rely on strategies that are not visual. The study was conducted utilizing semi-structured interviews and classroom observations in order to collect data and interpret possible uses for strategies of a non-sighted classroom for use in a sighted classroom.

Additionally, a secondary purpose of this study was to collect resources and information about the teaching profession within this community. It has largely been overlooked as a possible career path, especially for music educators and this study sought to investigate how someone might enter a career teaching this type of student population. This included teaching/learning resources for the visually impaired and what the process for obtaining a job in this area involves.

3.1. Participants

The participants of this study were chosen through a convenience sampling method, based off accessibility to the researcher for in-person observations of classes. The music teacher selection was made as the primary purpose of this study to investigate what strategies and
experiences were within the music classroom, and they are the lone music instructor at the school for the visually impaired in which they teach. The administrator and non-music area teacher were chosen with the assistance of the principal of the school, with a preference given to those with experience in both sighted and visually impaired school environments. After consideration from the principal of both time commitments, paired with content knowledge and experience, they offered to be the administrative participant of this study.

3.2. Research Bias and Positionality

I, as the researcher for this project, have not worked with any of the participants in any capacity prior to this project. Two of the three participants for this project were chosen based off the principal of the state school’s recommendation as possible “good fits” for this study. This decision was made by a person trusted to be well informed about who, among the teachers and administration teams would give valuable insight for the project. As someone with a visual impairment, my experiences will lend to interpretation of research using an appropriate lens.

3.3. Data Collection

The interviews followed a researcher created model, developed after studying the different methods discussed in Creswell (2013). The goal of the semi-structured interviews and observations was to gain valuable insight into the methods and strategies utilized by teachers in visually impaired classrooms and how those strategies might translate into a sighted classroom. The role of the administration is to provide insight from a different educational perspective as well as give more insight to the process of beginning to work with visually impaired students and how the goals of the school align with the goals of the teacher, and how those goals ultimately affect the strategies used. All three participants were also asked about resources and accommodations available for visually impaired students.
The research process for the teachers, both non-music and music, took place in three phases: interview 1, classroom observations, and interview 2. The first interview phase took place prior to any observations. In this phase the teachers provided information regarding their backgrounds as teachers, what strategies are common practice in their field, what resources they used, as well as overall goals for their class for the semester/year. After this preliminary interview, three in-person class observations of the music teacher were completed, as well as a virtual class observation of the English teacher. This was followed by phase two of the interview process. The second round of interviews were geared towards specific questions that were formulated during the observation process, what strategies were being utilized, and why they were being used as they related directly to the lesson observed. Afterwards, participants were asked to give insight based off their own experiences of possible connections to a sighted classroom. I, as the primary researcher, was responsible for translating the strategies of the non-music participants into a music setting, if relevant.

Throughout the process of data collection, I kept a field journal of all observations and notes taken during the interview and class observation process. With the help of the music teacher at LSVI and of Dr. Jason Bowers, my primary thesis advisor, I sorted through the strategies and methods utilized by the staff at LSVI and determined if there was possible application in the sighted music classroom setting. These strategies and methodologies were coded into broader categories based on their translatability to a sighted music classroom.

3.4. Data Analysis

After each interview, I carefully transcribed the information, before coding the data. The transcription process involved careful audio playback at 0.75x speed, allowing ample time to interpret the information from what was said. The coding process took place in three
phases: (1) open coding, (2) axial coding, and (3) closed coding (Saldaña, 2016). During open coding, I read the transcripts thoroughly and created codes based on the information. During axial coding, I added, deleted, and combined codes to create a final focused code list. During closed coding, I re-read all transcripts with my finalized code list guiding the analysis process. Without permission to record classroom observations, I followed a similar approach to the analysis, relying on my field observations and notes. During observations, I gave comments on initial coding ideas and sorting of the data as it is happened in real time.

3.5. Trustworthiness

This project was conducted with explicit intent to receive as much information as possible while avoiding researcher or participant bias. It was determined to not be possible to record observations in the classrooms at the participating school, for the protection of students being observed and as a result, an emphasis was placed on detailed and time-stamped field notes by the researcher to avoid the loss or misinterpretation of data. These field notes included contextual information about what was being said and when, so that participants could accurately recount events of an observation during the interview process. A recap of each observation occurred immediately following each observation to ensure that questions were answered with access to as much contextual evidence as possible, without losing information due to time between interviews. This recap also allowed further analysis by the researcher to create quality follow-up questions as part of the second phase of interviews.

As described by Denzin (1978) and Patton (1999), there are four types of triangulation: (1) method-which involves using multiple data collection methods (e.g., interviews, observations, field notes, etc.), (2) investigator-which involves using multiple researchers in the same study, (3) theory-which involves using different theories to analyze and interpret data, and
(4) data source—which involves collecting data from different individuals to gain multiple perspectives about the same phenomenon. My approach included method triangulation with the use of interviews, observations, field notes, and a researcher journal; and data source by collecting data from three different individuals with three different ways of experiencing and engaging with the subject matter. In-depth interviews were utilized to achieve method triangulation through my interview-observation-interview design, with each previous step informing the latter.

Additionally, all data was securely stored on my password protected computer and backed up to a password protected cloud system throughout the process, provided by the university. This research study received Institutional Review Board (IRB) approval and as part of that process for the IRB, I have completed the necessary human research subjects training for this research project.

3.6. Participant Profiles

Katie is the music teacher at the school, teaching students of kindergarten through twelfth grade music in her classroom. Katie began her career teaching high school choir at a typical public school in her hometown, beginning fresh out of college, and remaining with the school for four years. She decided that she needed a change and saw the posting for a music teacher at this state school for the visually impaired. Embracing the opportunity for change, she accepted the position and began teaching general music and choir courses to the students at her new school. Currently, Katie is in her second year at this school, beginning in 2020-2021 amid the COVID-19 pandemic. Fortunately, Katie found that the school was well equipped to provide a safe learning environment and she was able to teach most of her classes in-person with a rare week or two where the student body was virtual. Katie had no prior experience in a VI classroom.
but was beginning her coursework to obtain her Teacher of the Visually Impaired (TVI) certification.

When I walked into her classroom, I entered a little entryway with shelving to my left and a small wind instrument storage space on my right. I continued just a few steps as the classroom opened into a bright and open space. Along the wall to my left were her desk in the corner, an entire wall lined with marching percussion placed on wall mounts or stands on the ground with harnesses interspersed throughout. Just in front of the percussion instruments was an oval table with a chair for Katie and enough chairs for her largest class of eight. A secondary exit door that led to the playground areas and parking lot could be found in the back left corner, followed by a grand piano. Finally, on the remaining wall there were cabinets and storage for Orff bell instruments and auxiliary percussion. Along this wall was a large wall mirror, some speakers and microphones, a drum set (bass drum, snare drum, 2 tenor drums/toms, high-hat, and 2 suspended cymbals), and a theremin. The grand piano and cabinetry along the back-right corner acted as framework for a carpeted area that served as the primary area for musical activity in the classroom. Along the tiled floor were pieces of tape used to mark/map a fake stage area for the students. The room was brightly colored with yellows and purples dominating the landscape, inviting you in and preparing you for a class period filled with music.

Lisa is also a second-year teacher at the school for the visually impaired. Selected as the non-music teacher participant for this study, Lisa teaches third through fifth grade English/Language Arts at the school. Lisa worked with this state school during her time as an undergraduate student and always knew that she wanted to teach visually impaired students, taking her position at the school as soon as she graduated. There was however, no TVI
certification program at her undergraduate school, so Lisa was in the process of completing her final coursework for certification when I came in to observe her classroom.

Lisa’s classroom was not quite as brightly colored as Katie’s music room but was filled with purples. Along the wall behind me were cabinets and a sink, painted purple with a gray countertop. Her walls had much more on display, showing off student work and created posters with tactile features for the students with severe visual impairments/blind students with which to interact with (different materials that stick out and have various textures for the students to feel and engage with). On the right side of the room was a small, carpeted area with bean bags and colorful oversized pillows. This area was walled off on one side with a half-size bookshelf filled with large print and braille print books for the students to read. On the wall was a massive whiteboard, with a smart board in the center. This was used mostly for Lisa’s distance-learning days due to the COVID-19 pandemic, that way she could see all her students on a larger screen. Behind the bookshelf was one of Lisa’s two desks, where her desktop computer and monitor were. The computer was hooked up to the braille embosser, allowing Lisa to print off materials on the fly, to supplement her instruction. In the center of the classroom were the student desks, set up in a horseshoe pattern, with students sitting along the outside facing inwards to the center. On top of every other desk were braillers for students to use and beneath every desk were large laundry baskets, repurposed as large book storage for the braille textbooks that the students needed. In the center was a rolling computer chair for Lisa to use and quickly turn to any student to give them individual instruction/assistance as needed during a lesson. At the ends of the horseshoe desk pattern was a small walkway for students to get by and Lisa’s 2nd desk, where her laptop and lesson materials sat, ready for use in the day’s activities.
Mary is the principal at this school, keeping up with and organizing the day-to-day activities of students and faculty. Mary began her career teaching history in a traditional public school, teaching a variety of grade levels for eight years, focusing on middle school grades (grades 6-8). Like Katie, Mary desired a change and opted to take a position teaching history at this state school for the visually impaired. Like the other two participants, Mary did not have her TVI certification and had to complete the coursework during her first three years at the school. After getting her certification, Mary worked her way up to assistant principal, and took over as principal during the COVID-19 pandemic after the previous principal retired.

During my time with Mary, she was incredibly busy. Her office was filled with texts on visually impaired teaching, technology information, and a large amount of paperwork. Throughout the course of our interview, she had several staff members come in to ask questions about meetings and other logistical matters. She was quick in answering their questions and continuing our interview, all while multitasking and filling out and handling paperwork at her desk. Mary was certainly busy but handled the workload masterfully.
Chapter 4. Findings

During my analysis of interviews with each participant and my observation of three in-person music classes and one virtual, distance-learning based English class, three primary themes emerged, acting as an outline for my findings. Those themes are: (1) Community, (2) Assistive Technology, and (3) Ability vs. Disability. The emergent theme of Community will be presented based upon the following sub-themes: Perception vs. Reality (with a focus on the out of classroom experiences and interactions with the visually impaired community and their peers) and The Classroom/School Experience, which will focus on the topics of layout/design of the school and classroom, student to student interaction, and student to teacher interaction. Assistive Technology will act as an introduction to the different technologies utilized in the school, with commentary on how they were used by the students or teachers and what they are used for. Ability vs. Disability will be presented with a focus on the following sub-themes: Navigation and Musical Ability.

After the presentation of the three themes, a brief summarization of the common teaching strategy observed in the classrooms will be given. I will use this section to specify the strategy and then describe how it is utilized within the VI classrooms. Lastly, the findings section will conclude with a discussion about the requirements and process for teaching at a school for the visually impaired within the state of Louisiana.

4.1. Community

Community is an integral aspect of the visually impaired population and has established itself as a core component of this state school. The students, teachers, and staff of the school have become very close to one another and hold each other in high regard. This has created a very positive learning environment and a welcoming culture for everyone to come and engage in
learning. While the visually impaired community can do just about anything that their sighted peers can do, not all perceptions by outsiders have been positive. The following sections will talk about the perceptions people have about the visually impaired community and what the school community is doing to create positive experiences for their students and give them a healthy learning environment.

**Perception vs. Reality**

As mentioned above, not all sighted peers have had an accurate or positive perception about the abilities of the VI community. Lisa reflected on her own experiences with her family and the greater community, when she decided to teach visually impaired students. She explained plainly, with clear concern in her voice:

Yes, it’s so prevalent, like, how much outside of this school people think the blind can't do, when really, they're so capable. Their brain’s function, just the way everybody else's does, they just can't see, but they have a team to help them. Even within my family, it's been a big learning experience for all of them to just realize they are normal, they just can't see and that's okay. That's a big part of White Cane Day. Just celebrating canes and celebrating independence. Before the pandemic, they would go out downtown and have a big day out there just to kind of tell locals about ourselves and blindness and visual impairments. There is definitely a big misconception that they can't do a whole lot, which again, couldn't be further from the truth. Everybody has the things you're good at, and everybody has things they’re not so good at…

Lisa believed that while the community was correct that visually impaired communities could not see, that it did not matter, emphasizing the statement “everybody has things you’re good at, and everybody has things they’re not so good at”. Lisa felt it necessary to bring up cognitive function and the brain, believing that the general community thought that VI students’ lack of sight, somehow correlated to a lack of cognitive function. She wanted to be very clear in her choice of words to bring that point home, “they’re brains function just the way everyone else’s does” and stating “they are normal” when describing her students.
Lisa also mentioned White Cane Day in her statement. White Cane Day is a day of awareness for white canes and what they signify for blind/visually impaired individuals. Held on October 15th of each calendar year, the National Federation of the Blind (NFB) describes this day on their website as a way of recognizing this tool and its ability to help blind individuals live a free and independent life (Riccobono, 2022). Lisa reinforces that idea, stating that pre-COVID-19 pandemic, the school would go downtown and use the day as outreach for the community. The school would hold student demonstrations and facilitate healthy conversations about the blind and visually impaired community to allow for a stronger connection and realistic perceptions about what the community can and cannot do.

Like Lisa’s discussion about the community outside of the school, Katie shared her thoughts about negative perceptions that she has faced within her time running the music program. After telling me a story of a performance of a Russian Dance on bucket drums that her students learned, she talked to me about her colleagues’ reactions to her lesson plans and the rehearsal stages of the performance. With frustration in her voice, Katie claimed:

... even some of the teachers that work here still don't get it. I mean, the administration says things like: are you sure that they can do that? Are you sure that's not pushing it too far like that? and it's just so frustrating because it's like, yeah, I'm sure.

Lisa did continue by stating that her upcoming performance of “Ain’t Gettin’ Nothin’ for Christmas'’ was met with a lot more enthusiasm and positive perception than in the previous year, like her class’s bucket drumming performance. She also emphasized that it was not every teacher or member of administration and that she thoroughly enjoyed the culture and environment at the school. Katie noted that despite the students being the focal point of the skepticism, that she believed that it was perhaps her teaching that was meant to be in focus as a first-year teacher at the school. Regardless of the intended context for Katie’s skeptics, the
perception regarding visually impaired students has not always been a positive one and continues to be a battle for acceptance by sighted peers.

**The Class and School Experience**

The school experience at this state school is a unique one when compared to those of traditional public schools, but the structure of the school and classes create opportunities for the school populations to interact and bond, creating a positive learning environment. The students and staff at the school are close and deeply care for one another, allowing for more communication and the addressing of any concerns or issues within the school. The classroom sizes are incredibly small when compared to the typical sighted public-school classroom. Of the classes observed, the largest was Lisa’s fourth grade English class which had eight students. Lisa later informed me that this was her largest class across all three grade levels that she teaches. The small class size has allowed students to get to know one another and has also forced students to learn to get along and work together, regardless of their differences. Lisa summarized this sentiment, with Katie and Mary sharing similar statements, as follows:

> It's crazy because they're all very different, but since they only have each other really, they don't see other classes of kids their age. They really learn to work through the differences to find the common denominators and the common interests to make some friends with people who they typically wouldn't [be friends with]

Outside of the classroom it is important to note that as a state school, the school is required to provide housing for students that need it. There is a girl’s and boy’s dormitory at the school, providing students the opportunity to stay and live on campus if they need to. This is optional, but most young, elementary-age students choose to live at home, while the students living on campus are in the older age groups. Those that choose to live in the dorms are required to take a one-hour study hall at the end of the school day where they can work on homework or study. Teachers take turns staying for this study period and help students with any questions or
troubles that they run into with their work, while also frequently organizing activities for students to participate in. The students are provided with opportunities, beyond just living in close quarters, to interact and spend time with one another and with their teachers, creating bonds and trust within one another.

**Classroom Design and Layout**

Lisa’s classroom is an excellent example of how a classroom can be designed to foster community amongst students. As mentioned in her classroom description in the participant profile section, her students’ desks are set up in a horseshoe shape. Function is the primary goal with this design, with all student chairs on the outside arc, it is easy for students with canes to navigate around the setup and find their desks. There is also a communal aspect to this design. As told by Lisa, here is a story of one student that struggles to navigate the classroom:

> And one of the kids in my classes struggles with navigation. Even the kids will realize that he's still walking around while they're sitting. And they'll go, like, go knock on his desk. So that he knows where to go, and they'll try to guide him around. It really is the blind leading the blind sometimes, but they do their best, they really worry.

The students who are capable of effectively navigating the classroom are, in turn, able to help their classmates navigate the classroom. The other aspect of this design is that the arc pattern allows all students to face each other, rather than facing the front of the room to stare at a board. This creates an environment in which students are encouraged to share dialogue with Lisa and each other, further enhancing the lesson and reinforcing content knowledge. This arc or horseshoe pattern is also utilized within Katie’s music classroom, allowing students to help one another. In Katie’s room the students set themselves up for class in an arc in the carpeted area, as described in her profile.

**Student-Student Interaction**
Lisa’s story of a student who struggles with navigation certainly has crossover in this section, with students taking initiative and helping each other without being prompted. Katie reflected on this idea sharing a similar sentiment:

... the ones that can see and that can help. they're always open and take it upon themselves. They'll be like “I'm over here!” you know, and the blind will go find them. Or they'll go and get each other's cane or whatever. They're really supportive of each other. Definitely.

The music classroom was filled with these opportunities for students to take initiative and aid one another. During my observation of the alternate track class, students were helping each other find their seats, adjust heights on the drum set, and find, carry, and place Orff bell instruments for each other. In the fourth-grade music class, they were rehearsing the choreography that they just learned for the song “Ain’t Gettin’ Nothin’ for Christmas”. One male student was absent the day before and did not learn the choreography. Without being prompted, the class of five students set up in an arc with the boy in the middle. This boy did have some vision and therefore could see each of them while they were close together and facing him in the arc. The rest of the class helped him learn the movements as they went along and when individual students were working with Katie on their lines, the rest of the students aided him in learning the upcoming choreography so that he would not feel behind.

**Student-Teacher Interaction**

The student-teacher dynamic was not something that I intended to cover in my interviews with the teachers, but it was something that I quickly observed during my observations and realized was integral to the students feeling comfortable within the classroom. As a result of the small classroom size, the teachers can really get to know the students and vice versa. This allows for the teachers to share more of their personality and tell jokes or let students know about parts of their lives (their pets or kids for example). The teacher is also able to learn about each
students’ needs and cater to them on a much more individualized scale. The teachers know the students’ siblings, their parents, their pets, and the students feel comfortable sharing that information. This communication has allowed for a high level of trust between the students and their teachers, making the students feel like they can approach the teacher with their problems. During lessons, I witnessed both Lisa and Katie making jokes with students and using sarcastic humor to help the students feel like the classroom was a fun place to be. This was reinforced during Lisa’s virtual class observation where the students felt the need to let her know that they missed being at school and that they always have so much fun in their classes. While it was a single female student that shared that with Lisa, the other students quickly echoed what she said. It was clear from their tone that this was not a concerning factor for the students’ home life, but instead a testament to what the teachers have been able to establish in their classrooms.

4.2. Assistive Technology

There are countless forms of assistive technologies for students and teachers to take advantage of within the school for the visually impaired and Mary has been working hard to get grants for her school to have access to more and improved technology. For the purposes of this section, assistive technology is any piece of equipment within the classroom that has been utilized to enhance the learning experiences of the student body, they do not necessarily need to be computer or electronic based tools. With the effort by the principal to increase the access to new and varied technology for the school, I inquired if this made it more difficult for teachers to plan lessons, since they would have to learn how to effectively integrate each into their lesson plans based on student need. Mary’s answer was simple:

Technology in general has been a learning experience for us all. We have all been embracing technology thankfully, with a number of staff members able to assist other teachers and students to make the learning process easier
The additional staff members referred to by Mary oversee the technology courses at the school. Every year students take a technology course where they learn how to effectively use different technologies and how to decide if that tool will be worth using by the individual student. These staff members are also constantly available for teachers to ask questions and seek help if they need it and when paired with the required technology coursework for TVI certification, Lisa and Katie both felt that the process of incorporating technology into their lesson plans was not an overwhelming one. All three participants stressed to me that technology was a very personal choice by students, as that technology would go on to act as an extension of themselves, helping fill in the gap left by a missing sense. There were a handful of technologies that were commonly used in the classrooms I observed that were integral to student engagement, or in the case of braille sheet music, were surprisingly absent. In the English classroom I was able to witness the use of multiple technologies as a result of the virtual learning environment. On the desks there were braillers, which look a lot like a modernized typewriter. Braillers allow the students to type and print documents in braille in real time and Lisa’s students each had one at home that they used for virtual distance learning and personal use. Along with the braillers the students were all able to navigate the Zoom teleconferencing app on iPads or computers via text to speech/screen reading software, which would narrate to them where they were in the menus so that they could mute/unmute and turn on/off their cameras as necessary. Along with the large spiral bound braille editions of the textbooks, Lisa had a braille embosser hooked up to her computer. The braille embosser worked in conjunction with an app titled BrailleBlaster (American Printing House, 2022). The BrailleBlaster app allowed Lisa to type or copy and paste any text into it and translate it into braille for her to quickly glance at words or phrases in braille to refresh her memory while reading braille. This app also allowed you to print an unlimited
amount of text, converted to braille, via the braille embosser. Lisa described it as follows: “… it's a machine that I have a computer program for, that'll translate my stuff and print stuff to Braille. And then I can just hook it up to emboss for the students.”

In the music classroom, there were two main technologies in use. Computers/iPads/iPods with text to speech or screen reading capabilities and what Katie referred to as Dots. During my observation of a lesson with a high school senior, she was able to hook up a midi keyboard to her mac and use screen reading software to navigate the Garage Band application (Apple Industries, Inc., 2022) and compose her own music. With the combination of the software and memorization of the menus she was able to navigate the app and write music faster than many others, sighted or not. In addition to this, Katie told me about her lesson plans that utilized Dots. Dots are a relatively simple piece of technology, resembling a bubble from a piece of bubble wrap, with a flat, adhesive bottom side. Katie often used these with her younger students when teaching the concept of dynamics. She would give sighted students red or green colored cards to represent “loud” and “soft” dynamics. Katie would play an example and the students would hold up the card that represented the correct dynamic. The Dots were utilized for students that were completely blind, so their cards had dots attached with the braille equivalent of “loud” and “soft” so that they could still hold up a card and engage in the activity in the same manner as their sighted peers.

After I noticed a lack of sheet music being used, I asked Katie if she used braille sheet music in her classroom, as the topic came up often in the literature. She explained her position on sheet music to me with a sense of uncertainty:

“It's just everything has to be super large print, you know, or they have to know braille. And then I have to know Braille music and I don't. From everything that I've seen about it, it seems like it could be helpful for a very niche [situation], this would really help supplement what they're doing. But it could never be the main source of getting our content knowledge…”
It was clear to me that she did not feel it was necessary for delivering effective instruction, but still felt bad that she was not providing the opportunity for her students to learn it.

4.3. Ability vs. Disability

This section contrasts with the beginning section on community perception, in that it seeks to define what exactly visually impaired students can and cannot do and how that compares to their sighted counterparts. Mary emphasized to me that the school taught the same state academic standards for core subject areas just like any other school and that they also provided ACT testing opportunities for their students with the appropriate accommodations being made. Lisa reinforced this idea to me as she showed me her binder with all the fourth-grade content standards listed. She passionately came to the defense of those statements stating that “the only thing that changes is how we deliver our instruction”. Katie summarized her thoughts on student ability well, stating:

I think the biggest thing to me would just be stating that it is just like you're teaching normal kids who don't have the disability. It's exactly the [same] singing, and it might even be better, because they are more attuned to that sense of being able to hear as opposed to being able to see. It's really special to them, you know, to do music. So, I mean, they are just like regular kids and they're just so impressive.

Navigation
Navigation remains the largest obstacle for visually impaired students to get over, both inside and outside of the classroom. The students at the school must take a course when they first get to the school on mobility and orientation. This class is a mix of all grade levels as not every student was born with their visual impairment. In this class they learn how to use canes, if necessary, as well as learning how to navigate and memorize the layout of the school and the process to learn the layouts of other buildings or areas. Lisa has already been quoted about her experiences with students struggling with navigation, so instead this section will focus on a story told by Katie.
Katie reflects on her current struggles to put on a play for the school's winter showcase, lamenting her battle with staging:

I just set up a stage on the ground we meet on Tuesday mornings, and they're actually doing a mini play. Oh, and that is very interesting for me too, because I don't know how to teach them how to map out the stage. I don't know how to do that. So, I got to figure that out. Like, how do I get them to know their center stage? How do I get them to know that they're close to their spot or didn't make it far enough stage right. Oh, so I'm just I'm, I'm researching that kind of a little bit and taking that for what it is right now. But we're having a good time because it's just something never done. I think that that is the big thing, right? Is that it's something they've never done… I think that's sort of like the whole beauty of this field is like, there's always something you haven't done yet.

Katie talked to me about her temporary orientation solutions in which she used painters’ tape in her classroom to mark different parts of the stage as guide markers for students that could not see. Those students could instead use their canes or drag their feet and feel the texture change on the ground and receive immediate tactile feedback and adjust as necessary.

**Musical Ability**

After observing two music classes and a lesson, I noticed that many of the students were playing percussion instruments, despite wind and string instruments being available in the classroom. I asked Katie if that was a conscious choice that she made or if the students preferred certain instrument types over others. Her response was curious, as she gave her thoughts while talking about an area of her teaching that she wanted to improve upon:

I don’t know, I think it's mostly drums. I mean, they had a drum line here and I haven't really… I don't know anything about that. I have to teach myself how to do that. My fiancé was in the drumline in college when he was [in school]. I got to get him in here and help me before I can teach them anything

Her response left me to wonder more about the percussion instruments and our discussion that followed her response led me to believe that she does think that percussion instruments are favored, giving two reasons as possibilities. The first being that the tactile feedback from playing percussion instruments (piano included for this purpose) was something that really resonated
with her students. Katie’s other belief was that the former music teacher instilled that love of percussion in the students that I observed, before she got to the school. The youngest students that I observed were in fourth grade and had instruction with both Katie and the former teacher, a percussionist that even started an indoor drumline for the students.

Our conversation turned next towards the abilities of her students to learn and figure out how to play instruments. I was told about and observed students playing pitched and unpitched percussion instruments ranging from shakers to piano and drum set. Her lesson student also showed me how to play the school theremin while I was visiting and told me it was her favorite instrument to play. Katie told me about one of her first experiences at the school, proudly announcing her students’ abilities to learn a dance on bucket drums:

I'll never forget last year; we did a routine with bucket drums. And it was like, an easy thing. It was a Russian dance. They all played it and they played it so well. And so many teachers came up to me like, how did you do that? I can't believe you can do that. It was just like I was teaching my other classes you know? They just picked it up so fast.

Katie’s story transitioned us into our conversation about the students’ musical perception and how they developed their understanding of music. She had alluded to something that made the visually impaired students “special” or unique in the music classroom when compared to her experiences in a sighted classroom. I asked Katie if she believed that this was something that the students at the school developed during their time there, as a result of their coursework and curriculum design or if it was innately within each child. Katie replied:

I think it's innately there. Like I was saying their other senses are naturally heightened when they have one that's gone. So, I think it's innately there in all of them. But the ones that have it the most developed are the ones that realized it at an early age and worked on it so it grew.

She took the opportunity to tell me about her students that developed perfect pitch as an example of this perception difference, explaining:
Alexander that I was talking about, who's in the alternate track class, somebody people would never think would have perfect pitch, has perfect pitch. It takes him maybe like four seconds longer than Abby who could do it in a snap, but he knows it. He knows the notes and there are other kids here that have it too. There's about four or five kids here that have it.

I also observed this musical perception in action during my time observing Katie’s alternate track class for students with special needs that went beyond visual impairment. The students were performing “Ain’t Gettin’ Nothin’ for Christmas” as reinforcement for the 4th grade performance, along with multiple common holiday themed carols and tunes. Each student was given an instrument to play, either performing with shakers, Orff bell instruments, or in the case of Austin mentioned above, drum set. There was a female student on one of the Orff instruments that was taught how to keep a steady pulse while alternating between the tonic and dominant of the song that they were playing. According to Katie, this was a way for the student to engage with and make music in a way that showed her understanding of the content. While rehearsing, I began to notice that the student was not playing tonic or dominant, frequently changing pitches throughout the song. As I continued listening it became apparent that the student was instead, playing the root, or the root and fifth of the chords as they changed in the music. After mentioning it to Katie, she explained to me that this was not something that the student had done before or had demonstrated the ability to do prior to that lesson, meaning that the student was doing so unprompted because the new notes would fit the music better.

4.4. Teaching Strategy

The approach to teaching students within this school for the visually impaired can be divided into two core concepts that build upon one another to create an instructional delivery method that best benefits their students: rote teaching and scaffolding. Neither of these terms are foreign in education talks. In the case of the state school, they relied heavily on rote teaching
within their classroom to teach concepts with a scaffolded approach to help reinforce old content with new content.

In the classroom, the teachers focus on repeating information with an end goal of memorization of subject matter by students. This begins with the teacher allowing for opportunities for the class to bring up cross-curricular or personal connections that they could make. For example, in Lisa’s fourth grade English class, the students were encouraged to make connections about the story they were reading to previous stories and to their history class because the subject matter aligned. After establishing these connections, the teacher asks guided questions to focus students on a topic, modeling the format of the question to the students and then having them repeat that format, while including their answers. In the case of Lisa’s virtual class, she had the students go into breakout rooms where she would have them answer questions one on one with her and once every student went, they would share the answer together as a class. The combination of relationship to prior knowledge and emphasis on repetition for memorization allowed the students to retain material while proving that they could recall and show understanding of it, beyond simply restating a desired fact.

4.5. Getting into the Field of VI Teaching

In the state of Louisiana, where I am in the process of obtaining my degree, there is only one university or college that has a TVI certification program incorporated into their degree track for students that want it. Therefore, obtaining your certification during your collegiate schooling is not easy. I took the opportunity to ask Mary to describe the certification process. She explained to me that there are eight required classes that each teacher needs to complete in order to add on their TVI certification. She continued:

They have three years once they start to add on their VI certification, from a set of courses that the Department of Education puts out. They take those courses from multiple
universities or institutions. Things like Braille 1, Braille 2, Assistive Technologies, Eye Conditions... Once teachers have taken all of their coursework, we add that VI certification on to their credentials.

This system allows for teachers to work and obtain their certification, even if their degree programs did not have access to the certification process. While the three-year cushion makes it easier for teachers to obtain their certification, it is not always a simple process. The primary reasons being time and money. Teachers must find the time to take the coursework in a distance learning setting, while also teaching their classes. Once they have found the time to complete the coursework, they must pay for the coursework for themselves on the front end. The state of Louisiana counts the coursework as professional development and does partially reimburse teachers for the classes upon proof of completion, but there is still part of the cost that is solely the teachers’ responsibility. As part of this inquiry, I have included a checklist created by the state of Louisiana for their requirements for TVI certification, which can be found in Appendix C of this document.
Chapter 5. Discussion

The community built by the visually impaired population is incredibly unique and capable. Perceptions around the community about their learning capabilities and various skills have historically been skewed in a negative manner (Abramo and Pierce, 2013; Shakespeare, 2006; Parker and Draves, 2017). While the participants of this study acknowledge that this is likely out of concern for VI individuals' wellbeing, it has often led to tension and a feeling of otherness. This divide is something that needs to change and providing more representation can help bridge the gap between the two populations (sighted and visually impaired). In an educational setting there has been an ongoing debate about rote teaching in secondary music classrooms (Grey, 2020) like band, orchestra, and choir, which likely has only served to further separate the visually impaired community from their sighted peers. Based upon the findings of this study, I believe teachers of the visually impaired, especially in subjects like music, have little choice but to teach by rote. The current alternative involves incorporation of braille sheet music which has its own issues, which will be discussed later in this chapter. Nevertheless, the teachers of this study have found ways to effectively use rote teaching methods to ensure that their students learn and can retain information through repetition and memorization.

This chapter will function as a discussion of the community and learning environment created by this state school of the visually impaired and how they have managed to close the perceived divide with their sighted peers. This discussion will take into consideration some of the problems addressed in previous literature and their connections to this study. While this school has done a lot to create a healthy learning environment and community for their students to thrive, some of the discussed issues are prevalent within the school and I will offer my insight into possible solutions based on existing literature and my experiences from this research project.
In music classes there has been a prevalent debate between rote versus note teaching methodologies and the problem with musical notation, in the form of braille sheet music, for visually impaired individuals. I will present both sides of the argument with perspectives learned from the case study and further expand upon the problematic nature of braille sheet music specifically. All discussion material will consider my own perspective as developed over the course of this study and the perspectives of the participants of this study, in conjunction with information gleaned from past and current research. I will use the topics of Community and Learning Environment, and Rote vs. Note Teaching to guide suggestions and implications for future research in the music education field.

5.1. Community and Learning Environment

The community aspects of the blind and visually impaired state school give the opportunity for immense emotional and educational benefits. Class size and student-teacher ratios allow for individualized feedback, assistance, and care for students within the classroom. Students feel comfortable within their classrooms and enjoy learning because their teachers have gotten to know them and vice versa. As Katie described to me, her students, who she described as shy or quiet, were never like that when they came into her music classroom. They felt welcome and felt like they were allowed to be themselves. Katie continued this sentiment by stating that parents of her students let her know on multiple occasions that they were not as social or outgoing at home as they were at school at times. This could be for a multitude of reasons, but past literature relates these issues to peer-to-peer interactions and representation. Abramo and Pierce (2013), Shakespeare (2006), and Thompson (1997) all assert that the primary issue of education for students with any disability is representation. To re-quote Thompson,

The meanings attributed to extraordinary bodies reside not in inherent physical flaws, but in social relationships in which one group is legitimated by possessing valued physical
characteristics and maintains its ascendancy and its self-identity by systematically imposing the role of cultural or corporeal inferiority on others (1997, pg. 7).

In a school for the blind and visually impaired, all students have the same or similar physical limitations, meaning that they are all represented as equals among their peers. At a school, like the one in focus for this study, the students share the same or similar physical disabilities, through their visual impairment. This means that they are able to legitimized amongst their peers, without a sighted population viewing them as lesser in some way because of their impairment.

This representation among peers is however, not present among much of the teaching staff and faculty members of the school. To the best of my knowledge there was only one blind teacher at the state school for the visually impaired, the rest were sighted. While there is one teacher representing the VI community, the overwhelming majority of the faculty at the school were not representative of the students that they were teaching. This issue of representation has been revealed in countless research studies on minority groups, beyond just the visually impaired. I suspect this is why Katie was able to share stories of staff members asking if she was certain that her students could achieve what she planned for them, or why Lisa was able to share the story of her own family’s perception of the VI students. Without any doubt, I believe that these faculty members care for the students and believe in their success, but with little adult representation of the VI community at the school it makes sense that there is some negative perception. The adults are outsiders to the community, close outsiders, but outsiders, nonetheless. This very issue is one of the main focal points of Parker and Draves’ (2017) article on two preservice music teachers, in which a participant had issues with their principal not understanding their needs or abilities within the classroom environment.

The problem, however, remains that our current education systems in the United States are not set up to allow for more inclusivity for teachers with physical impairments, visual or
otherwise. These barriers are discussed in more detail in Parker and Draves’ (2017) study on preservice music teachers. Ultimately, neither participant continued a career in a sighted music classroom as a result. In the case of VI representation, hiring a classroom teacher that is blind or severely visually impaired would likely entail the additional higher or inclusion of a sighted aid. While the Americans with Disabilities Act does entitle VI individuals to equal hiring opportunities and prevents discrimination based on their disability there are 2 prevalent issues (Americans with Disabilities Act, 1990). The first of which is funding within a school district that planned to hire one teacher, now must allocate funding to hire two. Even if the second person is hired on a part-time or reduced salary teacher-aid basis, it is still an additional cost and one that the school might not be willing or able to cover. Why hire two faculty members when you can instead hire one? The other issue is one addressed in Parker and Draves (2017), classroom management. Without an extra, sighted, person assisting the VI teacher, students are bound to take advantage. One participant from their study talked about a minor incident where a student had their phone out and was texting a friend during class. Fortunately, the participant in that study was a student teacher and their mentor was sighted and able to handle the issue without any disruption. Beyond representational aspects inside and outside of the school, other factors do contribute to student success and comfort within their classrooms. The main one being class size.

The class size itself also lends well to student achievement. Researchers have published multiple studies comparing what they defined to be small, average, or large class sizes. The Tennessee Study of Class Size in the Early School Grades, published by Frederick Mosteller (1995) was an extensive three-phase study on grades K-3 in large (22 or more students) and small (13-17 students) classrooms to compare their standardized test and curriculum-based test
scores, as well as their “general study skills”. The study confirmed that students in smaller class sizes during their early grade years, consistently performed higher than students from the larger classes over a four-year period. This was true for students that moved from a small class to a large class as well, with those students still performing higher than the students that were always in the larger class. Maasoumi, Millimet, and Rangaprasad (2004) expanded upon this study, finding that smaller classroom sizes also improved the testing scores of lower achieving students. With every classroom in the state school being below the small classroom size of 13-17 students, as defined in the Tennessee study, the students can remedy any disadvantages to achievement that could have been present as a result of their visual impairments.

5.2. Rote vs. Note Teaching

The debates surrounding rote teaching methods versus notated teaching methods have been going on for centuries. Rote teaching methods in music have favored curriculums designed by Dalcroze, Orff, Suzuki, Kodály, and Gordon, while note teaching curriculums revolve around method books or printed music in the instrumental classroom. Researchers have found that instrumental musical ability can be improved if we teach students to experience and react to music, before they try to analyze, conceptualize, and read music in a written form (Grey, 2020). For many reasons, this has been the method of choice for teaching both general education courses (i.e., math, science, English, etc.) and music at this school. Perhaps rote teaching is the reason for the students having a closer perceived connection (in my eyes and Katie’s) to music making in the classroom at the school for the visually impaired. There is the obvious answer, that notation is more challenging to implement and creates a barrier for many VI students, therefore rote teaching becomes a logical choice. Rote teaching is grounded in memorization and repetition of information to build confidence with new material. I suspect this to be one of the
reasons why the student population of this study had an increased number of members with perfect pitch than a typical classroom. This aligns with the findings of Hamilton et. al.’s (2004) study on the prevalence of perfect pitch in visually impaired musicians. The key to this comparison is the emphasis on the notion of “equal musical training”, meaning that the students in the VI classroom still must have musical training in order to achieve that heightened level of pitch perception and perfect pitch development as reported in this study and the studies of Hamilton et. al. (2004) and Eitan et. al. (2012).

“Equal musical training” is hard to quantify across communities and cultures around the globe. For VI students and sighted students in the United States, the focus is largely centered upon notated music as a primary source of both instruction and performance. There is notated music for VI individuals, in the form of braille sheet music, but it is believed that notated or written music is not a viable source of primary instruction within the musical world of VI students. As Katie mentioned in our interview “…this would really help supplement what they’re doing. But it could never be the main source of getting our content knowledge…” Why can it not be the primary source? Again, as Katie stated the problem begins with needing to know how to read braille sheet music, which she admitted, neither she nor her students knew how to do. The first question that comes to mind with that admission is: why can’t she or anyone else that does not know how, take the time to learn how to read braille sheet music and teach it to the students? I think it is a healthy question to ask. However, the problems lie within braille sheet music itself.

Braille sheet music is designed with the same system of six dots (two columns of three dots each) that literary braille is designed with (Goldstein, 2022). This is because Louis Braille, the person that the current system was named after, was also a musician. By using the same systems for both literary and musical braille, it is a lot easier to learn to read either system by
knowing the other. This is however oversimplifying the process. One block of dots can account for any pitch, in its natural form (C natural, B natural, E Natural, etc.), and for limited rhythms (whole, half, quarter, and eighth notes). This means that any accidentals in a piece, descriptive text, dynamics, articulation markings, lyrics, and rhythms that do not equal one of the four values listed above must be denoted using additional blocks. This very problem means that one line of music in standard notation can be upwards of an entire page in braille sheet music. This problem is one of the focal points of criticism of the system. While braille embossers are readily available at a school like the state school discussed in this study, other districts may have access to only one such embosser for the entire district to use. Having only one, or very few, of these specialized technologies can lead to significant delays in the receiving of requested materials. This is because the individual or school would have to send it to the office that had the technologies, wait for their turn in line to have their materials made, and then wait for the materials to be sent back to them. The other issue is one of practicality and is a topic I discussed further with Katie. At the end of the process, the music students will need to memorize the music regardless of their ability to read braille sheet music, because they cannot play an instrument and read their music at the same time. Any instrument, other than voice, would require a student to take a hand off the instrument to read the music, memorize it, and then continue to play. That stoppage would make for poor performances that could further harm the perceptions around the VI community and VI musicians. As mentioned, voice is an exception to the idea of needing both hands to play an instrument, but they are not an exception to the preference of memorization. Alves, et. Al. (2009) showed through their findings that given the opportunity, vocalists still preferred to memorize their music for performance. The benefit of braille sheet music is that it can aid in the memorization process. The need for a teacher or peer to play or
sing parts of a piece to the VI student is not necessary, purely for memorization by the VI student, if braille sheet music is involved. This would allow the student more autonomy and the ability to independently practice their music without the need of another person, recording, or aid.

As I analyzed my findings for this project, I continuously came back to that statement about equal musical training. I believe that the VI students are capable of anything and everything that their sighted peers can do, especially in a music classroom. That is, until I reflect upon the college music major experience and all the coursework involved. If a blind student were to audition for a school of music, and their performance ability met the standards of the school, they would likely get accepted without significant barriers. I think the problems arise when they begin their coursework, especially in ear training and dictation, or music theory courses. When that student must do a dictation test, how would they dictate the passage to their instructor? Does the instructor have to exempt that portion of the grading for the student? Does the student verbalize the pitches and rhythms to another student, or the instructor for them to write down as formal dictation? Can the student bring an embosser in and provide their dictation to the instructor in the form of braille sheet music? While accommodations can and would certainly be made to help the student, there are many questions about the added stress or workload this could put on the student or influence how the student’s peers think about and interact with them. The second issue is one of workload management. To use myself as an example, during my undergraduate coursework, I was in the clarinet studio, marching band, wind ensemble, clarinet choir, and a quartet in one semester. For a student with severe vision impairments, the task of memorizing music by rote or using braille sheet music, on top of achieving an appropriate performance quality, for five different ensembles or solo groups, along with any additional
materials from instrumental methods courses, conducting, and beyond would certainly be a daunting one. I believe this to be at the root of why there is not an extensive representation of VI teachers in schools. There are so many extra steps to the process that become expected, to uphold a sense of normalcy in the classroom, that we have hindered the act of representing the students that we intended to serve.

As I pondered the memorization demands that would be present for a VI student in a music school, it made me wonder if it would be necessary to require the student to learn how to read braille sheet music and if it would be a disservice to them if we did not. How would instructors be able to deliver content effectively if the music is unable to be read in a form that was accessible to them? Would they have access to an aid that can learn or has learned the content being delivered effectively enough to re-deliver it to the student by rote? If so, would that continue to be meaningful study for the student? Of course, this issue is compounded by the western classical tradition’s reliance on music notation that has been ingrained into music-making within schools in the United States. With so much emphasis on that tradition, are we really serving the student populations that we are teaching? There are, after all, plenty of musical traditions inside and out of the western world that do not primarily rely on notation. I believe that if educators work towards a more balanced teaching method, that incorporates more rote based learning strategies, that we can create more equal opportunities for students to learn and engage in music.

5.3. Current Classroom Considerations

This section serves to interpret the data that has been collected over the course of this study and spark dialogue about the classroom environments created by us, the educators. This section is not meant to be a step by step guide for the solutions to issues that may arise within the
classroom setting with visually impaired students, but rather offer insight into ideas for approaching any issues based on my experience through this project.

As Parker and Draves (2017) described in their article on two preservice music educators with visual impairments, both participants stated that their primary issues were caused by lack of communication with the school administration team. It is here that I encourage educators to begin. Dialogue with your students about what their needs are and allow them to give you insight into what accommodations they will need or find appropriate. This communication is key in developing intervention plans to assist the student where they need it and learning where it is not necessary.

Navigation is likely to be the largest hurdle for visually impaired students to overcome on their own in an instrumental music classroom. In my experience, large ensemble classrooms are set up prior to rehearsals so that more time can be spent playing and these setups often do not include spacing considerations for students that struggle with navigation. A simple solution for this would be to increase the spacing between seats and rows within the ensemble, allowing VI students more room to move through the space. If rehearsal space is limited, or a director is limited in ways to change the ensemble spacing, perhaps they can have a student partnered with the VI student, that will clear a walkway to their space and then re-place the chairs and music stands as needed.

As for the issue of sheet music, there is a plethora of research available on Universal Designs for Learning (UDLs) and their benefits (Murawsk & Novak, 2019). The core objectives of UDLs are to provide multiple means of engagement, representation, and action expression to allow students with visual impairments, or any other impairment more opportunities to demonstrate and acquire success in our classrooms. With this in mind, I believe it will be
necessary to begin investigating what materials are effective for supplementing VI students within the classroom, which goes beyond the scope of this study. One possible consideration I would like to conclude with is the further incorporation of the Create national standards as outlined by the National Association for Music Education (NAfME, 2014). This set of national standards encourages students to create melodies, rhythms, harmonies, and more as part of their experience in the large ensemble settings. I encourage directors to design composition activities and incorporate them into the classroom ensembles. These compositions can utilize student created notation methods, or no notation at all and instead opt for an aural presentation of their music and share it with others aurally. Either choice mentioned would allow for a visually impaired student equal opportunity to engage with and demonstrate understanding of the task as their sighted peers. Perhaps composition assignments like these could develop into opportunities for a concert performance at their school that consists entirely of student created works.

5.4. Future Research

There are several implications within the study that I believe call for additional research. In the instrumental music world (primarily woodwinds, brass, percussion), where I have spent most of my time, beginning programs happen in or around sixth grade. It has also been my experience that most programs begin by teaching notation, either with or without instruments (usually without). The idea behind this method is that teaching notation and familiarizing students with it first, will allow the students to focus more on learning to handle and play their instruments when they get to that point. I think the idea behind this strategy is incredibly logical. By separating the two processes, the students can focus on one or the other and not both at the same time. I do, however, think that this process is backwards. I believe that rather than teach students notation first, that instead they should be taught to get characteristic sounds on their
instruments and be comfortable playing them before introducing notated music. McPherson and Gabrielsson (2002) conducted a study over three years looking at the effectiveness of a rote teaching/learning model. They found that the students displayed elevated musical expressiveness, characteristic tones, and creativity. There has been little to no research on this topic done since this study, with a beginner level age group. I believe that a study to investigate the performance capabilities of students using the rote method should be done to further investigate the findings of past research or offer new insight, along with a comparison to a control group given notation-based instruction. This also poses questions about the rote versus note teaching debate, especially within a VI setting. A comparison could be made between a classroom that primarily learns by rote, like Katie’s class, and a class that integrates braille sheet music as a primary source of lesson material.

The other study that I would like to see conducted is with participants from a college or university that are majoring in music to further the understanding of that population. I offered my speculation into potential issues, but the only definitive answer would come from a study with that population as participants. What barriers are they facing in their educational goal and how are they overcoming them? While this study is one that I would specifically like to see done, I believe research in this area would open a door for numerous studies about representation, within schools, colleges, work environments, and beyond.

In the music classroom, there are opportunities to further investigate the instrument preferences of different student populations, to include VI students. Katie suspects that her VI students prefer percussion instruments, but there is potential cause that is not related to the students’ visual impairment. Do VI students truly have a preference towards percussion instruments? Do other populations or communities also have instrumental preferences? A study
of this nature could also do an analysis of the aspects of each community that are reflected in their result, providing a deeper understanding of the communities themselves.

5.5. Conclusion

The visually impaired community has proven to be a close-knit group with a unique world experience that was not extensively documented. The students and teachers at this state school are extremely welcoming of one another and have created an environment that any educator could benefit from learning about. The utilization of rote teaching in such an expansive manner, sheds light on the VI students’ learning. The teaching strategies in the VI classroom can help better prepare educators to increase success with students from this population. Of course, there are certainly numerous barriers that the VI students face every day and must overcome. The main problem being that of representation and peer perception. There have been negative perceptions about VI individuals’ abilities to achieve great success and be seen as equals with their sighted counterparts, even within the members closest to their community, the staff. The students at this school have overcome the barriers of outsider perception and those created by their disability and have found great success. In the music classroom, these students have learned to play instruments, choreograph a musical number, compose, sing, and beyond despite the challenges they have faced. The goal of this study was to capture the experiences of the teachers and staff at a school for the visually impaired and showcase the community that they represent. In that fashion, I would like to leave you with two partial quotes from Lisa and Katie about their students:

“...they’re so capable. Their brains’ function, just the way everybody else’s does, they just can’t see, but they have a team to help them.” – Lisa

“I think the biggest thing to me would just be stating that it is just like you’re teaching normal kids who don’t have the disability…” – Katie
Appendix A. IRB Approval

TO: LSUAM | Acad Affairs | LSU Museum of Art
FROM: Alex Cohen
DATE: 10-Nov-2021
RE: IRBAM-21-1203
TITLE: Music Making and Learning in a School for the Visually Impaired: A Case Study

SUBMISSION TYPE: Initial Application
Review Type: Expedited Review
Risk Factor: Minimal
Review Date: 09-Nov-2021
Status: Approved
Approval Date: 09-Nov-2021
Approval Expiration Date: 08-Nov-2022
Expedited Categories: 07
Requesting Waiver of Informed Consent: No
Re-review frequency: Annually
Number of subjects approved: 3
LSU Proposal Number: 

By: Alex Cohen, Chairman

Continuing approval is CONDITIONAL on:

1. Adherence to the approved protocol, familiarity with, and adherence to the ethical standards of the Belmont Report, and LSU's Assurance of Compliance with DHHS regulations for the protection of human subjects*
2. Prior approval of a change in protocol, including revision of the consent documents or an increase in the number of subjects over that approved.
3. Obtaining renewed approval (or submittal of a termination report), prior to the approval expiration date, upon request by the IRB office (irrespective of when the project actually begins); notification of project termination.
4. Retention of documentation of informed consent and study records for at least 3 years after the study ends.
5. Continuing attention to the physical and psychological well-being and informed consent of the
individual participants, including notification of new information that might affect consent.
6. A prompt report to the IRB of any adverse event affecting a participant potentially arising from the study.
8. **SPECIAL NOTE:** When emailing more than one recipient, make sure you use bcc. Approvals will automatically be closed by the IRB on the expiration date unless the PI requests a continuation.

*All investigators and support staff have access to copies of the Belmont Report, LSU's Assurance with DHHS, DHHS (45 CFR 46) and FDA regulations governing use of human subjects, and other relevant documents in print in this office or on our World Wide Web site at [http://www.lsu.edu/research](http://www.lsu.edu/research)*

Louisiana State University
131 David Boyd Hall
Baton Rouge, LA 70803

O 225-578-5833
F 225-578-5983
http://www.lsu.edu/research
Appendix B. Informed Consent Forms

Teacher Participant Consent Form

1. Title of Study: Music Making and Learning in a School for the Visually Impaired: A Case Study

2. The purpose of this case study is to investigate the methodologies of teachers at a state school for the visually impaired and if those teaching methods can translate into a sighted music classroom and if so, how they might benefit sighted music education classrooms. This study is expected to span 2-3 months with your expected participation to take place over a 3-week period within that timeline. The study will be conducted in three phases. During the first phase you will complete an approximately 45-minute introductory interview. In the second phase I will conduct a classroom observation of one of your classes. In the third and final phase, you will be asked to participate in an additional interview in which we go over the class observation and elaborate on information as it pertains to the study. Interviews may be audio or video recorded for transcription purposes only. There will be no recording during the classroom observation phase.

3. Risks: The only study risk is the inadvertent release of sensitive information found in the interviews (i.e. Name and place of employment). However, every effort will be made to maintain the confidentiality of your records. Hard copy files will be kept in a secure storage container to which only the investigator has access. All digital files will be stored on a password protected laptop and stored in a secure room, both of which only the investigator has access.

4. Investigator: The following investigator is available for any and all questions regarding this study, M-F 8:00 a.m. - 8:00 p.m. and Sat-Sun 10:00 a.m. – 7:00 p.m. , Jacob Peterson, (850)-374-0431, jpete76@lsu.edu

5. Performance Sites: Louisiana State University and Agricultural and Mechanical College, and the participating state school for the visually impaired

6. Inclusion Criteria: Participants must be over 18 years of age and employed by a school for the visually impaired in a teacher or administrator position. Preference is given to participants who have prior experience in a sighted classroom setting.
7. Exclusion Criteria: Persons under the age of 18 or not currently employed by a school for the visually impaired will not be considered for this study.

8. Right to Refuse: Participants may choose not to participate or to withdraw from the study at any time without penalty or loss of any benefit to which they might otherwise be entitled.

9. Privacy: Results of the study may be published, but no names or identifying information will be included in the publication without prior written consent.

10. Signatures:
    The study has been discussed with me and all my questions have been answered. I may direct additional questions regarding study specifics to the investigators. For injury or illness, call your physician, or the Student Health Center if you are an LSU student. If I have questions about subjects' rights or other concerns, I can contact Alex Cohen, Institutional Review Board, (225) 578-8692, irb@lsu.edu, or www.lsu.edu/research. I agree to participate in the study described above and acknowledge the investigator's obligation to provide me with a signed copy of this consent form.

    Subject Signature: _____________________________ Date: ________________

11. Statements of Consent:
    Please place a check mark next to the following statements as they pertain to you:

    ___ I give permission to the investigator to use my name during this study, without the use of a pseudonym.

    OR

    ___ I give permission to the investigator to use a pseudonym, in place of my name, for the purposes of this study.
I give permission to the investigator to use the school’s name for the purposes of this study

OR

I give permission to the investigator to assign a pseudonym, in place of the school’s name and abbreviation, for the purposes of this study

I have read and understand the above statements of consent and have selected the statements as they apply to me. I also understand that I can change my selections at any point during the research study.

Subject Signature: _______________________________ Date: _________________
Administrator Participant Consent Form

12. Title of Study: Music Making and Learning in a School for the Visually Impaired: A Case Study

13. The purpose of this case study is to investigate the methodologies of teachers at a state school for the visually impaired and if those teaching methods can translate into a sighted music classroom and if so, how they might benefit sighted music education classrooms. This study is expected to span 2-3 months with your expected participation to take place over a 3-week period within that timeline. Your participation in this study will consist of a single phase, in which a single 20-30 minute interview will be conducted regarding your experience with the visually impaired teaching field.

14. Risks: The only study risk is the inadvertent release of sensitive information found in the interviews (i.e. Name and place of employment). However, every effort will be made to maintain the confidentiality of your records. Hard copy files will be kept in a secure storage container to which only the investigator has access. All digital files will be stored on a password protected laptop and stored in a secure room, both of which only the investigator has access.

15. Investigator: The following investigator is available for any and all questions regarding this study, M-F 8:00 a.m. - 8:00 p.m. and Sat-Sun 10:00 a.m. – 7:00 p.m. , Jacob Peterson, (850)-374-0431, jpete76@lsu.edu

16. Performance Sites: Louisiana State University and Agricultural and Mechanical College, and the participating school

17. Inclusion Criteria: Participants must be over 18 years of age and employed by a school for the visually impaired in a teacher or administrator position. Preference is given to participants who have prior experience in a sighted classroom setting.

18. Exclusion Criteria: Persons under the age of 18 or not currently employed by a school for the visually impaired will not be considered for this study.
19. Right to Refuse: Participants may choose not to participate or to withdraw from the study at any time without penalty or loss of any benefit to which they might otherwise be entitled.

20. Privacy: Results of the study may be published, but no names or identifying information will be included in the publication without prior written consent.

21. Signatures:

The study has been discussed with me and all my questions have been answered. I may direct additional questions regarding study specifics to the investigators. For injury or illness, call your physician, or the Student Health Center if you are an LSU student. If I have questions about subjects' rights or other concerns, I can contact Alex Cohen, Institutional Review Board, (225) 578-8692, irb@lsu.edu, or www.lsu.edu/research. I agree to participate in the study described above and acknowledge the investigator's obligation to provide me with a signed copy of this consent form.

Subject Signature: ___________________________ Date: ________________

22. Statements of Consent:

Please place a check mark next to the following statements as they pertain to you:

____ I give permission to the investigator to use my name during this study, without the use of a pseudonym.

OR

____ I give permission to the investigator to use a pseudonym, in place of my name, for the purposes of this study.

____ I give permission to the investigator to use the school’s name for the purposes of this study

OR
I give permission to the investigator to assign a pseudonym, in place of the school’s name and abbreviation, for the purposes of this study.

I have read and understand the above statements of consent and have selected the statements as they apply to me. I also understand that I can change my selections at any point during the research study.

Subject Signature: _______________________________ Date: ________________
### Appendix C. Teacher of the Visually Impaired Certification Checklist

Name: _____________________________ Date: ________________

**Visually Impaired/Blind K-12 Add-on:**

<table>
<thead>
<tr>
<th>Certification level held by applicant</th>
<th>Requirements Completed:</th>
<th>Requirements</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>Yes</td>
<td>No</td>
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<tr>
<td>_____ For individual holding a valid early childhood certificate (PK-K, Pk-3),</td>
<td>Achieve a passing score for PRAXIS Education of Exceptional Students; (0353) if completed prior to 12/31/10. After 1/1/11 Special Education: Core Knowledge and Applications (0354).</td>
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<td>_____ elementary certificate (e.g., 1-4, 1-5, 1-6, 1-8),</td>
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<tr>
<td>_____ upper elementary or middle school certificate (e.g., 4-8, 5-8, 6-8),</td>
<td>Complete three (3) credit hours of internship of students with visually impaired or blind OR three (3) years of successful teaching experience of student with visual impairments or blind.</td>
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<tr>
<td>_____ secondary school certificate (e.g., 7-12, 9-12),</td>
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<td>_____ an all-level K-12 certificate, or</td>
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<td>_____ special education certification</td>
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**Twenty-one (21) credit hours that pertain to children with visual impairments, the following areas must be addressed:**

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<th>Course(s) Completed:</th>
<th>Course Numbers:</th>
<th>Course Requirement(s)</th>
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<td>Yes</td>
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<td>Orientation and mobility for the classroom teacher</td>
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<tr>
<td>Assessment and Evaluation techniques, including functional vision evaluation and reading media assessment</td>
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<td>Assistive technology for students with visual impairments</td>
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<td>Educational implications of low vision and blindness</td>
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<tr>
<td>Instructional strategies and materials for students with visual impairments</td>
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<tr>
<td>Introduction to Braille, including literary and Nemeth codes</td>
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<td>Braille II</td>
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If you have completed the requirements as listed above and wish to receive a formal evaluation for the purpose of obtaining additional certification, you must send your official transcript(s) with a completed Change-of-Action Packet to the Louisiana Department of Education, Division of Certification, Preparation, and Recruitment. If you have any questions concerning this procedure, you may call 1-877-453-2721.

**For use by the Louisiana Employing Agency:**

<table>
<thead>
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**For use by the Certification and Preparation Office only:**

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*Revised 1/13/11*
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**Vita**

Jacob Peterson was born in Utah into a military family. His father was active duty in the United States Army and his mother was retired. Jacob grew up in multiple states and started playing music in fourth grade, during a pull-out band program that started at his elementary school. After trying each of the instruments, Jacob settled on clarinet, his primary instrument to this day. He continued to play music as his family moved to North Carolina where he would graduate from high school in 2015, as a member of the band program. His interests in school were both musical and medical, ultimately investing in the former.

This decision led Jacob to attend the University of Tennessee in Knoxville, Tennessee. It was here that he studied music education and earned his Bachelor of Music in Music Education degree after student teaching at elementary, middle, and high schools in the Fall of 2019. He decided to continue his education by immediately enrolling in the Master of Music Education program at Louisiana State University, in Baton Rouge, Louisiana, where he expects to graduate in May 2022.