Teaching In-Tune: Educational Strategies to Support Music Learning for Students with Autism Spectrum Disorder in Private Studio Instruction

By

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We accept this Thesis as conforming to the required standard.

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Abstract

This study aimed to examine educational strategies used to facilitate music learning for students with autism spectrum disorder (ASD) in instrument-specific, private studio instruction. An internet-based, eight question survey was completed by five music educators from a private institution for special music education in Eastern Ontario. The survey results suggested the use of a variety of educational strategies, with some consensus on most effective strategies. The results demonstrated that private studio educators may be selecting strategies as a way of enhancing the inherent skills required for a variety of key concepts within music education. It was evident that special music educators employed educational strategies consistent with literature in special education, ultimately supporting the success of students with ASD in private music lessons.

Keywords: Autism Spectrum Disorder, Special Education, Music Education
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David Michael, for everything.
Dedication

For each and every one of students. None of this would have been possible without you.

“There is music in every child. The teacher’s job is to find it and nurture it.”

- Frances Clark
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Chapter 1

Introduction

Music learning is a complex process, and success therein requires proficiency in numerous skillsets. Successful music learning also requires the support from qualified, knowledgeable, and experienced teachers who can provide the best possible learning environment. All of this is especially true in regard to music learning for and the teaching of people with special needs. Unfortunately, access to music educators equipped with the knowledge, experience, and toolkit to provide appropriate music education to people with diverse learning needs is limited. Understanding educational strategies for individuals with special needs can be challenging, especially when learning needs vary from case to case (Banks et al., 2005; Gerrity, Hourigan, & Horton, 2013).

Autism Spectrum Disorder (ASD) is a neurodevelopmental disorder with rapidly increasing prevalence. It is suggested that all music educators, no matter the context, will encounter a student on the Autism Spectrum. To be put simply, ASD is an extremely complex disorder characterized by deficits in social skills, communication, and language as well as exhibitory repetitive and restrictive behaviours (Autism Canada, 2018). The severity of ASD and combination of accompanying features can range greatly from person to person, thus categorizing ASD as a spectrum disorder.

Research has emerged investigating educational and behavioural practices for supporting students with ASD in classroom settings. To note, the majority of this research pertains directly to group music instruction in inclusive classroom settings. Generally, the literature suggests that educators approach students on the Autism Spectrum individually in order to assess and understand individual learning needs, and thus develop appropriate, individualized strategies. In
special education terms, accommodations and modifications are essential to meeting students’ diverse needs and again are typically implemented on an individual basis. These practices facilitate learning and support the conveyance of learning material in educational settings. Within the field of special education in music education (henceforth “special music education”), much of the emerging research focuses itself on music learning in inclusive settings and ways by which educators can include special needs students in their musical processes (Gerrity et al., 2013; Hammel & Hourigan, 2011; Hourigan, 2007; VanWeelden, 2007; Whipple & VanWeelden, 2012). Regardless of context, the available information does provide a stepping-stone for research such as the study at hand.

**Personal Implications**

The basis of this research is formed around my personal teaching experiences in special music education. I was introduced to the field of special music education during my undergraduate studies, when I was looking to bridge my two passions: music and education. I registered for a teacher training workshops hosted by a local centre for special music education. It was there that I was first introduced to teaching music to students with exceptionalities, and where my passions finally came together. An area of struggle upon entering the field was finding research and resources to guide my practice. It is my hope that this study will continue to expand the practical knowledge in special music education and increase accessibility of quality music education to those with diverse learning needs. My reason for focusing this project on ASD is because of the significant number of students whom I personally teach that are on the Autism Spectrum. I cannot put into words the immense amount of gratitude and joy I have gained from teaching students with ASD, and how humbled I am by the opportunity each of my students has offered in allowing me to be their teacher.
I believe that everyone has the right to appropriate education tailored to his/her individual needs, interests, and strengths. Music is intrinsic and part of our everyday lives; it is universal and can be experienced by everyone in their own unique ways. Every student, no matter the exceptionality, deserves the opportunity to explore, experience and learn music, and to develop their own forms of musicianship. In order for this to be achieved, music educators must be equipped with the knowledge to do so. I hope that this research will push this field forward and allow for more music educators to serve students who otherwise may not be afforded the opportunity to experience music in ways designed to meet their needs.

**Research Question and Aim**

The purpose of this study is to determine practices used by special music educators in private studio teaching that facilitate music learning for individuals with ASD. An already established list of adaptations (Whipple & VanWeelden, 2012) provide a stepping stone for this investigation, as well as strategies outlined in other pieces of literature pertaining both to music education and special education. The main question being posed is, “What strategies do private studio music educators implement in instrument-specific instruction to support students with ASD and facilitate aspects of music learning?”.

*Strategies* refer to specific teaching techniques, accommodations, modifications, and education supports used throughout individual lessons by trained teachers. *Instrument-specific instruction* refers to the instruction of one particular instrument (i.e. piano, or drums, or guitar, or voice, etc.). Music learning can be defined as the acquisition of musical concepts perceived as “expected” of any individual pursuing musical instruction (for example: note reading, instrumental technique, music appreciation, ear training, rhythmic understanding, etc.).

**Methodology Overview**
To answer the above questions and meet the goals of this research, data will be collected through an anonymous online survey. All participants will be recruited from a private institution in Ottawa, Ontario that offers adapted music programs to people with special needs. Participants will only include teaching staff, all of whom have experience teaching music to students with ASD and offer a variety of skill sets, years of experience, and specialized training backgrounds. The aim is to have a sample of at least five educators. The online survey will be available as of Sunday, January 6th, 2019 and will close approximately 6 weeks later.

A mixed-methods approach to data collection will be used. A mixed-methods design offers flexibility in design of its theory and framework and purposeful sampling that can maximize insights and information. It can be socially situated and provides context-related and context-dependent information through both closed and open-ended questions. Purposeful sampling is a widely used sampling strategy in qualitative research and involves identifying and selecting groups of individuals that are especially knowledgeable and experienced in the phenomenon of interest. Moreover, specific sampling methods are intended to maximize efficiency and validity and must be aligned with the inherent methodological approach. By selecting a specialized institution for recruitment, it is ensured that participants have experience teaching music to people with ASD in a one-on-one setting. The data collected through the survey will be analyzed in a multi-step process involving: the organization of educator responses, the categorization of these responses into meaningful units of analysis, the comparison and connections between and within these categories, and the theoretical conclusions that can be made from the information above.

**Contributions and Limitations**
The goals of this research are to first, meaningfully contribute to the literature surrounding practices in special music education. More definitively, it will provide insight into strategies specific to private music education for individuals with autism. Most differently from any other study, it will explore music education from the perspective of instruction on a specific instrument as well as in a one-on-one setting. Another goal of this study is to increase the accessibility of practical resources for music educators. As mentioned, much of the existing research pertains to instruction in inclusive classroom settings. A focus on music lessons provided by private studio music educators offers a varied perspective. With both goals met, the accessibility of music education opportunities for people with special needs may be broadened. As discussed above and continued in the following chapter, the literature has established limited conclusions about adaptations and modifications that facilitate music learning for this population and there is very little research, if any at all, surrounding instrument-specific instruction in private music education for students with ASD.

One major limitation of this investigation is a lack of detail concerning the effects of these specialized strategies on music learning. This study will collect the necessary information and evaluate which strategies are used to facilitate music learning for students with ASD, however it is not anticipated that the survey results will draw conclusions as to how the strategies are used and/or why these strategies are effective. Though, it will meaningfully contribute to the literature, which may eventually lead to future research examining said correlation. Another limitation is the small sample size and concentration within one institution. This could present bias and too much similarity between educators. Nonetheless, the contributions of the proposed research will be valuable in the establishment of literature in special music education. It is anticipated that the findings will expand the knowledge of educators as it relates to practical
applications and will encourage the development of accessible music education for individuals with ASD.
Chapter 2

Literature Review

Introduction

Music is universal. The neural processes required for processing music are extremely complex and involve multiple areas of the brain working together to make sense of the many elements that are involved in musical experiences (Koelsch, Fritz, Schulze, Alsop, & Schlaug, 2005; Warren, 2008). These experiences are also a natural part of human existence, and musical elements can be found in every environment: the humming of a machine, the pitch of a doorbell, the rhythmic movement of birds; the grumble of passing cars. Musical experiences are meaningful experiences. Research suggests that music can have profoundly positive impacts of multiple areas of functioning for people with exceptionalities (Foley, 2017; Register & Humpal, 2007; Salvador, 2015). However, expressions of unpreparedness and lack of resources available to music educators when supporting students with diverse learning needs serves as a major barrier to the provision of music education for this population. This study aims to identify and narrow these gaps, with the purpose of increasing accessibility of informed music teaching and opportunities for people with ASD. For the purposes of this research, ASD will be the main focus; however, it is anticipated that these findings will also influence growth in the field of special music education more generally.

What is ASD?

Over the past decade, research and statistical evidence suggest that the diagnostic rates of ASD are on the rise (Autism Canada, 2018). In its most recent estimates, the Center for Disease Control and Prevention (CDC) suggests 1 in 68 children are diagnosed with ASD in the United States (CDC, 2018). ASD is characterized as a neurodevelopmental disorder and can be defined by challenges with communication, difficulty in social functioning, and stereotyped or repetitive
patterns of behaviour (Hourigan & Hammel, 2017; Autism Canada, 2018). Criteria for a diagnosis of ASD outlined by the DSM-V include:

- persistent deficits in social communication and social interaction across multiple contexts, including deficits in social-emotional reciprocity, nonverbal communication behaviour used for social interaction, and/or developing, maintaining, and understanding relationships.

- Restricted, repetitive patterns of behaviour, interests, or activities including stereotyped movements, insistence on sameness, highly restricted and fixated interests, and/or hyper or hyperreactivity to sensory input.

To add, symptoms must be present in early development, causing significant impairment in important areas of functioning, and are not better explained by an alternate diagnosis. The DSM-V also outlines severity levels, ranging from levels one to three, or requiring support to requiring very substantial support. (American Psychiatric Association, 2013). As implied by its name, ASD is a spectrum disorder meaning individuals who meet criteria oftentimes have varying degrees of challenges and combinations of characteristics (Autism Canada, 2018; Empson, 2015). Moreover, features of this disorder range in both frequency and intensity between individuals and over the lifespan with variations and changes occurring due to a variety of influences and factors (Empson, 2015).

Interestingly, more research efforts over the past 25 years have been devoted to ASD than any other neurodevelopmental disorder (Empson, 2015). The knowledge built from this research has increased understanding around ASD and supported the development of effective interventions and strategies, ultimately contributing to the progression of understanding from an educational standpoint. With a common understanding that the features and characteristics of
ASD are unique to each individual, it can be said that the education strategies used to support students on the Autism Spectrum must be specifically tailored to the student on a case-by-case basis.

**ASD and General Education**

ASD-focused research has led to an abundance of findings pertaining to educational strategies and behavioural interventions for people on the Autism Spectrum. Currently, there are a number of different behavioural interventions available based on a variety of theories and principles. Lindgren and Doobay (2011) explore evidence-based interventions for ASD, ranking interventions based on scientific and empirical evidence. Possibly one of the most well-known and scientifically sound interventions is applied behavioural analysis (ABA). Research suggests applied behavioural analysis to be one of the predominantly effective therapies for people diagnosed with ASD (Loiacono & Valenti, 2010; Rosenwasser & Axelrod, 2001). The methodology is based on psychological and learning theory, by which interventions are applied to improve social, motor, and verbal behaviours (Autism Canada, 2018; Loiacono & Valenti, 2010; Lindgren & Doobay, 2011). Moreover, ABA has been recognized for its efficacy in increasing communication, learning, and socially appropriate behaviours (Rosenwasser & Axelrod, 2001). Currently, ABA and its associated methodologies are being applied not only in clinical settings but also in more general educational settings, with it being suggested for educators to become proficient in ABA methods and interventions to support learners on the Autism Spectrum (Dieringer et al., 2017; Loiacono & Valenti, 2010). Lindgren and Doobay (2011) also indicate early intensive interventions, social skills training, and cognitive behavioural therapy as other interventions for ASD with strong scientific evidence. Picture Exchange Communication System (PECS), modeling, visual supports, and augmentative and alternative
communication (AAC) are also listed as interventions and techniques with strong empirical basis.

Much of the research pertaining to ASD in educational settings is focused on inclusive classroom environments. Crosland and Dunlap (2012) explore recent intervention research as it relates to supporting children with ASD in inclusive classrooms. Firstly, the authors note the increase in emerging research in educational and behavioural strategies for children with ASD; however, much of this research is being conducted in controlled, secondary settings as oppose to natural, primary settings. This is concerning due to a potential lack of external and ecological validity which are both important factors in educational and behavioural research. Also, it is suggested that there is no well-established consensus of appropriate educational practices for ASD students. In turn, it is then difficult for educational service providers to make well-informed decisions regarding the implementation of programs for learners on the Autism Spectrum. With this, the authors examine evidence-supported strategies that facilitate the inclusion of learners with ASD. Most important to the study at hand are the outlined strategies for achieving success. A number of antecedent procedures are outlined in the article, supporting the use of the following: priming; prompting; visual schedules; predictable sequences; and adapted learning environment. Implementing the previously listed strategies not only supports individual learning but also allows for students with ASD to understand the environment and the expectations in ways most attuned to respective needs.

Lynch and Irvine (2009) examine best practices for children with ASD in inclusive education. Based on research out of the United States, seven essential elements were identified to guide inclusive education programs and ultimately facilitate what is referred to as authentic inclusion. This list involves visionary leadership, collaboration, refocused use of assessment,
support for staff and students, funding, effective parental involvement, and curricular adaptation and effective instructional practices (Lynch & Irvine, 2009). With this study’s focus on educational practices for students with ASD, it is imperative to examine the seventh element of curricular adaptation and effective instructional practices. Lynch and Irvine (2009) explain this element to be “instruction designed to accommodate the unique needs of the learner and maximize his/her ability to be an equal participant in the inclusive classroom.” Furthermore, the authors identify previous research efforts regarding forms of successful educational interventions for students with ASD. Originally identified by Dawson and Osterling in 1997 (as cited in Lynch & Irvine, 2009) the following elements were established out of pre-existing effective interventions in hopes of guiding future educational interventions and programs for people on the Autism Spectrum. The main elements included specialized curriculum context, highly supportive teaching environments, predictability and routine, and family involvement. Although the authors are striving to highlight the correlation between best practices in authentic inclusion and best practices education for children with ASD, the points argued in support of ASD education are useful in guiding research in the field of special music education as well.

It has been suggested that early intervention is critical when providing appropriate interventions for children diagnosed with ASD (Lindgren & Doobay, 2011). Brodzeller, Ottley, Jung, and Coogle (2018) explore intervention and adaptations in inclusive early childhood settings for children with ASD with the goal of enhancing early childhood educator’s skills and knowledge when working with learners on the Autism Spectrum. Embedding refers to the incorporation of instruction and/or skill into multiple activities, routines, and environments to ensure complete acquisition of the new or target skill. A main characteristic of ASD is the potential for dysregulation of the sensory system, making it imperative for educators to not only
understand the system but also prepare a toolkit for supporting students with various sensory needs. Brodzeller et al. (2018), provide numerous supports and adaptations for ASD students and accompanying sensory challenges. The authors also explore appropriate behavioural preventatives and social-communication supports, as both are oftentimes deficits in children on the Autism Spectrum.

**ASD and Music Education**

Despite the interest of research on ASD in recent years, it proves difficult to find a comprehensive list of educational strategies to support learning and instruction for individuals on the Autism Spectrum. It is hypothesized that this is due, in part, to the importance of individualized instruction, methodologies, and techniques for these learners. The Autism Spectrum is extremely vast, with some research suggesting there to be no two cases alike (Empson, 2015).

It is fair to say that the community of professionals, researchers, and authors in music education for people with special needs is limited; based on the personal experiences of the researcher, many of the same articles are referenced between a multitude of literature. One of the most commonly referenced articles is that of Cassidy (1990). Although over 25 years old, much of the insight found within this article still hold true in present day special music education and appears to continue shaping this growing field. Cassidy (1990) explores the main elements required by music educators to support students with special needs in mainstreamed, or inclusive classroom settings. Although specific to inclusive music education, the information outlined within the article proves to be insightful for individual instruction as well. The author expresses the importance of understanding individual student needs and abilities; implementing learning goals in a musical context; adapting activities to suit the abilities of the student; and augmented
implementation of teaching strategies. It is concluded that special music educators must maintain the same quality of teaching techniques consistent with typical instruction but supplement this instruction by increasing the use of educational strategies (e.g., cueing, sequencing, response time, reinforcement, consistency, structure). There is something to be said about the author’s simplistic approach by supporting her ideas with the argument that special music educators must not necessary change the teaching techniques, but “just need [to do] more.”

Colwell (2002) suggests that educators must have both a contextual understanding of individual student needs as well as ways by which to adapt the music curriculum to support diverse learners in the music classroom. Furthermore, it is recommended that for utmost success of instructional strategies, educators consider the following: determine the learning profile of the diagnosis; observe the student; and develop appropriate expectations. To conclude, Colwell (2002) quotes Cassidy (1990) reiterating the idea that children with special needs “just require additional repetitions, prompts, reinforcers, models, learning style options, and response time” (p.5). It is important to note that this article is focused on supporting students with learning disabilities, and mostly highlights research specific to that field. Nevertheless, there is the potential for these recommendations and findings to be extended to individuals with ASD. As outlined in the research, learners on the Autism Spectrum require individualized approaches to meet specific learning needs in educational settings (Brodzeller et al., 2018; Empson, 2015).

Gerrity, Hourigan, and Horton (2013) used a mixed-methods approach to identify conditions that facilitate music learning among students with special needs. It was found that repetition, increased student response time, and student choice contributed most to student success. Clear expectations, behaviour plans, and a positive environment also facilitated music learning. It is suggested that individualized approaches, moreover teaching to the individual, and
methods for creating the least restrictive environment be employed to support music learning in inclusive settings. Their findings reiterate a common theme in the research: educators should provide individualized adaptations and approaches that best suit the students unique learning needs and style.

Looking again more generally into special music education, Whipple and VanWeelden (2012) explore preservice music educator perceptions of educational supports, as well as their effectiveness in an inclusive classroom setting. Based on their findings from both music educators and music therapists, it is suggested that instructional practices in settings of music education for special needs students involve a variety of sensory modes, accommodations, and modifications. Lesson sequencing, routine, goal adaptations, additional cueing, increased response time, use of reinforcement, rote learning and echoing, hands-on teaching, active participation, and modified assessment are outlined as key features of adapted music education strategies for special learners. To further these points, the authors examine educator ratings of specific strategies based on a variety of situations, activities, and experiences; the strategies being written words, colour coding, icons, echoing, buddy system, and other visual aids. Ultimately, educator-perceived effectiveness (ratings) vary based on experience and setting. Echoing is found to be the most effective and highest rated overall, suggesting the importance of echoing in both private and group music settings. Colour coding is rated highest within the subsection of teaching concepts in ensemble settings. Although strategies are ranked from most to least effective in a variety of subsets, it is important to note that none of the educational supports are deemed “not useful”. Therefore, it may also be reasonable to conclude that all of the above supports are beneficial, in some way or another, to learners with special needs and subsequently, autism spectrum disorder.
Hourigan and Hourigan (2009) review understandings and perspectives related to teaching music to children with ASD. The authors note that children with ASD oftentimes show increased responsiveness to music, with some ASD students having profound musical abilities. Educators are encouraged to understand the unique processes by which learners on the Autism Spectrum acquire and retain understanding as well as demonstrate knowledge. Increasing educator understanding of these individual processes supports the development of musical skills because it allows the educators to reach the ASD student and deliver material/instruction in ways that work specifically for individual needs. More generally, the authors also explore communication strategies, behaviour management, sensory processing, and social/emotional concerns as they relate to ASD.

Implications of the Literature

In any educational setting, it is imperative that educators understand the needs of their students, especially as the needs of students diversify. The educational success of students with diverse learning needs relies heavily on high quality and effective teaching practices (Herbert et al., 2010). The above review of literature not only demonstrates the complexities involved in teaching students with ASD, but also the appropriate strategies that facilitate learning in both musical and non-musical settings. It is understood that adaptations and modifications are crucial in the development of effective practices, as is the flexibility surrounding implementation based on individual ability, educational setting, and the concepts being taught. The research that has emerged in the field of special music education provides a stepping-stone for future, more detailed and rigorous research in regard to effective practices in special music education for various populations.
As reiterated by Crosland and Dunlap (2012), there is very little consensus on appropriate educational strategies for student on the Autism Spectrum. In searching for educational strategies used to facilitate music learning for students with ASD in order to formulate a basis for the current study, little information was found with none available in a comprehensive format. Much of the research in ASD education, as well as general special education, suggested the use of visuals, prompting, echoing, priming, and multi-sensory instruction. Most importantly, the literature identified the importance of individualized strategies for each student, with no common methodology being deemed as successful for all. This may, in part, explain the lack of consensus argued by Crosland and Dunlap (2012). It is very possible that a general consensus within educational strategies for ASD students is unlikely to ever occur, as all educational provisions must be offered individually to accommodate for the “spectrum” of needs identified within a diagnosis of ASD.

The findings of Whipple and VanWeelden (2012) are of utmost importance to the current study, as their findings provided a basis for this project. Their study was built on a solid foundation of music education research, much of which has been conducted by themselves over the past several years. The educational supports used within the study are also grounded in previous research and their own past findings. Although this study speaks to educational strategies in inclusive music classroom, it is fair to apply these strategies to instruction for ASD students. It is anticipated that further exploration of these findings, and their use in private instrumental instruction for ASD students, will support the development of best practices in special music education for learners on the Autism Spectrum.

Identifying previous research and findings on ASD, ASD and education, special music education demonstrates the gap that exists in special music education research. This gap in the
literature makes it difficult for educators to fully develop their own toolkits when supporting
ASD students in music studio settings and ensuring that they too have equal opportunity to reach
their full learning potential. Other available findings offer insight into educational approaches for
special needs students within the context of inclusive classroom music instruction. The main
issue with the above is that the strategies are not discussed in relation to teaching students with
ASD, nor in relation to one-on-one, instrument-specific music instruction. Moreover, the
research appears to be focused on ways to include ASD students (and other diverse learners) in
music classroom activities rather than ways to facilitate learning in music instruction. The
proposed study is different in that it seeks to investigate the methods and techniques used by
trained music educators in a private setting during one-on-one instrument-specific music lessons,
thus ultimately narrowing the gap in literature and resources, and developing the tools for private
studio music educators facing increases of students on the Autism Spectrum.
Chapter 3
Methodology

Overview

The purpose of this study was to determine practices used by special music educators in private studio teaching that facilitate music learning for individuals with ASD. The main question being posed was, “what strategies do private studio music educators use in instrument-specific instruction to support students with autism spectrum disorder and to facilitate aspects of music learning?” It was anticipated that the findings would provide insight into viable and practical educational strategies that could be employed by music educators when teaching students with ASD, thus broadening accessibility and heightening the quality of instruction.

Research Design

To achieve the above, data was collected by way of an anonymous, online survey following a descriptive mixed-methods design. As outlined by Cohen, Manion, and Morrison (2011), surveys can explore individuals, methods, and materials with the purpose of classifying, analyzing, and interpreting information. Furthermore, surveys are productive tools for exploring the nature of existing circumstances and investigating the relationships that exists therewithin (Cohen et al., 2011).

Within the field of special education, researchers employ both descriptive quantitative and qualitative approaches (Rumrill, Cook, & Wiley, 2011). These mixed-methods approaches capitalize on the strengths of both quantitative and qualitative research methods, allowing for more complex investigations and results (Creswell, 2009, p. 203). Descriptive research reports what exists and ultimately supports the collection of information surrounding a specific phenomenon and expands on the knowledge base in an area of interest (Rumrill et al., 2011).
The qualitative design offered flexibility in design of theory and framework and purposeful sampling that can maximize insights and information. Moreover, this design method was socially situated and provided context-related, context-dependent, and context-rich information. (Cohen et al., 2011).

The purpose of choosing a descriptive mixed methods survey for this specific project was to ensure the collection of comprehensive data through the use of forced-choice questions, open-ended questions, and purposeful sampling. The data collected through the survey was analyzed in a multi-step process involving: the organization of educator responses; the categorization of responses into meaningful units of analysis; the comparison and connections between and within these categories; and the theoretical conclusions that can be made from the information above.

**Setting and Participants**

The research site was a private institution for special music education located in Eastern Ontario. This site was chosen specifically to meet the goals of the research project, targeting private studio music educators with experience with music instruction for students with ASD. All of those contracted by this institution are music educators working within the capacity of a private studio. Potential participants varied in ethnic, socio-economic, and religious backgrounds, as well as educational background, instrumental focus, and years of experience. All participants were currently teaching within the institution from which recruitment occurred and were over the age of 19 at the time of recruitment. A recruitment notice was posted in the main lobby area of the private institution.

Purposeful sampling is a widely used sampling strategy in qualitative research and involves identifying and selecting groups of individuals that are especially knowledgeable and experienced in the phenomenon of interest (Palinkas et al., 2015). Moreover, specific sampling
Methods are intended to maximize efficiency and validity and must be aligned with the inherent methodological approach (Palinkas et al., 2015). Thoughtful selection of the sample from already trained special music educators aligns with these characteristics. By selecting a specialized institution for recruitment, it is ensured that participants have extensive and direct experience teaching music to people with autism spectrum disorder in a one-on-one setting.

All current private educators employed by the institution at the time of the study were informed of the opportunity to participate. A recruitment poster outlining the details of the study and survey, as well as a simplified link, were posted in the waiting-area of the centre where the information was most accessible. The project details adhered to the Tri-Council Policy Statement: Ethical Conduct for Research Involving Humans (TCPS-2; Canadian Institutes of Health Research, Natural Sciences and Engineering Research Council of Canada, & Social Sciences and Humanities Research Council of Canada, 2014) and was approved by the Research Ethics Board (REB) at Vancouver Island University.

Survey Design

Participants were asked to complete an eight-question survey, available online through a secure and commonly used survey platform. It was anticipated that the survey would take anywhere from 15 to 20 minutes to complete; the survey was available for completion for a total of eight weeks. Participants were free to complete the survey in their own time and on their personal devices. The data collected for this study was based on individual educator experiences pertaining to teaching individuals with ASD. Participants were not to share information directly related to individual students, but rather to their own teaching strategies and methods. Each question consisted of pre-determined, multiple choice responses which allowed for multiple selections per question. Each question also had the option for the participant to write a unique
response, thus offering educators the opportunity to identify strategies that may not have appeared on the list. The survey questions included established educational strategies used both in special education as well as in music education (see Whipple & VanWeelden, 2012; Crosland and Dunlap, 2012). Music learning, for the purpose of this study, was broken down into six different categories: rhythm and meter, technique, note reading, articulation, music theory, and performance. Respondents were asked to choose the educational strategies used within each category to support the learning for students with ASD in private, instrument-specific music lesson.

**Procedure**

A mixed-methods survey design was used for this study, with the purpose of collecting context-specific, descriptive data driven by understanding a phenomenon as oppose to testing a hypothesis (Cohen et al., 2011). Participants were simply asked to complete the 8-question survey one time (Appendix A); the data from which would be analyzed to understand how private studio educators support learners with ASD.

**Data Analysis**

Content analysis offers a systematic series of analysis supporting the emergence of codes related to the phenomena in question (Cohen et al., 2011). It involves the coding of closed and open-ended questions, the revealing of individual and group matters, and the description of patterns and trends (Cohen et al., 2011). The data will be analyzed in a multi-step process involving: the coding of the mixed methods survey; the categorization of these codes into meaningful units of analysis; the comparison and connections between and within these categories; and the theoretical conclusions that can be made from the information above.

**Ethical Considerations**
The data collection method and procedure for this study solely involved an anonymous, internet-based survey. The survey in no way collected or requested personal or identifying details from the willing participants. Therefore, there was no chance for the identification of participants; all measures were taken to protect the privacy and confidentiality of each participant. The survey was open to music educators with experience teaching students with ASD, who were 19 years of age and older, and could consent independently. Consent for participation was sought directly from participants immediately preceding access to the survey. Participants were provided with the consent form and were asked two questions to ensure their understanding of the form as well as general consent for participation in the study (Appendix B). Only after both questions were answered successfully where participants granted access to the survey. Participants had the right to refuse and withdraw at any point throughout the survey.

Participants were not offered any compensation of their participation, and there was no risk of physical, emotional, and/or social harm. The lead researcher did have professional relationships with the participants of this study because the participants were purposefully sampled from the institution within which the lead researcher worked. The lead researcher was not in an oversight position of the potential participants, nor did she have authority over their positions within the institution. The research itself was also not connected to the private institution and did not impact any dealings therewithin. Moreover, participation, or lack thereof, did not have any impact on workplace opportunities. With the privacy parameters set by the survey, the lead research did not know the identity of those who chose to participate. Therefore, any potential conflict between the private music educators and the lead researcher were mitigated.

**Value of Method**
One of the main purposes of this study was to collect information pertaining to music lessons for students with ASD, and to act as a stepping stone for existing research in the field of special music education. As previously mentioned, much of the research pertains to data collected in inclusive classroom settings and group instruction. There is little to no research in private, instrument-specific instruction for students with ASD. This study was preliminary in that it offered a first-look into the ways in which private studio music educators support ASD students within this specific context. The data was collected via participants with hands-on experience in a setting desired for the scope of the research. Surveys were useful in that they offered descriptive data directly related to the phenomena of study. Internet-based surveys were accessible and user-friendly, thus increasing probability of participation. Most importantly, the survey was an effective, exploratory tool which was very much in line with this preliminary investigation. To conclude, mixed methods research allowed for both the use of qualitative and quantitative methods, relying on the strengths of either approaches and offering various vantage points for the proposed study (Fitzpatrick, 2011).

Conclusion

The purpose of this study was to determine practices used by special music educators in private studio teaching that facilitate music learning for individuals with ASD. The data for this study was collected through an eight question, anonymous, online, mixed-methods survey. The survey was available over an eight-week period, and sampling was done through an institution specializing in special music education. The survey was developed based on previous studies conducted in the field of music education and special education but was unique to this study in particular. It was anticipated that this model would act as a preliminary step in the identification of educational strategies and supports for students with ASD within the context of private music
instruction. It was also anticipated that this project would be a stepping-stone for other studies within the field of special music education that support learners with other needs and diagnoses. Data collected from the survey was analyzed to determine patterns and themes, and draw conclusion about the strategies used by trained and experienced educators. No identifying details were collected from participants, thus ensuring the anonymity and security of participants and their responses. One potential ethical issue concerning power relationships was mitigated through the above considerations. This study, research topic, and accompanying methodologies were valid in that they were context-specific, offered descriptive data to support the scope of the project, and met the needs of the study itself. It was expected that the findings from the study would guide future research in special music education and continue to expand the scope of the field as well as accessibility to quality music education for people with special learning needs.
Chapter 4

Results

This study aimed to determine educational strategies used by experienced music educators in one-on-one, instrument specific instruction for students with ASD. Data was collected through an anonymous, internet-based survey, which consisted of 8 forced-answer and open-ended questions. It was anticipated that these findings would provide preliminary data to better develop the understanding of private music education practices for students with ASD. A total of five participants were recruited from a private institution for special music education in Eastern Ontario. None of the surveys were left incomplete nor were any removed for not meeting criteria. All five participants completed the required informed consent questions. No data was collected regarding individual educational background, years of experience, or instrument of instruction, however purposeful sampling ensured that all educators had at least one year of experience teaching music to students with ASD in a private setting.

Results from the survey showed varying patterns of strategy-use based on musical concept, including consensus and differences pertaining to the strategies educators use for different topics of instruction. Question one allowed for the identification of concrete strategies, with all five educators confirming their use of each indicated strategy (Figure 1). Two educators confirmed their use of icons through the other option for this question. Icons were not originally listed as part of the survey response options; however visual aids were. Despite being identified in question one, icons were not listed at any other point throughout the survey. All participants indicated their use of every provided stylistic strategy, with no other additions (Figure 2).
No single strategy was unanimously indicated as being used by all educators across all concepts in music education. Repetition was most commonly agreed upon, with this strategy being employed by all educators for teaching the concepts of rhythm and meter, instrumental technique, and note reading (Figures 3,4,5). It was also indicated by four educators for use in teaching articulation and music theory. Finally, three educators expressed their use of repetition for reinforcing performance skills on the instrument of instruction. Repetition was also shown
to be used by at least one educator to facilitate the learning of each musical concept and was most selected throughout the survey.

![Figure 3. Rhythm and Meter.

![Figure 4. Technique.](image)
Manipulatives and physical prompting were least used by educators across all concepts. The use of manipulatives was most noted for rhythm and meter, note reading, and music theory (Figure 6). However, this strategy was never unanimously indicated within any category. Educators do not indicate manipulatives as being used to teach articulation (Figure 7); only one educator indicated use of manipulatives for teaching performance skills and technique.
Physical prompting also showed variance in use, with zero responses for the teaching of note reading and music theory, but five responses in supporting the acquisition of technical skills on the instrument of instruction. Physical prompting was also indicated by four educators as being used to facilitate rhythm and meter, three educators for use in performance skills (Figure 8), and two educators for articulation.

![Figure 7. Articulation.](image)

![Figure 8. Performance.](image)
More generally, visual aids, repetition, verbal prompting, gestural prompting, and multi-modal instruction were all indicated by at least one educator for use within each musical concept. Thus, these strategies were most used by educators in private music education for students with ASD. Rhythm and meter showed the highest use of all strategies, with five educators marking their use of visual aids, modeling, and repetition. Four educators indicated manipulatives, verbal prompting, physical prompting, gestural prompting, and multi-modal instruction. Colour coding was marked by only one educator. Technical instruction (technique) showed a variance in strategies, with responses ranging from one educator to five. All five educators concluded that both repetition and physical prompting were effective for supporting the acquisition of technical skills on the instrument of instruction. Modeling/echoing and gestural prompting were indicated by four educators, colour coding and verbal prompting by three. The remaining were used by one educator, respectively. Note reading showed a clearer perspective of effective strategies, with five educators using visual aids and repetition, and four using colour coding, manipulatives, and modeling/echoing. No single strategy was indicated as most effective by educators when teaching articulation, as no consensus was made. Four indicated modeling/echoing, repetition, and verbal prompting to be most effective, with the remaining strategies indicated by some but not by all. It was found that none of the educators used manipulatives for this concept, thus there was consensus around a “least effective” strategy. Instruction in music theory was facilitated through manipulatives, repetition, and multi-modal instruction, as indicated by four educators. Modeling/echoing and physical prompting were indicated by zero responses, both gestural and verbal prompting by one educator. Performance instruction was facilitated through modeling/echoing, as determined by five educators, and was not at all supported by colour
coding, as this response was indicated by zero educators. The use of remaining strategies varied, with no more than three educators identifying their use of these strategies for this concept.
Chapter 5

Discussion

The research question proposed by this study aimed to serve as a preliminary step in the investigation of educational strategies that facilitate music learning in private settings for students with ASD. It addressed the lack of existing data pertaining to music instructional in private settings and identified ways in which students with ASD can be accommodated in music education. Quantitative and qualitative data was collected through an eight-question survey, available to educators with various backgrounds and direct teaching experience in music for learners with ASD. This mixed-methods approach involving forced-choice and open-ended questions served as a foundational, first step in a field that requires future research and exploration. The survey used for this study was productive to exploring firstly whether or not special music educators were making use of key educational strategies, and secondly which of these educational strategies were being used in each specific instructional category. As previously mentioned, the research surrounding private music education for diverse learners is quite limited, though expansion of knowledge is starting to occur. Analysis of the survey data not only demonstrated that special music educators employ specific educational strategies to support learners with ASD, but it also revealed patterns that may provide more insight into the organized use of these strategies.

The data collected from the survey most clearly suggested that private music educators with appropriate training and hands-on experience (referring to the purposeful sampling of participants) used key educational strategies in their own teaching to support learners on the Autism Spectrum. All participants confirmed their use of educational strategies as outlined in questions one and two of the survey. Therefore, it is reasonable to conclude that these music
educators had the knowledge and experience to understand and implement strategies related to special education in their own private teaching. The patterns found in the data analysis also supported that idea that these educators understood the best suited strategies for each instructional concept. Educator responses were united for questions 3, 4, 5, and 8 regarding effective strategies that facilitated learning for accompanying concepts. Unanimity amongst educators demonstrated working knowledge of various educational strategies, as well as the perceived importance of utilizing strategies specific to the learning goal, as opposed to random selection. It was probable that educators chose strategies with purpose and meaning. As outlined in the literature, students with ASD may require additional and specialized educational supports to achieve success in academic and social settings. The survey results provided insight into what these educators were using and thus highlighted strategies that may be integral to the musical success of students with ASD in private studio instruction.

Interestingly, the data revealed more in-depth patterns of educational strategy-use in relation to the concept of instruction. Most of the concepts outlined in the survey, as well as the listed strategies, fit into the learning style categories of visual, auditory, and tactile. There appeared to be some relation between the learning style attributed to the concept and the learning style coinciding with the strategy, which ultimately provided insight into which educational strategies were most beneficial and supportive of learning for students with ASD in a musical context. As mentioned above, repetition and modeling/echoing were the most identified strategies from the survey, overall. These basic educational strategies seemed to be inherent to teaching students with special needs, and it can be concluded that educators strongly recognized their effectiveness for students with ASD. Aside from these two strategies, and multi-modal instruction which implies the application of visual, auditory, and tactile supports, the remainder
of the outlined supports were categorized into the above three subsections. The data demonstrated a link between educational concept and educational strategy.

The acquisition of rhythm and meter skills requires primarily visual and auditory functions and processes. The survey results demonstrated educators’ use of visual aids to support the learning of this concept, alongside modeling and repetition. To further, the complex nature of concepts relating to rhythm and meter were demonstrated in the expressed use of multiple educational strategies and supports. It may be suggested that the instruction of rhythm and meter was most effective through the use of visual aids, however multiple strategies were also encouraged to support the acquisition of this complex concept and meet the needs of complex student learning profiles. Technical proficiency is a necessary aspect of music learning with mastery oftentimes occurring over long periods of time and practice. This skill most definitely requires a student’s awareness of his/her own body, thus classifying this concept as mostly tactile. Respondents demonstrated the importance of physical prompting to facilitate the learning of technique on the instrument of instruction, paired with repetition. These results indicated a strong relationship between tactile concepts and tactile strategies which furthers demonstrates educator capabilities in determining best strategies. Survey results indicated both visual aids and repetition as the top ranked strategies to support note reading skills for students with ASD. Again, this fits the pattern of using strategies rooted in the same category; in this case, visual. Note reading is primarily a visual task, thus the use of additional visual supports to develop note reading skills is a reasonable conclusion. As well, the use of repetition is supportive of a basic educational strategy that can be helpful for students with ASD across the board. Finally, performance abilities can be deemed as requiring mostly tactile skills, as this concept requires strong spatial awareness skills and connection to the body. Skills related to performance are less
likely to be taught through direct instruction and more so through experiential and observational learning, much of which is demonstrated first by the teacher. Interestingly, educators regarded modeling/echoing as the most effective, with mixed results and no strong consensus among other educational strategies. It can be concluded that modeling and echoing may be the best strategy to support the broad concept of performance, which requires the working together of a number of skills.

The mastery of articulation as it relates to music learning requires the combination of both visual, auditory, and tactile skills. The survey results demonstrated mixed responses from educators with no identified, single agreed-upon strategy. The results for this question in particular reflected the already expressed importance of modeling/echoing and repetition, as these were both the most selected responses along with verbal prompting. For a concept requiring multi-modal skills, it was interesting that only one educator selected multi-modal instruction as an effective strategy. Perhaps educator perspectives were that articulation is best taught through experiential learning, thus supporting responses of modeling, repetition, and verbal prompting (much like performance proficiency). These three supports offer the most experiential approach, with educator-led reinforcement through the demonstration of the concept, the verbal reminder for the student to implement the concept, and the repetition of the task to ensure full understanding over time. Music theory was another concept where educators seemed to be divided in their responses. The survey results showed a large variance between responses, with four educators who supported the use of manipulatives, repetition, and multi-modal instruction, and zero who chose modeling/echoing and physical prompting. Throughout the survey, physical prompting was selected the least amount of times, but modeling/echoing was the second most selected strategy. It was evident that educators understood the lack of
connection between modeling/echoing and music theory, where this strategy would not be effective even though it is regarded as a highly effective support in special music education overall. Music theory requires mostly visual skills but may also be reinforced auditorily. Moreover, the identification of visual strategies such as manipulatives, and the use of multi-modal instruction was very much in line with the pattern of educators’ employing strategies that matched the skills required for the task.

It was evident that educators used their knowledge and judgement to apply the best-suited educational strategies to each musical concept. These educators seemed to enhance each educational concept by using strategies aligned with the underlying style of each concept. To meet the needs of diverse learners, it may be inferred that educational strategies should be employed to fill any gaps in skillsets. For example, if a student struggles with visual information, then an educator may decide to use tactile-based strategies to facilitate learning as a way of capitalizing on a student strength to support a weakness. However, the survey results demonstrated that special music educators for students with ASD were enhancing the inherent nature of each concept by mostly pairing the strategies that related directly to the ways by which the concept was acquired. It can be concluded that educators found strategies to be most effective for students with ASD when the strategies related directly to the concept and reinforced the skills required for the acquisition of the concept.

There were a number of limitations for this study and various ways that future researchers may proceed with the information found therewithin. First and foremost, an internet-based, forced question survey was not the most effective research tool for an area as complex as this one. In future, it is suggested that researchers use a truer mixed-methods approach to gain more detailed insight into these processes and educator perspectives; one that involves both forced-
answer and more open-ended questions. Secondly, the sample size for this study was very small and may not have necessarily been representative of music educators on a larger scale. Purposeful sampling is very effective when seeking information from a specific set of people, and due to the nature of this study’s parameters, purposeful sampling ensured the experience and knowledge of the educators. However, it did limit the survey results, and may have also presented issues related to sameness and bias, as it was likely that these educators may have all had the same influences over their teaching and similar training backgrounds. In future, it may be beneficial to select a sample with wider variance in educational background and training, years of experience, and geographical location. There was a fundamental lack of depth due to the factors above, therefore it is suggested that more complex research strategies be employed in future studies to gain better insight into how and why educators are making decisions around specific concept and strategies.

**Conclusion**

The purpose of this study was to determine which educational strategies were seen as most effective for facilitating music learning for students with ASD in private studio instruction. Much of the research that exists in special music education pertains to inclusive classroom instruction, therefore this study aimed to provide preliminary insight into the ways in which private studio music teachers support their students with ASD in instrument-specific instruction. An internet-based, eight question survey was completed by five music educators from a private institution for special music education in Easter Ontario. The survey results suggested the use of a variety of educational strategies by the educators, with some consensus on strategies deemed most effective. Furthermore, the results demonstrated that private studio educators may be selecting strategies as a way of enhancing the already required skills for each concept as oppose
to using strategies that require alternate skills. It is evident that educators are using their own expertise and judgement when selecting appropriate strategies and supports for their respective students. Limitations from this study will help guide future research in private studio instruction for students ASD and other diverse learning needs. More specifically, in-depth, mixed-methods approaches may suit this topic best, while including a larger scope of participants with richer and varying backgrounds. In conclusion, further investigation is required to support the ideas presented above; however, it is evident that some special music educators are employing educational strategies consistent with literature in special education which ultimately supports the success of students with ASD in private settings offering music education opportunities for this population.
References


APPENDIX A

Survey

Teaching In-Tune: Educational Strategies to Support Music Learning for Students with Autism Spectrum Disorder in Private Studio Instruction

Please answer the following questions as they relate to experiences and practices in your teaching of students with autism spectrum disorder.

1. Which of the following concrete strategies have you used in your private teaching of students with autism spectrum disorder? Please select all that apply.
   a. Colour Coding
   b. Visual Aids
   c. Manipulatives
   d. Other

2. Which of the following stylistic strategies have you used in your private teaching of students with autism spectrum disorder? Please select all that apply.
   a. Modeling / Echoing
   b. Repetition and Consistency
   c. Verbal Prompting
   d. Physical Prompting (example: hand-over-hand)
   e. Gestural Prompting (example: pointing)
   f. Multi-modal Instruction (Auditory, Visual, Kinesthetic)
   g. Other

3. Which of the following strategies have you found to be effective for teaching rhythm and meter to students with autism spectrum disorder? Please select all that apply.
   a. Colour-Coding
   b. Visual Aids
   c. Manipulatives
   d. Modeling / Echoing
   e. Repetition and Consistency
   f. Verbal Prompting
   g. Physical Prompting
   h. Gestural Prompting
   i. Multi-Modal Instruction
   j. Other

4. Which of the following strategies have you found to be effective for teaching technique on the instrument of instruction to students with autism spectrum disorder? Please select all that apply.
   a. Colour-Coding
   b. Visual Aids
   c. Manipulatives
d. Modeling / Echoing  
e. Repetition and Consistency  
f. Verbal Prompting  
g. Physical Prompting  
h. Gestural Prompting  
i. Multi-Modal Instruction  
j. Other

5. Which of the following strategies have you found to be effective for teaching note reading to students with autism spectrum disorder? Please select all that apply.
   a. Colour-Coding  
b. Visual Aids  
c. Manipulatives  
d. Modeling / Echoing  
e. Repetition and Consistency  
f. Verbal Prompting  
g. Physical Prompting  
h. Gestural Prompting  
i. Multi-Modal Instruction  
j. Other

6. Which of the following strategies have you found to be effective for teaching articulation to students with autism spectrum disorder? Please select all that apply.
   a. Colour-Coding  
b. Visual Aids  
c. Manipulatives  
d. Modeling / Echoing  
e. Repetition and Consistency  
f. Verbal Prompting  
g. Physical Prompting  
h. Gestural Prompting  
i. Multi-Modal Instruction  
j. Other

7. Which of the following strategies have you found to be effective for teaching music theory to students with autism spectrum disorder? Please select all that apply.
   a. Colour-Coding  
b. Visual Aids  
c. Manipulatives  
d. Modeling / Echoing  
e. Repetition and Consistency  
f. Verbal Prompting  
g. Physical Prompting  
h. Gestural Prompting  
i. Multi-Modal Instruction  
j. Other
8. Which of the following strategies have you found to be effective for developing performance skills specific to the instrument of instruction for students with autism spectrum disorder? Please select all that apply.
   a. Colour-Coding
   b. Visual Aids
   c. Manipulatives
   d. Modeling / Echoing
   e. Repetition and Consistency
   f. Verbal Prompting
   g. Physical Prompting
   h. Gestural Prompting
   i. Multi-Modal Instruction
   j. Other
APPENDIX B

Informed Consent Form

Title of Study
Teaching In-Tune: Educational Strategies to Support Music Learning for Students with Autism Spectrum Disorder in Private Studio Instruction

Principal Investigator
Sarah Tomaszewski, B.A. Honours, M. Ed. Cand.

Institution
Vancouver Island University

Purpose of Research
The purpose of this study is to investigate educational strategies used within private, instrumental-specific instruction for students on the autism spectrum. The research aims to identify the effectiveness of these strategies, as perceived by educators who actively teach individuals with autism spectrum disorder. It also seeks to identify commonly-used strategies in relation to the acquisition of specific musical concepts.

Procedures
The study involves an online survey consisting of eight questions, seeking details surrounding teaching practices as related to private music lessons for individuals with autism spectrum disorder. The survey will take approximately 15 to 20 minutes to complete and is made up of eight multiple choice questions. All responses will remain anonymous and no identifying details are to be provided.

Potential Benefits
No direct benefits will be provided for your participation in this study. However by completing this survey, you will be supporting the growth of research in the field of special music education. The results from this study may help guide future practices in private studio instruction for special needs individuals and may have an impact on increasing the accessibility of specialized music education opportunities for this population.

Potential Risks
Google Forms is being used to collect your survey responses. Survey data will be stored on Google servers located in the United States, and thus is subject to Google’s data privacy policies and foreign legislation. For information on Google’s privacy policy, see https://policies.google.com/privacy.

I will download and delete all survey data from Google Forms servers no more than two weeks after the completion of data collection, which I expect will be January 31, 2019. I will not collect any personally identifiable information, including Internet Protocol (IP) addresses.

Please note that because Google stores data on servers located outside of Canada, data provided will not be protected by Canadian privacy legislation and may be accessed by foreign government/s in accordance with its/their laws.
Consent, Right of Refusal to Participate, and Withdrawal

Your participation in this survey is completely voluntary. You are free to quit the survey at any time, and you may refuse to answer any question(s) in the survey. There will be no advantage, disadvantage, penalties, or consequences should you decide to complete the survey, refuse to participate, or withdraw from the survey. Once the survey is submitted it will be impossible to identify participant data; therefore, withdrawal of the data from the study will not be possible at that point.

Confidentiality

Participants are not required to give any personal or identifying details to complete the survey. The principal investigator will be the only individual with access to survey results, with all results remaining anonymous. Data from the survey will be stored within the principal investigator’s laptop and e-mail account, which are both secured with a password. A back-up of the data will also be kept on a secure USB device which is also password protected and kept in a locked office. Once the research project is complete, the information will be destroyed after three years. Permanent deletion of the survey used for this project through Google Forms will be done by going into the platform itself, and taking appropriate steps as explained by Google to delete the files from the platform. Deletion of the survey forms will be done two weeks after the survey closes, which is expected to be January 31, 2019.

More Information

If you have any further questions, concerns, or comments about the study or the above procedures, please do not hesitate to contact the principal investigator via e-mail.

If you have any concerns about your treatment as a research participant in this study, please contact the VIU Research Ethics Board by telephone at 250-740-6631 or by email at reb@viu.ca.

Thank you for considering participation in this survey and research project. Before you begin, please be advised that you may exit the survey at any point without advantage, disadvantage, consequence, or penalty.