Teaching art to students diagnosed with ADHD: An analysis of teacher strategies

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and submitted in partial fulfillment of the requirements for the degree of Master of Arts in art education complies with the regulations of the University and meets the accepted standards with respect to originality and quality.

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ABSTRACT

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This research project identified a gap in the current body of literature on ADHD in classrooms. Although many strategies were presented, there was a lack of research specifically in the area of art education. For this reason, my study aimed to determine strategies that were being used with success by art teachers. To investigate this topic, surveys were sent to art teachers and a sample of participants was also interviewed. The main finding of this study was that participants seemed to teach from a student-centered perspective; teachers used strategies that made students accountable for their own learning and behaviour. Student-centered teaching and learning involved being flexible with behavioural and curricular expectations, spending time with individual students, and engaging students through community (both in the school and in public). The results of this research had implications for school policies and procedures, as well as for pre-service teacher education. Although IPPs/IEPs are currently the main procedural tool for students with ADHD, teachers seemed to have more success by getting to know them on a more personal level. As well, teachers indicated that students with ADHD were often more successful in art than in their core classes, which suggested that methods being used by art teachers could be adapted for other subjects. According to this study, art teachers seemed to have a higher concentration of coded students than representations in literature; they had also developed subject-specific

strategies for dealing with behavioural and academic issues. This information could be incorporated into pre-service teacher education programs.

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CHAPTER 1: INTRODUCTION

Background:

The purpose of this research is to discover how junior high and high school art teachers (grades 7-12) understand and approach ADHD in their classrooms. The primary aim of this project is to provide myself with a set of strategies that are effective in helping students with ADHD be successful in an art classroom. The findings of this research may then be published in a web or text document to help other new art teachers who have students with ADHD in their classrooms. The goal is essentially to provide ways for students with ADHD to achieve a sense of accomplishment, develop self-expression and personal satisfaction, and meet the required learning outcomes for the art curriculum. To accomplish this objective, my research will identify and attempt to resolve the specific challenges of teaching art to students with ADHD.

Statement of the Problem/ Research Question:

In my research on ADHD, I noticed that the majority of the current literature falls into two main categories. There are: resources directed to either elementary or junior/senior high school teachers (most focused on elementary), and studies on increasing achievement in either math or language arts. As an art teacher, I am interested in strategies that art teachers can use.

In response to this gap in literature, my research question was: *What are effective teacher strategies to help students with ADHD achieve success in an art classroom?* The term "strategies" refers to specific tools or procedures that are used to

achieve a certain goal. For instance, a teacher may use music as a tool to achieve the goal of increased concentration. "ADHD" or Attention Deficit Hyperactivity Disorder (in brief) describes behaviours such as hyperactivity, distractibility, and inattentiveness. "Success" refers to ADHD diagnosed students being able to meet or exceed art curriculum outcomes, reasonably sustain attention on a task, and feel a sense of personal accomplishment.

The focus of this research is to discover and present successful methods for teaching art to students who have ADHD. The current body of existing literature on ADHD is immense, yet strategies for teaching art to students diagnosed with this condition are limited. The purpose of undergoing this research is to provide myself as well as other new art teachers with a resource that addresses this problem. The research methods that will be used (along with the subsequent data analysis) are intended to complement the review of relevant literature by providing explanations based on the experiences of classroom art teachers. These teacher experiences will be examined in detail through the use of surveys and personal interviews.

Discussion of the Question:

I have a personal interest in ADHD research because my partner's son has been diagnosed with ADHD, and I have a strong desire to help him be as successful as possible in all areas of his life. I feel that having a deeper understanding of ADHD can assist me in becoming a more empathetic and supportive caregiver in the life of this individual, which will hopefully contribute to the greater goal of helping him become an

independent and fulfilled adult. Constantly being around an ADHD child has made me more interested in critically evaluating various aspects of the disorder, such as how the diagnosis came about, possible causes, and the basis and long-term consequences of treatment. Many of my initial viewpoints and assumptions about ADHD have been modified as a result of exploring and investigating this condition.

In my experiences as a teacher, I have had the opportunity to teach not only art but other subjects as well. Through these teaching experiences I have observed that resources available for teachers in some subjects outweigh and are far more accessible than others. In particular, when I was teaching junior high science and math, I had access to teacher aides, a separate resource room, and a multitude of online and text-based resources that outlined possible strategies for teaching students with ADHD. As an art teacher, in-school resources as well as books and websites that specifically addressed teaching art to students with ADHD were limited. As I reviewed the existing literature, I noticed that the majority of reliable research studies focused on determining strategies for helping students with ADHD achieve academic success in either math or language arts. As a probable result of this deficiency in studies, the books I reviewed that were designed as guides for teachers provided either general strategies for an elementary classroom, or emphasized possible strategies for improvement in math and language skills. An art classroom has different challenges than these other subjects. The physical space of an art classroom is often more open (students generally do not sit in rows for art) and filled with external stimuli (posters, example projects), both of which could be potentially more distracting than a blank or

more simply decorated room. The art curriculum is also less structured, meaning that students may demonstrate learning in a variety of ways that are evaluated differently than a test or writing assignment.

For art teachers interested in helping students with ADHD be engaged, challenged, and successful, the message conveyed by the lack of specific literature on this topic is discouraging. That art teachers do not require teaching resources in the same capacity as other subject teachers suggests that art is viewed by parents or administrators as less valid or important. School boards and administrators currently expect art teachers to adapt existing strategies to the learning activities of their classrooms, which relies on the assumption that those strategies will be effective regardless of the context. For less experienced art teachers, having a comprehensive body of information would be more efficient than testing multiple possible approaches over time.

Methodology:

A research methodology, or design framework is composed of two main elements: the theoretical choices and the research methods that are used (Hesse-Biber & Leavy, 2011, p. 6). Because a significant portion of my study relies on the responses of others, I decided to create a methodology that was flexible and would allow for revisiting once the data had been collected. This rationale is based on the advice of Hesse-Biber & Leavy (2011): “no matter how much forethought we put into our research design plans, the practice of research gets complicated...unforeseen issues arise...we are not eliciting the data we are interested in” (p. 6). Because my theoretical

position allows for fluidity and modification (Hesse-Biber & Leavy, 2011, p.6-7), I was able to reconfigure the methods of my research project to increase the likelihood of significant and relevant data.

Philosophical/ Theoretical Position:

To answer my research question, I must acknowledge "the influence that a particular philosophical framework (paradigm choice) has on the research process" (Hesse-Biber & Leavy, 2011, p.35). A paradigm is a "basic set of beliefs that guides action" (Guba, 1990, p.17); in this case, the action is an inquiry into determining what strategies teachers use to help students with ADHD achieve success in art classrooms. The theoretical framework that I am using to study this topic is constructivism.

Constructivism is a paradigm that responds to and rejects the basic beliefs of positivism and post-positivism; a constructivist framework has ontological, epistemological, and methodological differences[1]. In a positivist inquiry, the researcher believes that there exists a specific, "true," reality that is "out there" (Guba, 1990, p. 19, Hesse-Biber & Leavy, 2011, p.34), and can be explained. The researcher's personal values, attitudes, feelings, and biases are kept separate from what is being studied in order to prevent the results from being altered (Guba, 1990, p. 19, Hesse-Biber & Leavy, 2011, p. 34). Post-positivism acknowledges that it is impossible for humans to be completely unbiased in their observations, but continues to seek and discover "truth" with as much control for possible biases as possible (Guba, 1990, p. 19, Hesse-Biber &

[1] An ontology is a "philosophical belief system about the nature of social reality- what can be known and how" (Hesse-Biber & Leavy, 2011, p. 4). An epistemology is a belief system about who can be a knower, and a methodology is a theoretical perspective or approach to research (Hesse-Biber & Leavy, 2011, p. 4).

Leavy, 2011, p. 34). In both a positivist and post-positivist framework, a hypothesis is used as a starting point and then tested until evidence either supports or rejects it. This process emphasizes quantitative research methods that rely on precision, control, generalizability, and validity; these methods are usually mathematical and statistical (Guba, 1990, p. 22). In contrast, constructivism is based on the belief that there is no singular reality; rather, there are multiple realities that are socially created and based on interpretations (Guba, 1990, p. 175). In constructivism, there is no barrier between the investigator and the investigated; the researcher's values interact with and become a component of the research (Guba, 1990, p. 26). As well, constructivism results in less linear research methods than a positivist or post-positivist approach. While researchers in both types of inquiry may begin with an initial literature review, for instance, the constructivist framework uses the information gained to further investigate a phenomenon, rather than to create and later test a hypothesis (Hesse-Biber & Leavy, 2011, p. 44). The "findings of an inquiry [are] not a report of what is "out there" but the residue of a process that *literally creates them*" (Guba, 1990, p. 26, emphasis in original).

According to Schwandt (2007), the role of a constructivist researcher is "to explain how human beings interpret or construct some *X* in specific linguistic, social, and historical contexts" (p.39). In my investigation, I am explaining how junior high and high school teachers interpret and understand ADHD in the context of an art classroom. I am constructing knowledge holistically by utilizing multiple realities from a variety of sources, including my own experiences as a teacher, the literature I have read, and the

responses of participants in my investigation; I am not only a researcher but an active participant in the research process. In addition, my research is more focused on constructing meaning from these sources, rather than formulating and testing a hypothesis. Another characteristic of constructivism is that it has an application or transferability criterion, meaning that to some extent "the case study facilitates the drawing of inferences by the reader that may have applicability in his or her own context or situation" (Lincoln & Guba, 1988, p. 20-21). While this study is designed primarily to enhance my own teaching practice, the findings can also be applicable to others in different situations. For instance, the strategies that are used by experienced art teachers in this study could be useful to new or student art teachers in their own diverse school environments. Constructivism also "demands that inquiry be moved out of the laboratory and into natural contexts, where organizational processes create naturally occurring experiments" (Guba, 1990, p. 78). In my research, I am not interested in isolating the teachers from the natural context of the classroom; instead I am acknowledging that this is where teachers naturally experiment with strategies for teaching students who have ADHD. These teacher strategies, combined with the more general existing teacher strategies in the literature and my own teaching experiences will allow me to interpret and construct a response to my research question.

Research Methods:

To answer my research question from a constructivist perspective, I am doing qualitative research through a multi-method approach. The intent of a multi-method design is that both data collection and analysis generate information from two sources.

As a result of these dual sources, findings are "more comprehensive, insightful, and logical" (Greene & Caracelli, 1997, p. 10) than either method would be if it were used exclusively. The multi-method framework for this investigation produced two types of qualitative data. The first type of data was collected through electronic questionnaires sent through email, and the second type was based on personal interviews. For both sets of data, the questions were semi-structured[2] and built upon extrapolations made from existing ADHD research that was intended for other subject areas (such as math, language arts, and music). In both the surveys and interviews, teachers were asked to describe their personal experiences in teaching students with ADHD in varying circumstances, such as when music was played, or when clay-based media was assigned. In my study, neither method was considered secondary; they functioned synergistically to provide a more complete and unified response to the research problem.

Sample: The sample group that was used in this study was primarily composed of classroom teachers who had at least 3 years of experience teaching art, and who had worked with students with ADHD in the context of an art classroom during that time. My sample did include some teachers who had significantly more years of experience as well; in my pilot study the participants cited experience as a major factor in developing effective strategies. Because I wanted this research to be relevant to my own practice as an art teacher, and due to the limited research on ADHD in art classrooms, only art teachers were surveyed. Therefore, the grade levels that were represented by the data

[2] In semi-structured questions, both open and closed questions are asked (Gillham, 2000, p.3), and many questions will have a variety of possible answers.

included junior high (grades 7-9) and high school (grades 10-12); elementary teachers who generally taught art along with other subjects in a homeroom setting were intentionally restricted from this study. However, the teachers who were surveyed and interviewed were encouraged to include information from their elementary teaching experiences if they believed these experiences to be significant or relevant. In addition to teachers who exclusively taught in a junior high or high school setting, I included responses from two university professors who both had extensive experience as classroom art teachers and had worked with students with ADHD.

Rationale for Questionnaire Method: The questionnaire section of this research focused on producing a more substantial amount of data. The purpose of an increased sample size was to produce a more accurate cross section of the population of Canadian art teachers, as well as allow variety in socio economic status, cultural diversity, and learning needs of students. The purpose of disseminating the questionnaires electronically was to quickly and efficiently reach a large target sample group at a relatively low cost (Garnello & Wheaton, 2004, Lefever, Dal, & Mathiasdottir, 2007, Sheehan 2002). There are several other advantages to using an emailed rather than paper-based survey. The most significant of these advantages to this research are reduced time, lowered cost, and flexibility (Garnello & Wheaton, 2004, Lefever et al., 2007, Sheehan, 2002). First, email allowed me to obtain a response faster than by standard mail or hand delivery. "It is much more convenient to send responses through the click of a button rather than through a trip to the post office" (Lefever et al. 2007, p.576). In addition, surveys that are delivered online typically result in responses within

1-2 days if at all (Garnello & Wheaton, 2004, Sheehan, 2002); this was the case in my research. In addition, email allowed for faster communication between the researcher and participants, especially when clarification or elaboration on a question was required. In contrast to a paper-based survey, email questionnaires were also more cost efficient. As this study was not funded by an external source, saving on paper, printing, and postage (Garnello & Wheaton, 2004, Lefever et al., 2007, Sheehan, 2002) as well as travel costs was a major consideration. A computerized survey also provided the respondents with the opportunity to add, delete, and modify material until they were completely satisfied with their answers. The amount of space for each answer was unlimited, and typing was more advantageous than handwritten surveys because the chances of error or misinterpretation were reduced (Lefever et al, 2007, Sheehan, 2002). Email surveys were also flexible to the time limitations of participants; they were able to complete the questionnaire on any computer with internet access.

Rationale for Interview Method: The next component of this study involved one-on-one interviews with art teachers. The teachers were recruited based on the survey responses and relationships I had developed with colleagues. Teachers who were considered for interviews had answered 'yes' on their surveys to being available for a follow-up interview, and had provided answers that warranted further elaboration and probing. Three teachers were interviewed, due to survey response rates being much lower than anticipated. I had worked with one interview participant in the past; the benefit of using a colleague was that some rapport had already been established, which assisted in the process of sharing experiences (Neuman, 2004). The interviews were

conducted personally either on site (in the school) or off site, depending on the location[3] of the teacher. The advantage to an on-site interview was that the teachers were able to refer to specific aspects of the classroom, certain artworks, or other relevant details. An audio recording was collected during and transcribed after the interview.

The purpose of using in-depth interviews was to provide a more detailed and personal component to the questionnaire responses. Like the questionnaires, the personal interviews were semi-structured; however, certain questions were modified or expanded upon based on the answers provided. In contrast to the email surveys, the interview questions were specific to each teacher (though some overlap occurred), jokes and personal anecdotes were encouraged, both the interviewee and interviewer controlled the direction of the interview, and the context of the interview was considered (Neuman, 2004, p.287-288). The respondent had the opportunity to ask for clarification immediately, and some questions were reworded based on the flow of the interview. Personal interaction allowed further probing on answers that seemed particularly salient or interesting, as well as provided opportunities to be more responsive to body language, gestures, pauses, and facial expressions which influenced the tone of the interview (McLaughlin, 1990). While interviews in general do allow for more emergent data and a detailed expression of views and feelings, they carry a greater risk of informant and interviewer bias. There is also a chance that answers given will reflect a desire to be helpful rather than a genuine reflection of experience.

[3] Teachers who were from other cities were interviewed on Skype (a video conferencing program).

Limitations Encountered: While surveys can target a large sample size that is likely to be representative of the population, there are limitations. In general, email surveys have low response rates (Lefever et al. 2007, Granello & Wheaton, 2004) and more potential for technical difficulties (Granello & Wheaton, 2004). Low response rates can be the result of an unclear initial email, a lengthy or time consuming survey (Lefever et al., 2007, p.579), or general concerns about unsolicited emails (Sheehan, 2002, p.59). I attempted to resolve the issue of reduced response rates by informing participants in the initial email how long the survey will take (Granello & Wheaton, 2004, p. 390), emphasizing the relevance and importance of the research (Lefever et al. 2007), and sending a reminder email (Lefever et al. 2007, p.579, Granello & Wheaton, 2004, p. 390) or follow-up phone call. The survey was also concise and contained 21 questions that took participants 20-30 minutes[4] to complete. A shorter questionnaire was intended to be more convenient for the respondents and also decrease the possibility of participants losing concentration (Lefever et al. 2007, p. 579). In this study, participants received their survey and consent form as a Word document attachment. With this type of email survey, the main technical problems were that the formatting would not be maintained in different versions of the program (Granello & Wheaton, 2004, p. 390) and that the sophistication of the survey design (graphics, moving components) may not load properly and therefore diminish the response rate (Granello & Wheaton, 2004, p.390). To reduce the likelihood of these problems, the formatting and design of the survey was simple and clear with no graphics or other elements that

[4] Based on feedback from pilot study respondents.

could be difficult to download. Completion of the survey only required basic computer skills (Lefever et al., 2007, p. 575); if participants were able to use email, it was likely that they would be able to correctly fill out the survey. The email survey that was sent to the participants in the pilot study was opened in two different versions of the program and participants did not report experiencing difficulties in opening or responding to the survey. Despite the precautions that were taken to ensure that the survey was not burdensome for the participants, my response rate was still unexpectedly low (only 2% of the targeted population). The factors that could have contributed to this lack of response, along with how my study was restructured will be discussed subsequently.

Outline of Procedures:

Ethical Considerations: Confidentiality and ethics were a significant consideration of this study. Although it was highly improbable that the questions would be distressing, a release form was necessary for both the survey and the interview participants prior to the gathering of information. The names and contact information of the respondents were kept only for communicative and follow-up purposes; their identities were kept anonymous by using pseudonyms in place of actual names. The respondents were also asked to keep the names and identifying details of specific students anonymous (i.e. “a female grade nine student” was requested to be used rather than the given name of the student). The respondents were informed of the nature of the investigation, what the information would be used for (thesis and publication), and had the option of knowing the results of the research. As well, they

were given the option to withdraw from the study at any point prior to the final (printed and bound) stage of the thesis.

Description of Procedures: In my initial plan for obtaining surveys from a sample of art teachers, I wanted to target the two main school districts in Calgary (which are districts that I have worked for; the Calgary Board of Education and the Calgary Separate School District). After obtaining ethics approval from both my university and each district, I planned to use each district's email database of art teachers to gather a wide sample with a range of opinions. With this plan, the survey would have targeted art teachers at approximately 168 Calgary junior high and high schools (Calgary Board of Education, 2012, Calgary Separate School District, 2012). However, I did encounter some challenges that resulted in a need to restructure this strategy. First, although both school boards were able to approve my study, they required that I obtain permission from each principal before contacting any art teachers. Because I did not have access to a list of principals and their necessary contact information (these are not published online), I had to begin with a list of school names for each district. I then did an internet search on each school to determine whether it was an elementary, junior high, or senior high. Once I had a list of the schools with grade levels I was targeting (168 schools), I phoned each school to get the phone number and if possible, email of the principal. Once I had compiled a list of principals with emails, I sent a personal email to each principal with an explanation of my project, along with the consent form and questionnaire to be forwarded to the art teacher at their school (if both the principal and art teacher were agreeable to this). I sent personal emails because I did not want to

risk lowering my response rate with a mass email. Nevertheless, I only received replies from approximately 6% of the principals, and the majority of these were not promising (some schools did not have art teachers, other schools were already involved in other research projects, and some were protective of their teachers' time). I was unable to determine how many of the remaining principals were actually able to forward my survey to their art teachers, as they did not respond to a follow-up email I sent. Ultimately, I was able to obtain usable surveys from a total of 3 teachers (2%). This low response rate could be attributed to a several factors. First, I began to collect data in May, which is a very busy time of year for all schools. As well, some art teachers may not have received the survey because the principals did not forward the information to them. It is also possible that the principals did not place a great deal of value on the study; one of my participants remarked that despite forwarding the email to her, the principal seemed disinterested and apathetic about it. Finally, the art teachers themselves may have been uninterested or unable to help with the project; this was confirmed when the survey was re-sent on behalf of me from the art curriculum specialists at each board in early October. While I was optimistic that this second set of e-mails would carry more clout, I still did not receive any additional volunteers. To compensate for my response rate (I had initially anticipated a response from 13 participants, or 20% of the informed population) I expanded my study through convenience sampling.

Convenience Sampling: Because of the setbacks I encountered in the first phase of sampling, I included more than one type of sampling procedure. The participants

who responded to my original email survey were part of a stratified purposive sample, meaning that they met particular characteristics[5] that I was intentionally looking for in the population of teachers. To maintain consistency, I ensured that these criteria were met by all subsequent participants are well. My overall sample size was increased slightly through convenience sampling, where the selection of informants is based on who is available, has specialized knowledge, and is willing to participate (Hesse-Biber & Leavy, 2011, p.46). To deal with time constraints efficiently, two forms of convenience sampling (opportunistic and snowball sampling) were employed simultaneously. In opportunistic sampling, the researcher uses participants who were not gathered through a formal selection process; the "sampling follows no logical plan, it just happens" (Hesse-Biber &Leavy, 2011, p. 46). In my project, the two participants that I had used in my pilot were interested in how the research was continuing and offered to re-participate in the larger, revised study. This was beneficial for two main reasons. First, I attained useful information in the pilot so using the same participants allowed me to take advantage of the knowledge and experience that these teachers brought to the smaller study. As well, the teachers had time to reflect on their previous responses and incorporate more recent experiences (one teacher had a new student with ADHD, the other teacher had done research since the pilot). In addition to opportunistic sampling, I used snowball sampling, which is also "used to identify participants when appropriate candidates for a study are difficult to locate" (Dattalo, 2008, p.6). A snowball sample is created when the researcher relies on personal networks to obtain

[5] The participants had to be art teachers with at least three years of teaching experience, and some experience working with Students with ADHD.

participants; in the case of my study, I included colleagues of people in my program and recommendations from professors. Additionally, I had an invitation to participate in the study sent to the new cycle of art education graduate students at my university in early October, as well as to art teachers across Canada who were members of the CSEA (Canadian Society for Education through Art). While I did not obtain additional responses from the email to graduate students, the CSEA network did result in a few participants. Some of these were classroom art teachers, and others were university professors with many years of experience as teachers. Using convenience sampling in my research began as a necessary step to obtain a more appropriate amount of information, but surprisingly, it also resulted in a more varied and meaningful group of responses (in comparison to my original plan of only sampling classroom art teachers in Calgary). According to Agar (1996), "understanding is enhanced when multiple perspectives are considered" (p.172); convenience sampling provided me with these multiple perspectives.

Analysis:

The raw data for this research consisted of two sets of information. For the email survey portion I accumulated a total of 11 usable surveys. For the interview section I had both audio recordings of the three personal interviews as well as transcripts of those recordings. Accumulating this information took approximately 7 months. The combination of these two types of data provided me with a representation of art teacher perspectives in general, as well as meaningful responses. While I

anticipated having a range of opinions, both the survey and interview components complemented rather than contradicted one another.

Once I collected all the data to be used in the research, the process of analyzing the data was broken down into three phases. Each stage will took approximately one week. The first step was to review all the data by reading the questionnaire responses and reviewing the audio tapes of the personal interviews. After obtaining a general overview of the data, I examined the range of responses provided and identified any outliers or nonsensical replies. If any questions were unanswered or unclear, I re-contacted the participants or eliminated the response. During this step I also open coded the data by identifying initial themes that seemed to emerge (Neuman, 2004, p.321). I examined all the responses given for each question, and devise logical categories to place the responses in. These initial categories or ideas were flexible and open to modification in later stages. Axial coding (Neuman, 2004, p.322) occurred in the next stage. When axial coding, I analyzed the initial codes by looking for consistencies, possible sub-groups (i.e. years of teaching experience), and relationships within the codes. I then determined whether certain codes could have been combined to form a more general code, or if sequences or hierarchical relationships occurred (Neuman, 2004, p.323-325). During this stage I also sent the data (surveys and interview transcripts) to another researcher, who also coded the data. This allowed the two sets of codes to be compared for agreement (Armstrong, Gosling, Weinmean & Marteau, 1997). In the final stage, or selective coding (Neuman, 2004) stage, I compared the data I received with existing information on teaching students with ADHD, which aided in

determining whether these strategies were supported, modified, or negated by art teachers. I also compared and contrasted ways that the codes were represented by the data. For instance, when music was used as a code, ways that teachers used music in their classrooms was analyzed. In the last stage I reviewed the process and examined the full scope of the project. I determined the validity and identified possible bias' of the research, as well as decided on conclusions or inferences that could be made. A majority of teachers suggesting similar strategies was a strong indication that those strategies were effective.

Justification:

As my literature review will demonstrate, research on ADHD in the context of an art classroom is sparse. While innovations in technology have allowed ADHD research in general to continually evolve and refine the current understanding of this disorder, resources that specifically address how these students can be successful in an art classroom are lacking. For new art teachers especially, sifting through the monumental amount of information on ADHD does not necessarily contribute to an understanding of what is needed for these students in art; rather the teachers are expected to test a variety of strategies until effective ones are found.

The main benefit of this research is that my practice as an art teacher is strengthened. I now have a single resource that is designed especially for the challenges that exist in an art classroom. The physical space, open curriculum, and involvement with media are factors that are unique and divergent from the math, language, science,

and social studies classes where students spend the majority of their time. In an art room, students are generally seated in table groupings rather than individual desks, and the walls are covered with example projects. Students are exposed to multiple stimuli at once, and negotiating these can be especially challenging for an ADHD student. Since the art curriculum is less structured than the curricula of other subjects, students with ADHD may feel overwhelmed with the multiple possibilities available for each task. As well, working with paint, clay, and found objects requires a different thought process than writing with a pencil and paper. After interviewing art teachers about their experiences in working with students with ADHD, I have obtained specific strategies that were effective for these teachers, and will also be potentially useful for myself and other new art teachers.

Aside from my own personal understanding and growth as a newer art teacher, and providing a resource for emerging art teachers, it is my intent that this research will contribute information to the field of art education. For art educators to have an idea of how students with ADHD can be successful in an art classroom is of importance because in standard group of students, at least one is likely to have ADHD. Some of the findings of this research, while intended for classroom teachers, may also be of value in community and museum or gallery settings as well. Students with ADHD are not exclusive to schools, they are present in community and museum programs as well; the results of this study may give insight to art educators in general. This research could also provide a basis for larger and long-term future studies dealing with ADHD in the field of art education.

CHAPTER 2: LITERATURE REVIEW

Introduction:

Art teachers must constantly deal with the challenges of motivating and inspiring their students to become critical, creative thinkers and problem-solvers. Today, school-based art teachers are asked to teach a single curriculum to a variety of learners. The diversity of these students extends not only to socio-economic and ethnic factors (which are also important components to consider), but also to variety in interests, learning styles, and individual needs. More specifically, a teacher in today's classrooms will have special needs students with codes to identify them as gifted, physically or mentally challenged, learning disordered, or behaviourally disordered (among others). Students with Attention-Deficit Hyperactivity Disorder (ADHD) currently make up at least 3% (National Institute of Mental Health, 2007) and up to 6.3% (Barkley, 1998) of American students, and using comparable diagnostic criteria, these percentages have been found to be approximately equal in Canada, the UK, and Australia (Faroane, Sergeant, Gillberg & Biederman, 2003). For a Canadian art teacher, this means that in a class of 25 students at least one is likely to have ADHD. The current body of knowledge surrounding ADHD is influenced by historical accounts and interpretations of the disorder, proposed controversies and dilemmas, and existing strategies for students who have been identified as having this condition. While there is a gap in literature that specifically addresses how art teachers can help these students become successful in an art classroom, conclusions drawn from existing data in other scenarios may be useful.

Historical Background:

The idea of ADHD is historically extensive, despite the relatively recent introduction of this condition into the diagnostic literature in 1980 (The American Psychiatric Association's Diagnostic and Statistical Manual of Mental Disorders, 3rd edition, [DSM III[6]]). In 493 BC, Hippocrates observed patients with "quickened responses to sensory experience, but also less tenaciousness because the soul moves on quickly to the next impression," (Langwith, 2009, p.140). This description parallels many of the symptoms that are considered by clinicians today when diagnosing children. The DSM IV (1994) is the current diagnostic manual used, and contains various criteria (p.78) for identifying ADHD. The manual categorizes patients into three possible ADHD categories: inattentive type[7], hyperactive type, or combined. It distinguishes children with ADHD as being inattentive or hyperactive to a degree that is far greater than others of the same age, and indicates that some inattentive or hyperactive symptoms should have been present before age seven (p.78). The symptoms must also manifest themselves in at least two situations (such as at home, school, or on the playground) to the extent of impairing or interfering in those situations (p.78). Finally, the symptoms should not also occur in the presence of other mental disorders (i.e. mood or anxiety disorder, personality disorder, schizophrenia) (p.78). The DSM-IV (1994) goes on to list possible features of ADHD as "low frustration tolerance, temper outbursts, bossiness,

[6] The DSM is the primary diagnostic manual in North America, whereas the ICD-10 (International Statistical Classification of Diseases and Related Health Problems, published by the World Health Organization) is used internationally (Mezzich, 2002, p.72).

[7] "ADHD, inattentive type" has replaced the term ADD (Attention Deficit Disorder with or without hyperactivity. ADD was used in the DSM III (1980), but does not appear in the latest edition (DSM IV, 1994).

stubbornness...excessive and frequent insistence that requests be met" (p.81) and notes that traumatic events, family relationships, and exposure to toxins can contribute to symptoms. ADHD as we currently know it has undergone several transformations, and is still a highly debated condition. This suggests that as our understanding and awareness of this disorder increases, the name and symptoms may also continue to evolve.

Before the first edition of the DSM was published in 1952, neurological differences were suspected in children who were considered "immoral" because of socially deviant behaviour (such as dishonesty and mischievousness), (Still, 1902, p.126). Still's work represents the first prediction in historical medical literature that certain behaviours in children were not necessarily due to intellectual deficiencies such as idiocy, imbecility[8], and insanity, or environmental factors, but rather reflected problems originating in the mind (1902, p.126). Although Still does not use the terminology that is associated with ADHD in contemporary literature, he does use anecdotal records to describe and illuminate symptoms that today would mimic those of ADHD. Still recognizes that a range in abilities for self control in children is natural, but notices that even with identical conditions (i.e. within families) "such wide variations in moral control...point[s] to some difference in the innate capacity for development." (1902, p.129). In his sample of 20 children, Still identifies a "marked inability to concentrate and to sustain attention," (1902, p.133) and the tendency to "easily [fly] into a rage"

[8] In the 1900s, idiocy was considered a severe mental defect, whereas imbecility "represented a slightly higher, though still inadequate level of development." (Rafalovich, 2004, p.24).

(1902, p.134); these symptoms are nearly identical to those (as previously stated) in the DSM IV (1994). He also notes that "boys are more frequently affected than girls" (1902, p.130) which is also documented in more recent research (Barkley, 1997, p. 65). From a contemporary perspective, biases that are evident in Still's work include: a small sample size, no consideration of ethnic or socio-economic status of the participants, and no control group. As well, the attribution of physical characteristics such as head shape, head size, and position of elbows and wrists (Still, 1902, p.131) to specific behaviours is not supported by methods other than Still's personal, subjective observation. Despite these flaws, Still's work is significant in creating a basis for the current discourse of ADHD.

Another important phenomenon was the outbreak of encephalitis lethargica (EL) or "sleepy sickness" that occurred mostly in Europe at the end of World War I (Rafalovich, 2004, p. 129). EL was characterized by intense sluggishness, fever, and hallucinations, and was sometimes fatal (Rafalovich, 2004, p. 129). The post-illness symptoms were recognized as abrupt changes in the behavioural patterns of affected children, such as irritability, general hyperactivity, and impaired attention (Rafalovich, 2004, p. 129). For doctors at that time, these post-encephalitic symptoms supported Still's hypothesis that a biological cause could be responsible for undesirable behaviours in children; that these behaviours were the result of illness rather than issues of self-control. In America during the 1950s and 1960s, children were exhibiting similar behavioural symptoms as a result of brain trauma. Simultaneously, children without a history of brain damage who were considered hyperactive and inattentive were also

categorized under the same Minimal Brain Damage[9] (MBD) diagnosis (Barkley, 1990, p.5). The diagnostic terminology then morphed to "hyperkinetic impulse disorder" and "hyperkinetic reaction of childhood," reflecting psychiatric theories that overactivity and distractibility were not neurological, as proposed by clinicians, but environmental (Barkley, 1990, p.6). While the current DSM IV criteria acknowledges that ADHD could conceivably have both environmental and biological roots, researchers from both the psychiatric and medical communities are still attempting to find conclusive evidence that a singular cause exists.

Controversy:

In addition to the debate over etiology (cause of the disorder), the main controversies surrounding ADHD include the validity of the disorder itself, how diagnoses are made, and how it should be treated.

Validity of ADHD: The strongest arguments that ADHD is not actually a medical disorder are that it is merely a natural variant in the huge spectrum of human behaviour, and that there is no medical test involved in diagnosis. Spillane (2009) attests that ADHD is simply a problem of "childhood itself having become an illness," and suggests that hyperactivity and inattentiveness are a result of children craving stimulation. He warns that stimulation is more than simply allowing a child to watch television or play on a computer: "stimulation also means variety, novelty, challenge. In many cases parents are absent,...[children] are not getting enough physical

[9] The word "damage" was later changed to "dysfunction" due to the criticism that "damage" implied being irreversible (Rafalovich, 2004, Barkley, 1990).

exercise...they find school boring, they find teachers boring." This view is consistent with Koester & Farley's 1982 findings that low-arousal students are more successful in open, high stimulation, classrooms rather than traditional classrooms. Supporters of the ADHD diagnosis contend that ADHD meets established criteria for the validation of psychiatric diagnoses, and that a full diagnosis will be objective. Robins & Guze (1970) provide a framework for determining the validity of a diagnosis, and in their criteria state that the disorder must arise from empirical studies, show evidence of family and genetic influences, contain neurobiological qualities, and show a response to treatment. The DSM description of symptoms is based on ADHD research, and studies have provided strong support that a hereditary component could account for cases of ADHD (Biederman, Faraone, Keenan, & Tsuang, 1991, Biederman et al. 1992). ADHD children also show improvements after treatment, which will be discussed in greater detail subsequently.

Diagnosis: The diagnostic process of ADHD is another perceived flaw. As evidenced by the DSM IV criteria, there is no physiological test that consistently finds the same dysfunction in each case of ADHD. Rather, the diagnosis relies on the subjective observations of caregivers such as teachers and parents who report the behaviours to a medical diagnostician. A possible bias with using primarily third-party observation is that "the relationship between the [caregiver]'s beliefs, expectations, and subjective reporting will shape and inform the questions asked, responses given, and of course the child's behaviour in the room" (Timimi and Radcliffe, 2005, p.70). A critique of the argument that an ADHD diagnosis is interpretive is that a correct diagnosis

involves more than only an interview with a parent or teacher. Anastopoulos and Shelton (2001) assert that "no procedure by itself can provide all the assessment data needed to address the complete DSM IV criteria for ADHD...a multimethod assessment approach [should] be used" (p.72). The multimethod approach suggested refers to structured and unstructured interviews given to both adult caregivers and children, rating scales, and checklists, as well as an evaluation of academic, social, and family functioning (p.73-106).

Medication: According to Spillane (2009) using stimulant medication in the treatment of ADHD only makes children more compliant; it is a "quick fix" for parents and teachers who label children as sick when they exhibit upsetting or annoying behaviour. Of greater concern are the possible side effects of these medications; Wiener (2007) discusses the most serious risks including cardiovascular problems, developing or exasperating Tourette's disorder, and suicidal thoughts. In America, ADHD medications such as Ritalin, Adderall, and Concerta display a "black box warning[10]," and in 2005 Health Canada banned the use of Adderall in the country due to 20 cases of sudden death (Barkley, 2005). The ban was reversed in 2006 but the drug required a black box warning (Hamilton & Dorian, 2006). Supporters of medication point out that the risks associated with treatment are minimal compared to the benefits. Hamilton and Dorian (2006) find that the probability of death from ADHD medication is only 0.000012% when assuming rate of 50% under-reporting. The most convincing

[10] A black box warning contains information to the user about potential "serious adverse reactions" (US Department of Health and Human Services, Food and Drug Administration, 2011).

argument in support of stimulant medication to treat ADHD is that medication is effective. In a triple-blind[11], placebo-controlled study of 83 ADHD children, stimulant medication was found to have only mild side effects such as "decreased appetite, insomnia, stomach aches, and headaches" in the majority of the participants (Barkley, Murray, Edelbrock, & Robbins, 1990). In the same study, teachers rated the occurrences of "staring, sadness, and anxiety" as decreased with medicated children, but increased in non-medicated children. In an American National Institute of Mental Health sponsored study, Arnold et al. (1997) used a sample of 576 ADHD children age 7-9 to determine the long-term effectiveness of medication alone, behavioural therapy alone, the combination of medication and behaviour therapy, and community treatment[12] alone. The children were intentionally not screened for co-morbid disorders (such as conduct disorders), and were randomly placed in each group. The treatments took place over 14 months, and a follow-up was done after 24 months. Parents and teachers rated the children on 19 outcomes. The study found that the two most superior groups were those that received medication alone, and medication along with behaviour therapy; the combination group was not rated higher than the medication alone group. The community group was ranked the lowest. This is an indication that when used properly, medication helps control ADHD symptoms, and may help other methods become even more effective.

[11] In a triple-blind study, the participants, observers, and evaluators are all unaware of the hypothesis.
[12] The community treatment group were the control of the study. This group received standard care and treatment by a community doctor selected by the parents, and saw this doctor once or twice a year. In contrast, the medication only group and the medication combined with behaviour therapy group were seen by a prescribing physician once a month; their medication dosage was monitored and adjusted consistently. Arnold et al. (1997).

ADHD in classrooms:

For teachers, art students with ADHD have some of the same goals as they do in the classrooms of other subject areas. All teachers expect students to work productively, sustain attention on a task, and apply knowledge in a variety of ways. As well, students should have positive, appropriate peer interactions. For students with ADHD, the unstructured nature of an art classroom can make these goals even more challenging. Some of the general strategies that are recommended to teachers of students with ADHD are: collaboration between teachers, parents, students, and other professionals (Lensch, 2000, p.104), giving clear, concise directions, setting clear boundaries, using a variety of teaching strategies, and using immediate praise for appropriate behaviour (Kewley, 2011). As well, teachers may make accommodations for students with ADHD such as allowing extra time and breaking assignments into smaller components (Rafalovich, 2004, p.109). According to Rafalovich's (2004) interviews of teachers, "the single most important professional response to ADHD children in [teacher's] classrooms is to take whatever steps are necessary to make them feel a sense of connection to their academic pursuits, consequently making the classroom a less threatening environment" (p.109). These broad ideas could certainly be useful for teachers, but as Rafalovich's participants admit, schools and school districts do not have "specific pedagogical protocols" for teachers to adhere to (2004, p.109).

In my literature search, I was not able to find substantial literature that specifically outlined the ways that students with ADHD can achieve success in an art classroom. This may be attributed to the lack of emphasis placed on the visual arts from

parents and school administrators, or to the assumption that general guidelines will provide all teachers with enough knowledge to use their discretion in each unique circumstance. While it is important for teachers to use their experience and intuition, it could also be valuable to have a collection of reliable strategies available. In Muley's (2011) double-blind pilot study, drawings of non-medicated ADHD boys were compared with drawings of an age matched control group. Both groups were given the same materials and instructed to draw a person picking an apple from a tree. No elaboration on the instructions was given to either group. The drawings were then analyzed using the Formal Elements of Art Therapy Scale (FEATS) by evaluators still blind to the hypothesis. "The differences in the drawings were so visually apparent that the raters intuited there might be two distinct pairs of drawings." (Muley, 2011, p.72). Essentially, the drawings of the ADHD participants showed less use of colour, fewer details, and less control in line quality. For art teachers, this may suggest that students with ADHD should be given projects that can be completed expressively, such as large-scale paintings or drawings. Alternatively, students with ADHD could be given several small projects that could be completed quickly, allowing attention to respond to new materials or subject matter. The use of background music has also been shown to improve academic performance in students with ADHD in math (Hallam & Price, 1998, Abikoff, Courtney, Szeibel, & Koplewicz, 1996). Abikoff et al. (1996, p.248) hypothesize that this is because "on routine tasks that are not especially difficult and do not require new learning, salient stimulation can increase arousal to more normal levels in

youngsters with ADHD[13]." It is conceivable that the use of music in an art classroom might also calm hyperactive students and decrease rule-breaking behaviour (as evidenced by Hallam and Price's study [1998, p.90]). Stalvey & Brasell (2006) found in a pilot study that allowing sixth-grade students to use a stress ball increased concentration and achievement in writing assignments as well as improved task completion. While this study included students with ADHD, it did not require participants to have an ADHD diagnosis. Therefore, the results cannot be generalized to all ADHD children. Nevertheless, the findings suggest that the kinaesthetic aspects of a stress ball are beneficial to sustaining attention, which, for an art teacher could be imitated by clay or textural media.

It is evident that the concept of ADHD has existed long before the contemporary definition came about. While there are opposing views about ADHD itself, the cause, and methods of treatment, art teachers must be prepared to provide these students with situations that foster success. While studies that specifically define the steps that an art teacher must take to help students with ADHD are at best limited, it could be useful to consider ideas that have been effective in other situations.

Existing Strategies

There are a number of general strategies that can be applied by classroom teachers and administrators to help students with ADHD maintain success in school. The majority of resources that have a focus on strategies for classroom teachers

[13] ADHD children were not medicated for the duration of this study.

emphasize that three main factors should be in place prior to beginning specific strategies with the student. First, it is important that the ADHD diagnosis is accurate, thorough, and complete. As well, treatment should be multimodal and specific to the needs of the individual. Finally, the intervention program provided by the teacher and school should also be multimodal. Once these components have been established, varying strategies can be employed by teachers based on the age level or grade of the student(s) in question. The inclusion of strategies suggested for elementary teachers is primarily for comparative purposes, as my research interests are more focused on strategies for junior high and high school teachers.

Diagnosis: For educators to help students be as successful as possible, it is important that diagnoses for all learning needs are appropriate. In a comprehensive evaluation for ADHD, information will be obtained from several sources and interpreted by a qualified professional. The type of professional will not necessarily be the same in every case or situation; it is generally recommended that an evaluation is from someone "who seems to know the most about ADHD" (Barkley, 2005, p.11) and also has "the greatest expertise in being able to differentially diagnose and treat the range and variety of mental health and developmental disorders that may co-exist with ADHD" (Rief, 2005, p. 24). Essentially, the title is less important than the knowledge and experience of the individual; therefore, a diagnosis could be made by a pediatrician, psychologist (including some school psychologists), psychiatrist, social worker, or primary care practitioner. In very rare specific or complex cases, a specialist may be needed (Barkely, 2005, Rief, 2005). Before a school or outside evaluation begins, it is

important that other medical conditions that can have similar symptoms to ADHD are not present. A standard pediatric checkup should be able to rule out conditions such as genetic disorders (for instance Fragile X syndrome), seizure disorders, Autism, and Fetal Alcohol Spectrum Disorder (FASD). As well, many other learning and psychiatric conditions including learning disabilities, very high or low intellectual ability, emotional disturbances, and sensory impairments or medications taken for these could lead to hyperactive or inattentive symptoms (Rief, 2005). Once it has been established that the symptoms are not the result of an underlying medical, learning, or psychiatric condition, the evaluator will gather the information needed to understand the medical, developmental, behavioural, and school history of the student (Rieff, 1998, 2003). In a thorough evaluation, questionnaires with rating scales are then used to obtain feedback from not only parents and teachers (Barkley, 2005, Rief, 2005), but also (if old enough) the student (Anastopoulos and Shelton, 2001, p.72). The content of the rating scale questionnaires may vary slightly, as there are several standardized versions used (Vanderbilt Assessment Scale, Child Behaviour Checklist, The Snap Scale), however the questionnaires ultimately allow the evaluator to compare "activity level, distractibility, independent work habits, ability to interact and get along with others [and] self control" (Reif, 2005, p. 25). The questionnaire is followed up with a direct observation or observational records, an additional routine physical exam, and academic or intelligence testing before a final diagnosis is made (Barkely, 2005, Rief, 2005). After deciding upon the most appropriate diagnosis (where the student fits within ADHD subtypes), the

professional will formulate possible treatment recommendations to be discussed with the parent, school, and student (Barkley, 2005).

Treatment: Students who have been diagnosed with ADHD should be provided with a treatment program that addresses their specific medical, behavioural, and psychological needs. For the majority of ADHD children or teens this means that treatment is plural; involving medical/ pharmacological intervention, behaviour management strategies, and various types of counseling or social skills training. Despite the results of the NIMH (National Institute of Mental Health, 1997) sponsored study[14], medication alone, while generally effective, assists only in managing (rather than curing) ADHD symptoms. Amongst students who respond well to medication, about half are still not entirely successful in their behaviour, school performance, and peer relationships (Barkley, 2005, p. 142). Non-medical approaches can also be helpful in the evenings, when medication wears off, and to help manage issues that are not a result of the student's ADHD, such as learning disorders or family conflicts (Barkley, 2005, p. 142). Because different interventions operate most effectively during various circumstances, a combination of multiple interventions is likely to be more useful than a single approach.

Medical/ pharmacological treatments usually involve stimulant medications. More recent research has supported the NIMH findings that when these medications are well-monitored and in proper dosages, they can be highly effective for improving the functioning of students with ADHD (Adesman, 2003). According to Mental Health: A

[14] Medication alone and medication as part of a combined therapy program were found to be most effective in managing ADHD symptoms, see page 28.

Report of the Surgeon General, "stimulants are highly effective for 75 to 90 percent of children with ADHD" (2003). Stimulant medications can be an important factor in increasing school achievement for students with ADHD. While they are not immediately responsible for increasing knowledge or skills in a particular subject (i.e. medication one day will not help a student learn multiplication tables by next day), they can be extremely beneficial for students by improving "attention span, concentration, resistance to distraction, and thoughtful, reflective behaviour" (Barkley, 2005, p. 275). By reducing inattentive or disruptive behaviours, students with ADHD are provided with an increased opportunity to retain the knowledge and skills that are being taught in school. If the definition of school achievement is expanded to encompass not only the academic, but also peer relationships, following rules and directions, and completing assignments on time (and accurately), "the evidence is overwhelming that the stimulant medications produce significant improvements" (Barkley, 2005, p. 275). It is conceivable that improving non-academic areas of school functioning could also increase self esteem by reducing the amount of punishment a student may experience from teachers and reducing rejection from peers.[15] If an ADHD student is on medication, the teacher should be aware of possible long and short term side effects, the schedule of doses, and foods or beverages that should not be consumed with the medication (Barkley, 2005, p. 271). The teacher and school should also periodically be

[15] Children with ADHD are likely to be rejected by their classmates (Zumpfe & Landau, 2002) or "named by many as those with whom they [the classmates] would not like to play" (Sheridan, 1995, p.30). Medications have been found to improve the quality of social interactions in Students with ADHD (Barkley, 2005, p.270).

in contact with the parents about how the student is responding to the medication in the classroom (and playground if they are young) (Barkley, 2005, p. 271).

Behaviour management strategies are often used along with medication as part of a treatment package, but can also be used alone (Hinshaw, 2000). Behavioural interventions require both parents and teachers to contribute to the overall treatment plan by deciding on "clear, consistent structure, follow-through, and effective use of rewards and consequences" (Rief, 2005, p. 30). An example of consistent structure that is maintained both at school and at home is a rating scale or system (behaviour report card) that is completed by the teacher, discussed with the student, and then taken home to the parent (Barkley, 2005, p.253-257). Positive reinforcement techniques such as material rewards or privileges that are attained through a token system can be used to encourage positive, appropriate behaviours and reduce undesirable behaviour. A critique of reward systems is that they reduce the intrinsic motivation to master an activity by conditioning a dependence upon the reward; when the reward is stopped, typically the behaviour stops as well. Students with ADHD are an exception to this because they have less intrinsic motivation than their classmates to begin with, especially in circumstances that require starting, persisting with, and completing a task; students with ADHD also have greater difficulty in inhibiting urges to behave inappropriately (Barkley, 2005, p. 147). For these reasons, rewards and consequences for students with ADHD can more effectively develop and maintain positive behaviours when they are "larger, more significant, and sometimes more material" (Barkley, 2005, p. 147).

Counselling and social skills training can also be used as a component of a multi-modal treatment plan. The primary motivations for including various forms of counselling in a treatment program are that both the student and the parent are able to learn how they can cope with and manage the issues related to ADHD. Types of counselling can include the individual alone, the parent alone and the family as a whole; these interventions may be used independently or together, depending on the specific case. In individual counseling, the student learns coping techniques for dealing with their own anger and stress, as well as problem-solving and self-monitoring skills (Rief, 2003). In parent counseling, parents or caregivers learn how to structure the home environment by learning new strategies for managing their child's behaviours. Parents are also provided with "accurate and reliable information about ADHD in order to understand the impact and developmental course of the disorder, the treatment options, and available resources" (Rief, 2003, p. 30). Family counseling is important because it provides an opportunity for not only the parent and ADHD child, but also siblings and other family members to address issues and find ways to improve relationships (Rief, 2003, p.30). In social skills intervention programs, groups of students who are all diagnosed with ADHD learn the specific skills that students with ADHD tend to have difficulties with. These skills are usually taught through discussions and role-playing, and are then practiced in a setting where the skills may be required (Rief, 2005, p.31, National Institute of Mental Health [NIMH], 2008). In social skills training, issues such as waiting for a turn, reading non-verbal cues (body language, facial expressions), and resolving conflicts peacefully are addressed (Rief, 2005, p. 31, NIMH, 2008).

A treatment plan for students who have ADHD is most effective when it is multimodal; medical, behavioural, and psychological needs must all be met through treatment. While some students may respond well to medication alone, it is important that other areas of functioning that are not affected by medication (such as relationships and organizational skills) are also targeted by a treatment program.

Intervention: Like a treatment plan, an intervention program will ideally include multiple components that all function together. While there are many areas where interventions will overlap with treatments, interventions are more concerned with the specific success of the student at school (academically, behaviourally, and socially), rather than the global (overall) improvements that a multimodal treatment plan seeks to achieve. An intervention program does not include medication, but does include a defined group of people who work together in helping a student with ADHD. In a strong intervention program, the three main groups of people involved will be the parents, an ADHD specialist (the person who completes the diagnosis), and the school.

The role of the parents in helping an ADHD diagnosed child at school is to seek out as much information as possible about the school and the teachers. Interestingly, whether a school is private or public, the socioeconomic status of the school, and the area of the school all have a relatively minimal impact on the overall, long-term academic and social adjustment of the student (Barkley and Pfiffner, 2005, p. 227). The single most vital factor in success at school is a positive teacher-student relationship: "adults who had been diagnosed with ADHD as children have reported that a teacher's caring attitude, extra attention, and guidance were turning points in helping them

overcome their childhood problems" (Barkley and Pfiffner, 2005, p. 227). Parents can speak with principals and teachers about their awareness and training about ADHD, inquire about class sizes (12-15 is ideal), determine if the school can accommodate a medication schedule, find out about disciplinary policies, and ensure that communication between home and school is encouraged. If the student has an IEP (Individualized Education Plan) or IPP (Individual Program Plan), parents should be on the IEP/IPP "team" along with a regular teacher, special education teacher and ADHD specialist (Calgary Board of Education, 2012).

Regardless of whether the ADHD specialist works within the school or outside the school, it is important that they are involved in the IPP/IEP team. The role of the specialist who evaluates and diagnoses the student is to act as a liaison between the school and the parents. The specialist takes into consideration information provided by both the school and the parents, then makes recommendations about what is needed to help the student succeed in school (Barkley, 2005, p. 122).This person, along with the school, will provide parents with literature or resources outlining the evaluation process, rights of the parent and child, a timetable for procedures and goals, and information on the appeal process.[16] As well, it is important that the specialist works with the school to make sure that parents understand the findings and are informed enough to choose the best course of action.

[16] Parents have the right to appeal information or strategies in an IPP, and can refuse to sign an IPP (Calgary Board of Education, 2012).

Not unexpectedly, the school's role in the intervention process is of paramount significance. According to Alberta Learning (2012), all students who have been assigned a code[17] are required to have an IPP. The IPP is a document that is designed to help a student achieve specific, measurable, and attainable goals; once a student is diagnosed with ADHD, the school should set up the IPP team and in collaboration with the members, create an IPP for the student. The goals of the IPP are designed to help the student achieve their fullest academic and social/ behavioural potential. Academically, IPP goals will outline the accommodations, interventions, and modifications that may be necessary to help the student be successful at school. Accommodations are adaptations to the regular curriculum to make it possible for the child to be successful; they help the student participate and be included in class instruction and help accomplish a goal without changing the overall task (Alberta Learning, 2012). For instance, a student with accommodations might take the same test as their peers, but be given extra time. Interventions are changes to the existing curriculum or learning outcomes so the student can learn the skills they need to be at grade level (Alberta Learning, 2012). An intervention can mean adding more instruction in a smaller group setting so that a student is able to take the same test as their peers (the overall task is the same, but more scaffolding is needed). In modifications, the assignment is altered so that the overall task is changed; the teacher makes changes to the curriculum or outcomes so expectations for the student are different (Alberta Learning, 2012). In an inclusive classroom, the student will still participate in the same "unit" as their peers, but may be

[17] Codes signify differences from the general student population. Codes can be academic (i.e. gifted), medical (i.e. Tourette Syndrome), and behavioural/ social (i.e. ADHD).

given a two page test with simplified questions rather than a more rigorous four page test. For some students with ADHD, particularly those who also have learning difficulties, the IPP may recommend a special education program (Rief, 2005, p.31, Barkley, 2005, p.237, NIMH, 2012). This can involve an aid coming into the classroom either for all classes a student takes, or only for specific subjects. Special education could also mean that the student leaves to a different room in the school for some or most of their classes. In addition to academic goals, the IPP for a student with ADHD may include goals to improve interactions in the classroom with either the teacher or other students. These goals may target specific behaviours during school (for example "Karen will share communal class supplies four out of five times by October 18") or recommend programs outside of school such as social skills training and physical activities. According to Shapiro (2002), activities such as martial arts can help increase focus, concentration, self-control, and self restraint. In students with ADHD, exercise can be useful because it allows excess energy to be expended, while increasing chemicals in the brain that are responsible for learning and memory (Putnam, 2002).

Intervention plans for students with ADHD should be multifaceted to be most effective. While the school is significant in creating a plan to target academic and social goals for the student, the parent and ADHD specialist must be involved as well. Together with the student, the intervention team works to provide the most opportunities for success.

Strategies for Elementary School Teachers: Most children who have ADHD are not diagnosed until or after grade one because it is difficult to distinguish behaviours

that fall beyond the range of "normal" active child behaviour (Reif, 2005, p. 63). Especially in early elementary school, it can also be difficult to determine whether the symptoms are a result of ADHD or another developmental disorder (Reif, 2005, p. 63). In pre-school and early elementary school, it is also possible that the challenging behaviours are simply the result of the child adjusting to the structure and expectations of a new environment; symptoms may diminish as the year progresses (Rief, 1998, p. 208). Regardless of these issues, there are students who seem more difficult to manage because they seem more immature both academically and socially. In a collection of interviews with nineteen "expert" elementary teachers, Rief (2005, p.66-73) established that there were commonalities in how teachers created opportunities for success. First, the teachers created a "safe" classroom environment or community, allowing uniqueness (culturally, physically, in families) to be celebrated and respected. The teachers were flexible and kind, and were generous with praise and positive attention (hugs, smiles). The classroom climate extended to being structured and consistent with behavioural and academic expectations. The teachers established predictable procedures and routines, provided students with choice and allowed them to make their own discoveries; as well, they used individualized behaviour management approaches. Academically, the teachers took into account the diverse learning needs and styles of students, labeled the environment in pictures rather than text (this also helped establish independence), incorporated multisensory activities and materials (food, puppets), and created a literacy-rich environment (rhymes, stories, songs, writing). As well, the teachers established and encouraged parent contact and involvement. There were also

a few specific strategies to increase engagement and build on positive behaviour. For example, the teachers made everyday activities more physical ("show with your fingers how many bears in the story", "clap your hands when I say [specific word]") and gave small material rewards (stickers) each time a student completed a positive behaviour, such as staying in line (Rief, 2005, p. 73).

Strategies for Junior High and High School Teachers: In addition to the challenges that all students have during adolescence, such as dealing with several teachers instead of one, peer pressure, physical changes, and a demanding workload, students with ADHD have weaknesses that become more impairing in higher grades (Rief, 2005, p.75). In general, older students with ADHD have trouble with self regulation and executive functioning. Self regulation involves an individual directing themselves at an action that results in a change in behaviour (from what they might otherwise have done) in order to either prevent a future consequence or attain a future goal (Barkley, 2012, p.2). For example, during the writing of my thesis I check my email periodically to make sure that I am up-to-date with my supervisor. In my inbox, I also see an advertisement for Christian Louboutin shoes, which I know will distract me from writing this chapter. To deal with this temptation, I close my email and visualize myself completing my thesis in the near future. Negotiating this situation requires "distinct yet interacting mental abilities" (Barkley, 2012, p. 2). I am aware of the dilemma (self awareness), I have restrained my urge to browse the Louboutin website (inhibition), I have redirected my attention (attentional management), and I have visualized my goal (nonverbal working memory); this process of self regulation through sustained problem

solving is deficient in students with ADHD (Barkley, 2012, p. 3). Executive functioning is very similar to self-regulation; it is "those neuropsychological processes needed to sustain problem solving toward a goal" (Barkley, 2012, p. 2). Essentially, executive functions are the specific components needed for self regulation. For instance, self awareness, inhibition, attentional management, and nonverbal working memory are all executive functions that are necessary to complete a goal (resist temptation). People who have ADHD are less mature than others of the same age group in their ability to self regulate (Barkley, 2012, p. 7). This means that they have problems with organizational and study skills (planning, memory, note-taking), are more sensitive to multiple teachers (various behavioural expectations, different work procedures), and have more difficulty than others when instruction is presented in a way that is not conducive to their learning style (for instance lectures rather than hands-on activities) (Rief, 2005, p.75-76). Students with ADHD may also struggle with teachers who have little training in ADHD and are less empathetic and willing to accommodate their needs (Rief, 2005, p. 76). In school, they need help to compensate for their difficulties in self regulating through environmental modifications and accommodations that will encourage the individual's own self-control.

In junior high and high school, issues relating to organization and study skills can be addressed by both teachers and parents (along with the student). Teachers can ensure that the classroom as a whole is organized; shelves and bins should be clearly labeled and specific areas should be identified for complete and unfinished work (Rief, 2005, p. 209). As well, students should be provided with regular times to clean out their

desks or lockers, and an adult or peer can help those who have difficulty managing excess paper/ items on their own (Rief, 2005, p. 209). Teachers can also provide hand-outs that are already three-hole punched, keep spare supplies available (these should be less desirable or loaned with a point/ token system), provide rewards for increased organizational skills, provide exemplars of well-organized spaces or projects, and give the student a second set of books to be kept at home (Rief, 2005, p. 211). Parents along with students can help by maintaining consistency at home: they can provide a designated space for homework, use routines in the morning and evening, provide and replenish school supplies, colour code materials by subject or day of the week, and schedule times to organize (Rief, 2005, p. 212). It is also important that for students with ADHD, homework is not sent home: "it is an unreasonable expectation that parents will be able to get their child to produce at home what you were not able to get them to produce all day at school" (Rief, 2005, p. 220). Instead of homework, teachers should provide the necessary supports to allow homework to be completed at school (Rief, 2005, p. 212, Barkley, 2005, p. 243).

To help students who have difficulties adjusting to multiple teachers throughout the day, it may be necessary to note on the IPP that consistency between teachers is needed. One important area that is particularly helpful for students with ADHD is seating arrangement. According to Barkley, (2005, p. 235) "a traditional desk arrangement in rows facing the front of the classroom is far better for children with ADHD than modular arrangements where several or more children share a larger table, especially if they face each other while working." While beneficial for some students,

this type of arrangement is over stimulating for a student with ADHD, and the social interaction is more distracting than beneficial (Barkley, 2005, p. 235). In classes where desks are not in rows, the student with ADHD should initially be seated as closely as possible to the teacher (to more easily allow monitoring), then rewarded with alternate seating arrangements. It can also be helpful for the teachers of an ADHD student to maintain a (reasonably) quiet classroom, as "noisy environments are associated with less attention to work and higher levels of disruptive behaviour in children with ADHD" (Barkley, 2005, p. 236). Additionally, several teachers can maintain consistency with the same or similar reward systems for students who have ADHD. For reward programs to be effective, the incentive must be sufficiently important to the student and be monitored and changed frequently; this prevents boredom and loss of power (of the reward) throughout the school year (Barkley, 2005, p. 243). While it would be challenging for all teachers to accommodate all learning styles for each lesson, it can be helpful for teachers to briefly intersperse less "academic" material as a break from direct instruction and repetition of skills. This could involve a few moments of physical exercise to "reduce the sense of fatigue and monotony that children with ADHD may experience during extended academic work periods " (Barkley, 2005, p. 237), or using music to either energize or calm a class (Rief, 2005, p. 189).

Strategies for teaching students with ADHD in junior high and high school have some similarities with the strategies that elementary teachers may use. For instance, consistency and routine are important regardless of the age/ grade level of the student.

As well, in both cases it is important that teachers are willing to provide the support that students with ADHD need to be academically and behaviourally successful.

Summary:

This chapter provided a historical and contemporary context for the behaviours and characteristics that are associated with ADHD. Although current research has expanded upon historical views, the validity of ADHD as a condition, the diagnostic process, and the potential treatments are still debated. Although I was not able to find reliable studies on ADHD strategies for art classrooms, some research indicated that music, large or expressive work, and tactile media could be useful for these learners. Because the primary difficulties for older students with ADHD are the result of immature executive functioning and self-regulation, teacher strategies should focus on improving organization, study skills, and adjustments to various classes through multimodal treatments and interventions. The overarching needs of teens with ADHD are collaboration (between all adults and the student), appropriate accommodations, and a sense of purpose and community within the classroom or school. The next chapter will discuss the research methods that were used in this study.

CHAPTER 3: METHODS

Introduction:

As discussed in a previous chapter (see Chapter 1: Introduction, p.1), this research project employed a mixed method design to assess teacher strategies for helping students with ADHD achieve success in art classrooms. Here, the overall research design will be briefly reviewed, and followed by a summary of the pilot study. This chapter will also describe, in greater detail, the raw data that was collected and how it was analyzed.

Overview:

This study was approached through a constructivist lens, meaning that I was not interested in one certain or "true" reality, but rather the multiple realities or perspectives offered by participants, literature, and my own experiences. There was no hierarchy between the participants and me (as a researcher); participant viewpoints contributed to a greater and more meaningful understanding of the topic. To resolve the research question, (what are effective strategies to help students with ADHD achieve success in an art classroom?) the two methods that were used were e-mail questionnaires and in-depth interviews. E-mail questionnaires were used primarily to elicit a larger group of participants quickly and conveniently, and interviews were chosen because of their capability to draw out relevant information while attending to body language and emotion. The mixed method approach considers the combination of methods to be more useful for gathering data than either method alone. One

significant challenge that was encountered in this research was being inadequately prepared for various factors beyond my control. For instance, the school boards did not provide me with a list of principal names and contact information (their permission was needed as per ethics), and even when the surveys were disseminated, teacher workload commitments and apathy led to considerably lower response rates than initially anticipated. As a result, the study was expanded (through convenience and snowball sampling) to include art teachers from all over Canada who had experience teaching junior high and/ or high school.

Pilot Test

Purpose: Carrying out a pilot, or small-scale study was a necessary phase in my research process. The pilot test provided me with an opportunity to examine the feasibility of the approach I planned to use in the larger study, and was a "requisite initial step in...identifying modifications" (Leon, Davis & Kraemer, 2011, p. 626). The objectives of the pilot study were to ensure that technical problems (such as wording on survey questions or sound on audio recordings) as well as unforeseen issues (for instance amount of time needed for completion) could be sufficiently resolved prior to launching the larger investigation. The pilot was also designed to allow feedback from participants; suggestions were taken into consideration when constructing the main study.

Summary of Pilot: In my pilot study I sought to investigate the same topic as my thesis study: strategies used by classroom art teachers to help students with ADHD

achieve success in the art classroom. In particular I was interested in determining whether certain conditions (such as music) or specific types of projects (such as large-scale or clay work) would have a perceived effect on helping students with ADHD stay focused and complete tasks. I was also interested in determining what specific strategies could be used for inattentive students and hyperactive/ impulsive students. At the time of the pilot study, I had an idea of what the larger thesis project would entail; to scale this process down, my pilot study involved sending an e-mail questionnaire to two classroom art teachers, then interviewing both teachers. In the pilot, the teachers utilized were comparable to the teachers who would be targeted in the larger study. They had several years of experience working in an art classroom, they taught students aged 13-18 (grades 7-12), and they had worked with students with ADHD in some capacity in the context of an art classroom. The steps needed to undergo the pilot study research involved: recruiting participants, constructing an e-mail questionnaire based on relevant information from the literature, analyzing the survey results, developing interview questions, interviewing and simultaneously audio recording participants, transcribing interviews, coding the transcriptions, and formulating conclusions. Before beginning my study and interacting with the participants I also submitted an SPF (Summary Protocol Form) to ensure that the project was ethically sound. This approval form is included in Appendix B, p.131.

Brief Account of Process: Recruiting participants for the pilot was fairly unproblematic; I verbally explained the purpose and goals of the study to two peers who I had developed relationships with through my graduate studies program. Since I

knew the participants, it was likely for them to agree to participate; however, I was aware that the larger scale version of this study would not necessarily have the same level of response from the targeted population. For the process of creating the e-mail questionnaire, I aimed to obtain as much information about the participants and their experiences as possible, without making the task of completing the survey onerous. In the pilot, the e-mail questionnaire was brief and contained eleven questions. The questions were semi-structured, and both closed (i.e. "do you use music in your classroom?") and open (i.e. "if you use computers, iPods, or other electronic devices in your classroom, how have students with ADHD responded to these?) questions were used. The questionnaire ended with a section asking participants for their feedback about the type of questions asked, the clarity of the questions, and any comments or suggests that may have be relevant. The majority of the questions were designed to determine whether some of the strategies found to be effective in the literature I reviewed were in fact consistent with the experiences of classroom art teachers. The three main extrapolations that resulted from the literature review were that music could be effective in helping students with ADHD sustain attention, working with tactile media (such as clay) could also assist in focus, and that expressive, large-scale projects could decrease hyperactivity. After receiving the completed surveys from the participants, I was able to determine which questions were most useful in answering my research question, and which questions could be eliminated or modified. The results of the questionnaire suggested that I could have asked more questions, more specific questions, and more questions relating to personal opinion rather than observation.

The completed surveys were utilized in the development of interview questions to investigate in further depth the teacher experiences and strategies for helping students with ADHD achieve success in the art classroom. The interviews were designed to probe the participants to elaborate on or clarify the survey responses, as well as give them an opportunity to share more information about the topic. Since I knew the participants before interviewing them, a rapport had already been established and in general, the teachers seemed comfortable and relaxed. The two main challenges involved in the interview process were technical difficulties and my own lack of experience in interviewing. The participants were initially interviewed almost immediately after one another, which did not allow time for reviewing the audio recordings. After both interviews had been completed, I discovered that the sound on both recordings was too low to decipher, so the interviews had to be repeated. On the second round of interviews, two audio recording devices were used simultaneously, which was significantly more effective and therefore what I ultimately used in the main study. During the transcribing phase of the research, I was able to listen to the interviews several times; this gave me a stronger foundation for analysis than if I had used an independent transcriber. A noteworthy observation was that the interviews were not as organic and conversational as I had intended. Due likely to my own lack of experience, as well as anxiety about time constraints I did not ask the participants to elaborate on many questions and instead focused on the prepared questions. Following the pilot, I did some additional research on how to conduct a good interview in order to decrease the possibility of future interviews being so contrived. The reliability of the transcribed

interviews was verified through member checks (transcriptions were emailed to participants). Both participants confirmed that the transcriptions were accurate and did not make changes. To code the data, I examined all the responses given for each question, and devised logical categories to place the responses in. The information was then analyzed by looking for consistencies, possible sub-groups, and relationships or inferences that could be determined. With the questionnaires and interview transcriptions, I was able to assign codes (for strategies) that were prevalent across the data. The pilot study codes were: experience, preferential seating, breaking tasks into smaller portions, asking questions to engage, and providing frequent breaks. The high frequency of similar responses by both teachers provided a strong indication that those strategies were effective for those teachers.

Implications of Pilot Study Results: The results of this pilot study had three main implications for the thesis research study. First, the pilot confirmed that in the larger version of this project, teachers with substantial experience in an art classroom should ideally be used (both teachers referred to experience as a factor in helping them determine strategies for students with ADHD). While these teachers had over 10 years of experience each, my thesis study targeted art teachers with at least 3 years of teaching experience in order to generate a usable amount of data and not eliminate potential participants. The larger study also required that the teachers have experience working with ADHD diagnosed students in an art classroom. The pilot study also illuminated technical problems and potentially prevented these from reoccurring in the main study; as a precaution, I created two versions of the e-mail survey and used two

devices for audio recording the interviews. Finally, the feedback component of the pilot gave me an idea of the time needed for teachers to complete the surveys, and allowed me to estimate the time needed for a longer, more in-depth interview.

Survey Instrument Construction and Design:

Review of Survey Rationale: Prior the actual completion of the survey that would eventually be emailed to junior high and high school art teachers, it was important to consider the appropriateness of my topic to survey research and the relevance of the topic to potential respondents. According to Babbie & Benaquisto, 2010, survey research is typically used when "a population [is] too large to observe directly" (p.248) and for the purpose of examining general attitudes and opinions (p.249). As a single researcher, the population of art teachers would have been too immense to study directly; and more importantly, I was interested in determining what specific strategies teachers found to be effective in their teaching experience as a whole (rather than in a specific, observed time frame). For this reason, it was necessary to use self-administered (self-report) surveys, where respondents complete the questions themselves[18] (Babbie & Benaquisto, 2010, p. 261). As well, I chose to use a static survey, meaning that the questions were the same for all participants and were not modified on the basis of the teacher responses (Alreck & Settle, 2004, p. 184). In addition to surveys in general being practical for large-scale data collection (because of their low cost and time commitment), I was attracted to email surveys because of their

[18] Self-administered surveys can be contrasted with interview and telephone surveys, which require a greater time commitment and can be less convenient (Babbie & Benaquisto, 2010, p. 261).

potential to reach a wider audience than paper surveys, further reduce time for data collection (faster response speed), increased response flexibility (participants had the option to print and mail the survey), and minimize misinterpretation of answers (Sheehan, 2002, p.57). An added benefit of using email surveys was that data entry and coding was relatively straightforward (Granello & Wheaton, 2004, p.387) in comparison to paper surveys, which would have required an extra step to be transferred to a computer.

Review of Participants: Surveys that explore complex issues (such as ADHD in art classrooms) are recommended "only when the survey population is composed of specialists with a common background and a natural interest in the topic" (Jaeger, 1997, p.459); "the trick is to choose participants who can contribute to an evolving theory, participants whose main credential is experiential relevance" (Rudestam, 2007, p.107). In my study, the specialists were junior high and high school art teachers, with a common background in teaching some students with ADHD in an art context. I was interested in obtaining data primarily from people who (in addition to being competent to answer) had some interest in the topic, who could reflect upon it, and who actually cared about the issue; as a result, I decided to make my survey completely voluntary by not offering incentives[19] to participate. Out of the surveys that I did receive back, the answers were highly relevant, meaningful, and useful to my research.

[19] Participants who completed the survey were later mailed a small thank you card and coffee gift card, but they were not informed of this beforehand (so their responses were not contingent upon the reward).

Survey Construction:

In the construction of the survey, there were three general elements that I needed to take into account: format, questions, and logistics. The *format* refers to the general considerations for the survey as a whole, the *questions* section deals with specific issues relating to survey questions, and *logistics* describes how the completed survey was used.

Format: After deciding on email surveys as a method, the format for the survey had various options for design and question grouping. I kept the design of the survey as simple as possible, "with easy-to read fonts and a consistent layout throughout" (Granello & Wheaton, 2004, p. 82). I used a standard sans serif font (Calibri on Microsoft Word) that would appear the same on both Macs and PCs, and placed the questions within a table (grid) to prevent unexpected formatting changes or misalignments that can sometimes occur when typing responses under an already bulleted question. As an extra precaution, I also practiced filling in the answer fields with "fake" data and sent it to myself through various email accounts to ensure that any potential errors could be detected early (Granello & Whaton, 2004, p. 392). Additionally, the final survey did not contain any graphics or other complex designs that may have slowed down the downloading time and therefore resulted in lower completion rates (Sheehan, 2002, p 59). In my experience as a teacher, I received many email surveys that were not optional; these were often long and time-consuming. While I wanted as much data as possible, I also wanted to ensure that I was respectful of my

participant's time and busy schedules. For this reason, as well as to increase response rates, the length of my questionnaire was kept to a minimum (Lefever et al., 2007, p. 582). In the final version, the survey was two pages long with 21 questions (with responses, some surveys increased to three or four pages).

According to Babbie & Benaquisto, 2010, questionnaires "should contain clear instructions and introductory comments [as] appropriate" (p. 259). In my survey, the grouping began with a brief introductory paragraph that explained the purpose of the study and defined terms that could be considered ambiguous (i.e. "success"). This was followed by the directions, which included the option to print and handwrite the answers. At the end of the survey, I thanked the participants for responding and included directions for returning the survey (sending by email as an attachment or by ground mail with printed responses). To further increase the overall ease of navigation in the survey, I organized the questions in categories (rather than randomly) and added a short statement of introduction for each section. For instance, questions 10-15 specifically dealt with organization and classroom management. The purpose of this structure was to make the survey less chaotic; it allowed the participants to make sense of what was expected and "be in the proper frame of mind for answering the questions" (Babbie & Benaquisto, 2010, p.260). I also ensured that the order of the questions were logical and that beginning questions were non-threatening(Babbie & Benaquisto, 2010, p. 259). The survey began with very straightforward questions about experience and grades taught, then moved through general and specific ADHD symptoms, and closed with final thoughts on the topic. A printed version of the survey is in Appendix A, p. 127.

Questions: In designing the specific questions that were asked on the survey, I considered clarity, question forms, and relevance to current literature. Like the format of the overall survey, it was important that the questions asked of my participants were understandable and free from superfluous information. According to Babbie & Benaquisto, 2010, "the respondent should be able to read an item quickly, understand its intent, and...provide an answer without difficulty" (p.252); while I encouraged participants to be thoughtful and reflective in their answers, I recognized their time constraints and wanted to make the process as simple as possible. I assumed that the teachers would both read through the questions quickly as well as provide answers quickly, so my aim was to have "items that [would] not be misinterpreted under those circumstances" (Babbie & Benaquisto, 2010, p. 252). Therefore, in some questions that could be considered more ambiguous and open to interpretation, I placed relevant key terms in parentheses (as opposed to full sentences) to give participants an idea of the nature of answers I was looking for. For example, in question seven I asked teachers if students seemed to have a preference for specific types of media. Because the word "media" can have various implications related to both technology and materials, I included "i.e. clay, paint, charcoal" in parentheses so that clarification could be obtained promptly if needed. Although, as a researcher, I recognize that all questions will have some degree of bias, I aimed to reduce bias in my survey by staying away from leading questions (i.e. "isn't it true that...," or "don't you agree with"; Babbie and Benaquisto, 2010, p. 253). Contingency questions[20] were generally avoided as well, with the

[20] In a contingency question, the participant's answer depends upon the response to a previous question

exception of question five; it asked if teachers had ever used music, and if so, asked them to describe how it influenced students with ADHD. In the initial survey instructions, it was requested that participants put "NA (Not Applicable)" for a questions such as this. Ultimately, all the teachers in my sample had used music in their art classrooms in some capacity (as I had suspected), but in the initial survey I wanted to refrain from making assumptions.

There are various question forms that can be used in survey research. In general, researchers tend to use statements, closed- ended questions, or open-ended questions alone or in combination. In a questionnaire that employs statements, "the researcher is interested in determining the extent to which respondents hold a particular attitude or perspective" (Babbie & Benaquisto, 2010, p. 250). The researcher summarizes an attitude and gives participants a range of options to choose from[21]; conclusions are then formed from patterns of information. For my study, I decided against using statements because I felt they would be ineffective in answering my research question. I was not confident that I could find a multitude of strategies for art classrooms (in the existing literature) that teachers could then respond to; more importantly, this type of questionnaire would not allow new ideas from the participants to emerge. Forced choice or closed questions (where respondents select an answer

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(Babbie & Benaquisto, 2010, p. 256). Contingency questions can be simple or complex; an example of a simple contingency question is the one I used in my survey about music. If participants did not use music, they had the option to put down "NA" and move on to the next question. In complex contingency questions, the participant has more than one pair of questions negotiate- that is, they may answer or skip many questions.

[21] A Likert scale is frequently used in statement questionnaires. Likert scales give participants five options to choose from in their responses: strongly agree, agree, disagree, and strongly disagree (Babbie & Benaquisto, 2010, p. 150, p. 250).

from a list; Babbie & Benaquisto, 2010, p. 250) were not used for the same reasons. For this research, I used open-ended, semi-structured questions, meaning that I left space after the question for the participant to provide his or her own answer (Babbie & Benaquisto, 2010, p. 250) and the questions could have a variety of possible answers (Gillham, 2000, p.3). Open-ended, semi-structured questions were beneficial not only because they allowed participants to share relevant information that may not have been present in the literature, but also because they allowed participant ideas to be communicated more authentically and honestly than other types of questions.

Because my literature search did not yield strategies that were specifically designed for art teachers, I was interested in determining whether the strategies used by art teachers were the same as those used in other classes, or whether new, more subject-specific ideas were being used. In my survey, I wanted to acknowledge both general strategies that were presented to teachers in current literature, as well as studies that may have implications for the art classroom. Because teacher resources (Rief, 2005, Barkley, 2005) suggested providing breaks to students with ADHD, I asked art teachers to describe how they, specifically, organize breaks (see question 17, appendix A, p.128) in their classrooms. As well, I adapted Stalvery & Brasell's 2006 study on the usefulness of a stress ball for students with ADHD to kinesthetic activities by asking teachers if students with ADHD seem to respond well to materials like clay (which mimic the kinesthetic nature of a stress ball). Similarly, I asked teachers if using music was useful (Hallom & Price, 1998, Abikoff et al. 1996), if incorporating technology had an impact on attention (Klorer, 2009), and if students with ADHD responded

differently to more detailed or more expressive projects (Munley, 2011). The literature I reviewed implied that these tools could be successful in art classrooms, but they were not actually studied in an art context specifically. My questions were based on extrapolations made from existing ADHD research that was intended for other subject areas (such as math, language arts, and music). I also wanted to give teachers the opportunity to put down comments or ideas that I may not have considered; the last set of questions in the survey asked teachers for their final thoughts and gave them the option to add information that may not have been covered by previous questions.

Logistics: The survey was pre-tested with the two teachers in the pilot study prior to being distributed to the larger group of art teachers. In the pilot, participants were initially asked to simply answer the questions, rather than look for specific errors (Babbie & Benaquisto, 2010, p. 260). At the end of the pilot survey, participants were asked to provide feedback on the survey questions and design. This information was considered in the construction of the larger survey. The complete survey and consent form were initially distributed to principals at Calgary junior high and high schools as attachments through email. The body of the email provided information to both principals and teachers about the nature of the study and requirements for participation (art teachers with 3 years or more of experience and experience with students with ADHD). Both the email and the survey attachment contained instructions for return. Returns were monitored for one month, and a follow-up email was sent after two months. Due to low response rates (from both principals and participants) the study was expanded; a similar email was sent to members of the CSEA (Canadian Society for

Education through Arts) through their database of teachers, and this resulted in a few more responses. I ultimately received 11 complete surveys.

Interview Method Construction and Design:

Review of Interview Rationale: The second portion of my research was to conduct one-on-one interviews with a sample of teachers who filled out the survey. I chose to interview teachers who had already filled out the survey for two reasons. First, the answers to survey questions provided me with a general overview of their ideas and strategies; the interview would allow these to be discussed in greater depth. Second, it was faster and more efficient to use teachers who had already expressed an interest in being interviewed than to recruit new teachers. The purpose of the interviews was to expand and enhance the information provided in the surveys, as well as to add new information that may not have been present if the surveys were used alone.

Interview type: In my study, I used open in-depth (or ethnographic) interviewing as a secondary method (to accompany the surveys) in gathering data. Interviews were added to enhance and fill in potential gaps in the email surveys. Because the survey questions were the same for all participants, it was important for me to also discover what teachers felt were important and relevant in their own practices. The interviews provided further insight into what participants thought and how they felt (Bouma, Ling & Wilkinson, 2009, p. 201) by allowing me to observe gestures, body language, and tone of voice. To help participants "open up" and feel more at ease, the interviews began with personal questions that allowed me to build

rapport. I asked participants about their own art practice, and the type of students that they taught. According to Bouma et al. (2009, p. 202), places that are safe and comfortable are of paramount importance when conducting interviews; the use of Skype is a modality for digital interaction provided some sense of comfort and familiarity because participants had a degree of control in the setting of the interview. The majority of interview questions focused on eliciting teacher perspectives though anecdotal examples. These narratives were encouraged through questions that prompted introspective reflection (i.e. "how does it feel to...?" "can you tell me about...?"). Participant interviews were meaningful in this research because they provided new information and illuminated teacher experiences.

Participants: Due to time constraints, I interviewed three of the eleven teachers who returned the survey. There were eight teachers who answered "yes" when asked about being contacted for an interview, however two of them had already been interviewed for the pilot study and two were unavailable during my timeframe. Because I expanded my survey to include teachers from all over Canada, I was not able to conduct personal interviews with all of them. To closely replicate an in-person interview, two of the teachers were interviewed on Skype (an online digital-conferencing program). According to Bertrand & Bourdeau (2010), skype interviews can be recorded and analyzed using the same protocol as traditional interviews (p. 70). Participants have the option to "quit session" and body movements can be analyzed; Skype interviews are advantageous because they are often cheaper and faster than in-

person interviews in cases where people are separated by distance (Bertrand & Bordeau,. 2010, p. 70).

Interview Construction and Design: My interview process was based on the Kvale's (1996, p. 88) outline of interview steps: thematizing, designing, interviewing, transcribing, and verifying (analyzing and reporting will be discussed subsequently). In the initial thematizing stage, I decided what the purpose of the interview was, and what concepts I wanted to explore in greater depth. I wanted to use the interviews as an opportunity to determine what issues participants viewed as significant for students with ADHD in art classrooms as well as gain a better understanding of the subtleties art teachers may have in implementing particular strategies. Since the teachers I chose to interview had much more experience than me, I was also interested in knowing what knowledge and insight they had for new or student art teachers. In designing the interview, I focused on employing a standard qualitative interview structure, where the interviewer has "a general plan of inquiry but not a rigid set of questions that must be asked in particular words and in a particular order" (Babbie & Benaquisto, 2010, p. 342). I created questions that were a response to the survey answers that the participants had provided me with (for instance, I asked a teacher who allowed I-pods if missing instructions was ever an issue). In the interviewing stage, I sent a summary of the questions I would be asking to each participant the day before the interview[22]. I informed participants that the questions were very flexible, and that they would have

[22] This was also done in the pilot study, and (based on participant feedback) was useful in preparing for the interview.

some freedom in directing the conversation (Babbie &Benaquisto, 2010, p. 342). In the actual interviews, I began by reviewing the ethics form that participants had signed when they completed the surveys. I gave them the option to stop the interview at any time, withdraw from the study, or skip questions without any negative consequences, and verified that an audio recording would be acceptable. To establish rapport and gain trust (Fontana & Frey, 2000, p. 655), I told participants about my interest in the topic and asked them about their art-making practice. I then conducted the interview, allowing the participants to do most of the talking but guiding the conversation in the general direction of my prepared questions. If needed, I interpreted answers and asked follow-up questions that were relevant to the topic (Babbie & Benaquisto, 2010, p. 343). During all the interviews, audio recordings were inconspicuously taken using my personal computer as well as my android phone as empirical tools (files were password protected). Upon completion of the interviews, I created a transcribed (text version) of the audio recordings, and sent the transcriptions to the participants for member checks (verifying the information). The participants had the option to add, delete, or modify their interview answers.

The interview process was useful to my study not only because it allowed the exploration of topics and issues in greater depth (Babbie & Benaquisto, 2010, p. 341), but also because new information and ideas emerged (for instance, teachers discussed how students with ADHD were often highly successful in art). The participants were able to provide deeper insights into the strategies they used, and discuss issues in a way that was personal and meaningful to them.

Data Coding and Analysis:

Inquiry Strategy: For my study, I used a grounded theory approach to analyze the data. "Pure[23]" grounded theory, as discussed by Glaser and Strauss (1967) challenges the existing paradigm of quantitative research to validate social research; they describe grounded theory as " how the discovery of theory from data- systemically obtained and analyzed in social research- can be furthered" (p. 1). However, as Charmaz (2000) points out, Glaser and Strauss' conception of grounded theory was still heavily permeated with positivist traditions such as "objectivity and truth...through precise, standardized instruments and parsimonious quantifiable variables" (p.511). Because I am incorporating my own viewpoints into an evolving theory (to answer the research question), and because my participants and their social contexts assist in the formulation of this theory, my data coding and analysis is based on Charmaz's constructivist grounded theory. Constructivist grounded theory "assumes the relativism of multiple social realities, recognizes the mutual creation of knowledge by the viewer and the viewed, and aims toward interpretive understanding of subjects' meanings" (Charmaz, 2000, p. 510). A constructivist approach to grounded theory allows interactions between the researcher, participants, and data to assist in the formation of theory.

Raw Data: The raw data for this study consisted of two sets of information. Charmaz (2000) suggests that "raw data from different sources provides the grist for making precise comparisons, fleshing out ideas, analyzing properties of categories, and

[23] If early theories are considered standard.

seeing patterns" (p. 517); I found this to be true in my research. For the email survey portion I accumulated 11 usable surveys, which were received digitally and then printed for analysis. For the interview section I had both audio recordings and a transcription of the interview; the later was also printed. These two sets of data were studied individually, then as a whole with the intent to have both a broad sample and meaningful responses.

Organization of Survey Codes: To code the surveys, I began by reading through paper copies of the original participant responses. For the first two readings, I only read over the answers to get an overview of participant viewpoints. At this point, I noticed that two teachers had responded to the survey but did not have the pre-requisite three years of experience that I was initially searching for and also did not provide useful responses (for instance, answers were very short, not thoughtful, and in some cases irrelevant). For these reasons, I eliminated those surveys from the study. After reading through the responses, I noticed a few preliminary themes beginning to emerge and wrote these down in a notebook specifically designated for coding (a codebook). These initial ideas were open codes (Neuman, 2004, p. 321); ideas were intuitively built based on researched beliefs and participant views (Charmaz, 2000, p. 515). To aid in coding, I returned to the digital version of the surveys and exported the answers into a chart in Microsoft Word. This new file contained all of the raw data, but was organized by question in a matrix (i.e. the question was listed as a heading, and all answers provided by participants for that question were listed in a column underneath). I printed the new document and placed the pages in a three ring binder. Using my codebook, along with

coloured markers and highlighters, I continued to open code by examining responses for each question and deciding on possible themes or categories that could be established. I then began to examine my codes in more detail (axial coding) by looking for ways that themes could be combined or further broken down, or if I could establish relationships between the codes. Some codes were based on specific words, groups of words, or phrases that occurred often in the participant responses (based on tallies of recurring words). For instance "individual preference" or some variation of that term was used by many teachers as part of a strategy for retaining attention and motivation. Other codes required a more involved and detailed analysis of what participants wrote. An example of this is the code "involved" which was used to denote not only teachers who expressed an interest in finding ways to help students with ADHD stay focused on tasks, but also to help them be a part of the classroom community. This code was kept active, but through various stages of comparison was later modified (Charmaz, 2000, p. 515) to "student centered" to represent the view of those teachers.

Interview Coding: I used a similar process to code the interviews; however, because I transcribed my own interviews I did have some initial (open) codes prior to actually reading the transcripts. Coding data as it is collected is a facet of constructivist grounded theory; it "allows [researchers] to define and categorize data" (Charmaz, 2000, p. 515). I recorded these initial ideas in my codebook, but kept them flexible and open to modification. After printing the interview transcriptions, I continued to open code by writing down and highlighting possible themes, and moved on to axial coding by creating a chart with interview quotes that could belong to each category. Once I was

fairly comfortable with the codes I had established for both the surveys and the interviews, I sent a portion of the data (only the surveys due to time limitations) to another researcher[24] who also coded the data. Establishing consistency between my own codes and those developed by another rater is a step in coding that measures reliability, or agreement between codes (Armstrong, Gosling, Weinmean & Marteau, 1997).

Analyzing the Data as a Whole: The final step of my coding process was selective coding or focused coding (Neuman, 2004, Charmaz, 2000), where I continued to revisit the data, but also consulted existing literature on ADHD strategies. I compared information from both the surveys and interview transcripts, which resulted in newer, more precise theories and ideas. According to Charmaz (2000), comparison is an integral component of coding in constructivist grounded theory; comparisons can involve the same ideas from different people (for instance, different teachers using music as a strategy), the same individual at different times (in the survey or in the interview), and categories with other categories (p.515). During this comparative process, I found it useful to print new pages of both the surveys and interviews, cut out the responses, and physically organize them on the floor beneath headings. This physical layout assisted in further "engaging" in the data (Charmaz, 2000) to determine hierarchical relationships and patterns that were used to later formulate more concrete theories. During focused coding, "theoretical categories [were] developed from analysis of the collected data...these categories [explained] the data" (Charmaz, 2000, p. 511);

[24] For inter-rater reliability, I used a professional friend with a background in psychology.

the responses of my participants led to the construction of strategies (developed from codes) that were specifically used in the context of an art classroom.

Summary:

This chapter reviewed the steps in my research process, including the project design, pilot study, and data analysis. My research used a mixed-methods approach by surveying and interviewing junior high and high school art teachers about their experiences in working with ADHD diagnosed students. To analyze my data, I used a constructivist grounded theory approach and coded the surveys and interview transcripts individually as well as together. The results of this research project will be discussed in the next chapter.

CHAPTER 4: RESULTS

Introduction:

This investigation used email surveys and in-depth interviews to determine what strategies were being used by art teachers to help ADHD diagnosed students achieve success. Based on the information gained from a literature review of ADHD both generally and in classrooms, it was evident that the majority of existing strategies focused on increasing achievement in either math or language arts. Other strategies were designed primarily for an elementary classroom. While this study did not begin with a hypothesis, the literature review contributed to an evolving theory of what possible strategies in an art classroom could be. For instance, research on the effectiveness of stress balls suggested that clay would be helpful (Stalvey & Brasell, 2006), studies that linked music with focus (Abikoff et al., 1996, Hallam & Price, 1998) alluded to the possible use of music in art classrooms, and the expressive nature of drawings in students with ADHD (Munley, 2001) indicated that large-scale or less detailed projects could be effective as strategies in producing success. This study was also interested in other strategies that art teachers were potentially using, but were not discussed in the current literature. The combination of email surveys and in-depth interviews aimed to extract this information from a sample of Canadian junior high and high school art teachers. This chapter will present the results of the data and explain the findings.

Researcher Assumptions:

Before presenting the results of this research, it is important to consider how my perceptions and beliefs (as a researcher) shaped my approach to understanding and analyzing the data. As a classroom art teacher, the growing diversity of students that exists in each class is based on the assumption that an inclusive philosophy of education is preferred. As a proponent of inclusive education, my research assumes that students with ADHD are able to achieve their fullest capabilities within this inclusive setting, as well as within the parameters of standard institutional policies and structures (i.e. IPPs/IEPs) that are currently in place. This study also assumes that the participants responded to the questions honestly and that their answers align with their typical behaviour in the classroom. According to Alder and Clark (2008), information that is personally supplied by the participants may differ from observational data (of others). In this study, a possible explanation for this phenomenon may have been a desire to be helpful and provide what is perceived to be a "correct" answer (or a more idealized answer) than to describe what actually occurs. Therefore, it is important that the results of this study are viewed within the context of a constructivist perspective.

Participant Demographics:

For the survey component of my research, I had 11 junior high (grades 7-9) and high school (grades 10-12) teacher participants. Over half of the participants taught both junior high and high school, one taught junior high only, and two taught high school only. There was also one participant who taught some upper elementary along with junior high, and two participants who taught post-secondary (university) classes in

addition to high school. Of the total group, three were male and eight were female. My participant sample represents a slightly exaggerated gender disproportion; although the field of teaching has been traditionally female dominated, seven female participants (around 66%) would have more accurately represented the overall population of teachers (Ferrao, 2010, p.21). Nevertheless, no significant differences in male and female responses were detected in this study. While the initial recruitment email sought art teachers who had three or more years of classroom experience, all the teachers who responded had at least five years of experience and the majority (8 teachers) had spent over ten years in the field. The most experienced participant had spent 37 years as a classroom teacher. The average amount of teaching experience in my sample was seventeen years; this high level of teaching experience was beneficial to my research. In my sample, all but one teacher had been teaching students with ADHD in some capacity throughout their career. There was one teacher who was not certain that she had taught students with ADHD in the past, because her school did not use codes to identify these learners until this year. When asked to estimate the fraction of students with ADHD in a typical class, none of the answers were an exact match with the estimates in current literature (3-6.3%, National Institute of Mental Health, 2007, Barkley, 1998). Two of the teachers suggested that the percentages of students with ADHD in their classrooms were less than 3%, describing the ADHD population as “a small minority” and “very few, one per semester.” One teacher was unsure, again, because codes had not been used until recently. The remaining teachers were split: four provided answers that were higher than the literature, and the other four provided a

range that was much greater than the literature. In the group with high estimates, the percentages ranged from 10% to 18%. In the group that gave a large range, one teacher had fairly low estimates (1-5%), while the other estimates, when averaged, were higher (3%-13%). The range in answers encountered for this particular question may be a result of the varied programming and demographic characteristics of individual schools, school boards/districts, as well as cities and provinces. While all the schools represented by this sample were public, it is also possible that the amount of funding received by each school could have had an impact on the amount of students with ADHD present. For instance, schools with greater funding may have more opportunities for support staff and other resources, so students with ADHD are less concentrated in the class of one specific teacher. On average, however, the sample of teachers in my survey estimated that 8.7% of their students had ADHD. This is higher than the literature and means that in a class of 25 students, at least two would have ADHD. There are a few potential explanations for why the majority of my participants seemed to have more Students with ADHD than the estimates in current literature. First, the sample size in this study was relatively small, so the participants may not actually be a representation of the majority of teachers. It is also conceivable that teachers who tended to have more students with ADHD in their classrooms were more likely to respond to a survey about ADHD. In addition, although less likely, it could be possible that the literature I consulted for this study is inaccurate our outdated; similarly, teacher estimates could be inaccurate. In my experiences as a classroom teacher, I found that just one student who seemed “difficult” to manage could make the behaviour of other

students seem amplified, even if the behaviour would not affect me in other circumstances. For the teachers in this study, factors such as large class sizes or multiple coded students in the same class could have led to the perception of more students with ADHD, and therefore, higher estimates. Another plausible explanation is that the teacher estimates are accurate, because art classrooms are more likely to contain a more diverse group of students (including students with ADHD) in general, than other classrooms. For instance, in a typical core ("academic") subject class, coded students may be placed in a separate classroom to work with a specialist or educational assistant (EA); students with ADHD may not be present in these classes to the extent that they are in art (or other option) classes because of their academic or behavioural needs. At this juncture I was unable to find literature to confirm or negate this explanation; it appears that no reliable comparative studies have been done on the concentration of students with ADHD in art (or option classes) in contrast with general classes. However, participants in this study did refer to (and in some cases emphasize) the notion of an art classroom as a "melting pot"; composed of many types of learners who can all enjoy and benefit from learning about and making art.

In this study, the resolution to my research question (strategies used by art teachers to help students with ADHD succeed) was made up of two broad components. First, the teachers were able to provide specific strategies that aligned with and expanded upon those in existing literature; as well, they were able to provide new ideas that were not evident in the literature. Another unanticipated, but significant finding of

this research was that the teachers were able to illuminate some general ways of approaching art education that would be relevant for a new or emerging teacher.

General Strategies for Students with ADHD in Art Classrooms:

Music: The use of calming background music has been shown to be beneficial in improving the behaviour and academic performance of students with ADHD in math (Abikoff, Courtney, Szeibel, & Koplewicz, 1996, Hallam & Price, 1998); music in general can be helpful for teachers because in addition to calming a class, it can motivate, signal, and aid in transitions[25] (Rief, 2005). Because I did not find any specific literature on the relationship between music and students with ADHD in art classrooms, I was interested in determining if art teachers also found music to be effective, and if so, the ways in which these teachers were using music in their classrooms. In my sample, there was unanimous agreement that music was useful, but some divergence in the musical systems that were preferred. In my sample of 11 participants, 3 teachers indicated a strong preference for communal systems (i.e. stereos), and 2 teachers favoured private systems (such as iPods). The remaining teachers either used both communal and private music systems together or generally agreed that music was helpful. The teachers pointed out various benefits and drawbacks to both types of music systems. Communal music was preferred for many of the same reasons that were stated in the literature (Rief, 2005, p. 431-436): the participants mentioned the potential of communal music to lower the activity level of a class by calming and focusing students,

[25] In schools, transitions are times where students are moving from one activity to another. Transitions can occur in the context of the school as a whole (as students move from one classroom to another) or more specifically within a single class (switching from the instruction portion of a lesson to a brainstorming session).

or to energize and motivate students with more upbeat songs. There were also some advantages that were not mentioned in the literature, but that the participants felt were particularly relevant for students with ADHD. First, the teachers emphasized the community aspect of a shared music system. According to one participant, music can "bring a group together" and encourage students to be more receptive of the interests and ideas of their peers. For students with ADHD with social difficulties,[26] music can provide a way for everyone to participate and be involved. The teachers also discussed the advantages of allowing students to choose the type of music being played. For one teacher, allowing students to "DJ" a class (choose music) provided a way to boost self esteem because students were always successful and gained strong interactions with peers: "they're like, 'hey that song's cool! Who's that?' and they want to do a good job because they get a lot of positive feedback." Similarly, another teacher found that communal music brought up conversations related to the other interests of the students; student-directed music gave the teacher an opportunity to get to know his students better. Another advantage of communal music for students with ADHD in particular is that it can positively redirect excess energy: "ADHD kids can actively participate by moving to music and [lip-syncing]." For some teachers, however, the weaknesses of communal music systems lead to a preference for individual devices. One teacher who relied on both types of systems in the classroom stated that some students with ADHD find communal music to be "just another disturbance, something else they have to block out to concentrate." Another teacher found that communal

[26] According to Rief (2005), students with ADHD are the most rejected amongst their classmates (p.56).

music had little positive impact on students with ADHD because the overall student volume would increase to compete with the music. Another concern was that students tended to have more disagreements about the type of music being played, and would lose focus on curricular activities. I was not able to find literature that specifically dealt with private listening devices and students with ADHD; however, according to the participants in this study, these devices can also have merit in art classrooms. The primary advantage of a private music system was that it created a sound barrier that functioned in multiple ways. According to participants in this study, private earphones reduced distractions for students with ADHD by blocking out class noise and inhibiting socializing. Private devices allowed students to "tune out" distraction, and one teacher observed that fewer ADHD symptoms were exhibited in students who listened to earphones. One drawback to personal listening devices was that students became so engaged in their own music and work that they missed instructions from the teacher. As some teachers pointed out, a simple solution to this issue would be to have a mutually agreed upon cue for removing headphones and an expectation of authentic communication for everyone (i.e. eye contact, appropriate body language, engaging in conversation). It is also important to consider that personal listening devices can isolate students, which can be a concern for students with ADHD who struggle socially. It is important for teachers to decide why a student may or may not benefit from being separated from his/her environment (Rief, 2005, p. 434). Overall, the sample of teachers in this study consistently stated that they used music in some capacity in their classrooms. They agreed that music added to productivity, increased focus, and

encouraged students to direct their energy to assignments. The participants also agreed that music functioned best when students were well into a project and didn't require additional explanation. Because there were advantages and disadvantages to each type of musical system, this research ultimately revealed that the personal preferences of individual teachers and students, as well as the dynamics of classrooms must be attended to when selecting the genre of music and choosing the type of musical system. It is important for teachers to use their discretion and consider the variety of factors that may be impacting the mood and behaviour of students. For instance, a group of students who have art class immediately following physical education will likely be more responsive to calming music, whereas students who arrive directly from a math class may need more motivational music. The participants in this study also emphasized flexibility and choice for individuals; if a particular student can work well with a private device, that opportunity should be made available to them, even if others work better with a communal system.

Success with or Preference to Size: In Munley's (2011) comparative study on drawings of students with ADHD and a control group, the drawings of individuals with ADHD were found to be markedly different from peers of the same age. The drawings of the ADHD diagnosed children contained less use of colour; colour was "more often used to simply define an item or shape rather than to colour-fill it" (Munley, 2011, p.74). As well, the drawings in the ADHD group contained fewer details, showed less control in line quality, and were completed in less than 10 minutes (participants in the control group took up to 25 minutes). These findings suggested that students with ADHD may

be more successful with either larger projects that are more expressive and can be completed quickly, or smaller, more detailed work that can also be finished quickly. Of the sample of 11 teachers who participated in this study, the majority (8 teachers) did not observe a preference for or greater success with a particular size or scale in projects. Two teachers stated that their students with ADHD benefited from smaller scale works, and one teacher found larger scale projects to be more appropriate. The teachers who found smaller projects to be effective stated that scaling the size down allowed students with ADHD to actually finish the project relatively well. The teacher who was partial to larger works explained that an increased size was more physical in nature, and promoted working with the hands with less emphasis on concentrating on details. One teacher mentioned that there was a general resistance in her students for working large (over 18" x 24"), and another teacher found that students were sometimes distracted with larger projects. The main finding on this topic was that other factors, (specifically, time and the individual preferences of students) were more significant than the size of a particular project. According to the teachers in this study, students with ADHD need to feel like they can complete the project; students with ADHD tend to shy away if they can't see the end result. A specific strategy used by one teacher was "a visual timeline showing what will be accomplished today, what [students] will learn from it, and how it will add to the big picture." Another teacher noticed that "with students with ADHD the amount of time required to do the work is more of a concern and doesn't always coincide with its size." Recognizing the individual preferences of students and being attentive to these varied needs was a strategy commonly used amongst this group of

teachers. One participant noted that the "intrinsic value of the assignment [seemed] to be the most important criteria...if they can get started and involved, the rest follows quite naturally." Several participants expressed that students were more likely to have success when given opportunities for choice. According to a high school art teacher, "each of my student's projects is catered to the individual preference of the student, via the design process. Scale is a consideration that goes into every design." This teacher essentially found a way to use curricular content (the design process) to make differentiated instruction the norm. The results of this study did not fully support the hypothesis that students with ADHD would prefer either larger or smaller work; teachers believed that time and personal preference were more significant.

Success with or Preference for Specific Media: In Stalvey and Brasell's (2006) study, using a stress ball was found to increase concentration and attention in sixth-grade students with management challenges (including students with ADHD). I was interested in determining if the tactile/kinesthetic qualities of a stress ball could be transferred to more specific contexts, such as certain types of media in an art classroom (i.e. clay, charcoal, paint). A small majority of participants in this study (7 teachers or 63%) did notice that students with ADHD had success with or preferred specific mediums. Out of this group, 6 teachers mentioned clay specifically as a tool for students with ADHD. One teacher noted that "the mere physicality of working with clay and the involvement of senses appeals to them....[there is] less demand to produce right away;" working with clay was also observed to be a "more play-like activity" that [gave] students the opportunity to "just [enjoy] the physical sensations of getting

messy." Other teachers discussed the attributes of clay as a "hands-on" material that many students with ADHD were drawn to. Additional types of media that teachers found useful included: general materials used in sculpture, assemblage, jewellery, photography, and video. As well, one participant "noticed that media and techniques that [reduced] the level of fine detail required [tended] to be preferred-eg. Stencil/ Pop art style painting and computer generated imagery [was] preferred to pencil drawings, or art requiring careful measurement." These findings seem to correspond to Munley's (2011) study, where the drawings of students with ADHD were less detailed, had less line control, and were completed quickly; the aforementioned mediums do not require great deals of precision from students in order for them to be successful. With the exception of jewellery and some types of sculpture, the mediums suggested by participants in this study do not require long periods of sustained attention; students can complete smaller components relatively quickly and move on to a newer task. The four teachers who did not notice overt media preferences for students with ADHD observed, again, that the individual interests of students were a greater indicator of media preference than their ADHD code. One teacher observed that "different students [were] attracted to different media forms and...focused attention based on these preferences." Similarly, another participant found that "some students didn't want to get dirty, some loved it...the student's reaction to the medium depended on how he/ she was socialized to it." These findings demonstrate that some students with ADHD may have a preference for specific media forms, particularly materials that do not require a high level of detail or a large time commitment. Over half of the teachers

specifically addressed the tactile characteristics of clay, and found clay, along with other sculptural mediums, to be especially beneficial for students with ADHD. Because some teachers did not observe a preference in students with ADHD for certain types of media, further studies on this issue (with larger sample sizes) are needed.

Physical Positions in the Art Classroom: In my teaching experiences, I noticed that art classrooms are often able to provide more flexibility to students who prefer to work in different physical positions. For instance, students can draw on the floor or stand at an easel, rather than be confined to their desks while working. Although students can work in various positions in almost any classroom, the art studio seemed, to me, to be more inviting and accommodating of these various preferences. I was interested in determining whether the participants in this study had noticed that certain physical positions were helpful for students with ADHD. Although there was no strong agreement on a specific type of physical position, six teachers did feel that there were characteristics of certain positions that appealed to students with ADHD. For instance, some teachers observed that their Students with ADHD worked well with easels, but the ability to stand and move more freely (rather than the easel itself) was of greater importance. As one participant stated, "they like the easel because they can stand and move around and feel less confined. I also encourage them to circulate about the room." Other teachers agreed that standing (either at an easel or over a desk) was helpful. The remaining teachers responded that they either hadn't noticed a preference for students with ADHD, or that positions were dependent upon the individual. The two most significant ideas that emerged from both groups of teachers were the need for

space and the need for choice. The participants noticed that their students with ADHD worked effectively when they were not limited to a specific area. One teacher commented that "the more space they have, the fewer direct physical distractions they have, [and] the more they get into the activity." Others mentioned that working in more open spaces, such as on the floor or in the hallway gives students more physical space, but also a sense of ownership (having their "own" space). Providing students with choice and allowing them to make their own decisions was also stressed by the participants. One teacher found that "having the option to change positions in the studio [was] helpful" and another ensured that the individual preferences of all students could be met by making all options acceptable: some students would work "independently, some in groups, some on walls and floors, [and] some on a table." According to the participants in this study, there were no specific physical positions that students with ADHD were drawn to. However, the teachers noticed that students with ADHD functioned well when given space, especially in standing positions, and when provided with opportunities to choose how they wished to work.

Incorporating Technology:

According to Barkley (2005), students with ADHD can benefit from using computers as a modality for retaining curricular information. In a general classroom, computers can be useful because they provide immediate feedback; "it is a rare child with ADHD who doesn't like computer games" (Barkley, 2005, p. 241). In this study, I extended the term "computers" to "technology," and therefore encompass a range of electronic devices, such as iPods; I asked teachers whether they used these in their art

classrooms, and how students with ADHD have responded to them. Nearly all of the teachers stated that they did use technology to at least some extent in their classrooms. One teacher had not used electronic devices (with the exception of a stereo that was used for music in a previous question). There were three teachers who found that although they used various technologies, the results for students with ADHD in particular were unclear. One participant responded: "all students love technology, [but I] haven't noticed a direct correlation with ADHD." Another teacher stated that while technology can work well for some, by focusing attention on a task, it can also be difficult for others who are sensitive to extraneous noises in the room. Three of the teachers found technological devices useful specifically for their music capabilities, stating that iPods minimized distractions, and prevented excessive socializing and verbal interruptions. For the seven participants in my sample who actively used computer or electronic devices in their art studios, some benefits that were observed did not seem to be discussed in the literature that was reviewed. First, art teachers in my sample used computers to provide students with a change of pace from other activities they might be working on. One participant stated that students "might go back and forth between a hands-on tactile medium to a computer;" in this case, a computer was used along with other modalities to break up the time spent on a particular activity and keep students engaged. As well, "ADHD [students] generally [worked] well with computerized assistance and computer based art projects ([such as] flash animation, and Photoshop)." This suggests that computers can have value for students with ADHD beyond math and reading games; they can be used as a tool for understanding concepts

and for demonstrating learning in non-traditional ways. Finally, computers and technology can have practical uses for students with ADHD in art. Digital cameras and Smart phones can be helpful as document cameras; students can quickly and easily take reference pictures for their current projects and use the technology as a "viewfinder" to assist with composition. One teacher stated that document cameras and computers can also be useful for "transferring images to a large scale." Although the majority of my participants supported the use of technology in their art classrooms, there were also some drawbacks that should be noted. Teachers expressed that students with ADHD often needed some direction to get started on their work, even if they were using a computer-based device. They found that students with ADHD sometimes became "distracted by other applications" or programs, so it was important that they were "monitored to make sure they [were] on task and [were] not using the computer or iPod for non-academic reasons." The majority of teachers in my study agreed with Barkley's (2005) assertion that computers and other devices could be helpful for students with ADHD, however the ways in which computers were used in art classrooms sometimes differed from other subject areas. Art teachers used electronic devices such as iPods to focus students during work times, computers to show new ways of exploring content, and digital cameras to help students document reference images, or to transfer and modify the scale of an image. According to the participants in this study, art-based computer programs and other electronic devices are highly relevant for students who live in a media-saturated society.

Organization and Classroom Management:

Modifying Lessons: Modified or differentiated instruction is "a way of thinking about teaching and learning that recognizes the fact that 'one size does not fit all learners'" (Rief, 2005, p. 165). Students who are coded often have complex needs, and teachers can "maximize their levels of performance and achievement" (Rief, 2005, p. 165) by modifying instruction. There were a variety of ways that the participants in this study modified their curriculum to accommodate ADHD learners. There were four categories of modification used by the teachers: content, process, products, and assessment; these aligned very closely with Rief's methods of differentiation (2005, p. 166-168). The content refers to the skills and knowledge that students are expected to learn from the curriculum. In this study, teachers stated that accommodations varied for each individual student; for coded students, accommodations were based on the IPP/IEP. Teachers adjusted the content of the curriculum for students with ADHD by giving them fewer assignments throughout the term, giving them less complex assignments, "chunking" or breaking projects down into smaller, more manageable components, reducing the size or scale of a project, and/or extending the time to complete an assignment. The majority of strategies used by art teachers in this sample were related to the process (how instructional material was presented and taught). Based on the viewpoints of participants in this research, students with ADHD responded well to multiple modes of instruction delivery (oral, written, and visual demonstrations or exemplars), repetition of instructions, personal or "one-on-one" time with the

teacher, technical assistance, and frequent breaks. When giving instructions, several teachers noted that they would address the whole class, and then later speak directly to the ADHD student to verify understanding. Some teachers also provided students with ADHD with a written handout or timeline to help with organization and time management. For some teachers, building a relationship with students and getting to know them was a factor that aided in modification. One teacher asked students to join her in a quiet space to talk (like her office) and tried to personalize their experience. The teachers in this sample also modified the products (the materials and final projects that were used to assess learning) for students with ADHD. Two salient ideas that emerged for product modification were: providing students with choice and giving technological assistance if necessary. For this sample of art teachers, choice in subject matter, media, technique, and location were important for students with ADHD; similarly, allowing students to demonstrate learning through or with the help of technology was also beneficial. An example of modifying the product would be allowing a student to show value (light and dark) through photography rather than drawing; an understanding of the concept can still be demonstrated, but the final product that is assessed is different. In some cases, teachers also modified assessment and evaluation for students with ADHD. In order to ensure that expectations were challenging but achievable, teachers stated that they monitored frustration and time demands for students with ADHD. If a student was observed to be having difficulty, teachers would make adjustments to the process or product (such as decreasing the size) to help scaffold the student. Some teachers were also flexible with the completion of a project;

as one participant pointed out, “sometimes art is never done.” In this case, the teacher explained that it was important to involve the student in a dialogue about what the appropriate mark would be. The modifications that this sample of art teachers were making to their lessons aligned closely to the relevant literature.

Seating Arrangements: In my teaching experiences, I noticed that art classrooms were generally structured differently from core (“academic” subject) classrooms. For instance, students in an art studio are not typically seated in rows that face a single direction; usually art students work in groups at large tables. According to Rief (2005), “this is generally not the ideal arrangement for students with ADHD”; she suggests that if students are seated in groups, that desks or tables should be angled to the instructional area and students with ADHD should be seated next to supportive, on-task peers. Rief (2005) also suggests seating students with ADHD close to the teacher and away from “high traffic” areas such as doors, windows, and pencil sharpeners (p.104). There was strong agreement amongst the participants surveyed that students with ADHD function well when seated close to the teacher and with peers who are quiet, focused, and can act as positive influences. Being seated near the teacher allowed “eye contact and [the use of] agreed upon cues to remind [students] of certain behavioural expectations.” Two teachers also found it useful to have a single desk available for students having difficulty focusing in a collaborative setting (the choice to work independently was, in one case, determined by the student rather than the teacher). Based on the experiences of the art teachers in this sample, some inconsistencies with the literature were evident. While Rief (2005, p. 104) proposes that

collaborative groupings, especially where students are facing each other are not beneficial for students with ADHD, participants in this study actually supported clustered seating. One teacher found open seating at large tables helpful because it allowed students to "get up and wander around to look at each other's work...[and] often [aided] in giving students with ADHD breaks when needed." Another teacher observed that when students were "able to see each other, [the seating arrangement slowed] the need to get up and move." Another difference from the literature was that for some teachers, seating an ADHD student near the door was actually advantageous, as it allowed "breaks and special education support with minimal visibility to the rest [of the class.]" Overall, the participants emphasized a preference for large amounts of space and consistent seating plans for students with ADHD. Although some strategies used by the art teachers in this study seemed to depart from the current literature, a larger sample size is needed to confirm the extent to which art teachers are having success with these strategies.

Following Directions: Students with ADHD in particular can have difficulty with listening and following directions (Rief, 2005, p. 139). There are several factors that can make following directions challenging for these learners: they struggle with inhibiting behaviour, they are often unable to disengage from a high-interest activity to do a less motivating task, they may not have listened to or heard the directions, or they may have forgotten[27] directions. The strategies being used by art teachers in this sample were

[27] Easily forgetting directions is a result of weakness in a specific type of memory called working memory. Working memory refers to the capacity to hold information in one's mind in order to use it at a later time; anticipating future events relies on working memory (Barkley, 2012, p.1).

nearly an exact match with the strategies that Rief (2005, p. 139) outlines. The participants suggested: instructional delivery in various forms (oral, written, visual), providing consistency (rules and procedures clearly outlined), written instructions (either provided by the teacher or written by the student in a sketchbook) for students to refer to, providing a student mentor or EA (educational assistant), one-on-one demonstrations or repeated instructions after addressing the whole class, keeping instructions brief, and simplifying or breaking down instructions into smaller components "that can be successfully achieved in a short time, i.e. one class." In addition, one teacher stated that students with ADHD can benefit from assistive technology (such as Kurzweil[28]) to review written instructions. Again, having some degree of flexibility to accommodate the individual needs of students was found to be helpful; according to one participant, breaking a rule was acceptable if it was "due to artistic reasons [such as] stifling creativity." For example, in this teacher's classroom, a grade seven student with ADHD who was "frustrated with painting small pictures found that he was happier working at a larger scale. So he painted a giant painting. He also found that he was happier working with his hands, so he changed his next project to a clay project. We figured his painting requirement was covered because he would paint his clay sculpture when it was finished." In general, the teachers in this study used strategies that aligned with resources on following directions. However, because the art curriculum is quite flexible, following directions precisely was not necessary for every student to show learning.

[28] Kurzweil is a text-to-speech software tool that is especially helpful for students with literacy difficulties, including Students with ADHD (Kurzweil.com, 2012).

Drawing During Instructions or Demonstrations: According to Barkley (2005, p.177), giving instructions while a student is distracted is ineffective. I was interested in finding out whether art teachers allowed students to draw while giving directions or demonstrations, and if so, whether it seemed helpful or distracting. Participants were somewhat split on this topic, although a slight majority (six teachers) were actually fine with students drawing during a lesson. There were four teachers who did not allow drawing during instructional time, and one teacher who was undecided. In the group who permitted drawing, enhanced focus and concentration were cited as benefits of drawing while listening. According to one participant, drawing is a "divisionary activity [that] can actually allow them to attend to what is being said." Another teacher acknowledged that all his students learned differently and that "subduing their tendency to multi-task is one of the quickest ways to escalate an otherwise dormant situation." Other teachers were more moderate, reasoning that "it might help some and hinder others...if it works for them, they are allowed." Some teachers also pointed out that students can sometimes become so engrossed in the drawing that they "tune out." To prevent tuning out, participants kept an open dialogue with their students. Ultimately, teachers led their students to decide for themselves whether drawing during instruction was actually helpful for concentration, or if it was distracting. Another strategy that participants used (if drawing was permitted) was to "follow up with "one-on-one" questions to check for listening and comprehension of information." One participant also found that if students were given written handouts with photocopied visual images (as examples), students were "more likely to draw based on those images

rather than drift away from the topic." In the group who did not permit drawing, the main concern was that students would miss important information. One teacher noticed that most students "either make bad visual decisions or miss portions of what I'm talking about," and another observed that drawing was a distraction because most of his instructions had a visual component. According to participants in this study, there did not seem to be strong agreement on whether drawing (as a divisionary activity) was useful for students with ADHD. These findings suggest that an art classroom may be more flexible than a typical core subject classroom; however, the decision to permit drawing during a lesson was largely dependent upon the teaching style of the individual, and the nature of the activity being taught. If drawing is to be permitted during instructional time, teachers emphasized the need for visual handouts and verbal follow up questions to verify understanding. As well, providing visuals that are related to the topic were helpful in keeping students engaged.

Inattentive Symptoms:

Motivation to Start and Finish: For students with inattentive type ADHD, motivation to start and finish projects is a large concern. Rief (2005) observes that "children with ADHD have a difficult time maintaining their focus and motivation...they are easily sidetracked and may forget to perform one of the subtasks or simply give up because the process appears to require too much effort" (p. 217). Teachers in this study concurred: "where they need help is in staying on task and completing assignments and not getting frustrated with their slow progress." Participants were asked to describe ways that they helped students with ADHD get motivated to start and finish art projects.

Three main strategies emerged as being particularly useful: providing students with choice, appealing to student interests, and giving generous positive reinforcement. Participants in this study gave students choice with media, technique, subject matter, and positioning within the classroom, and allowed students to "decide what to do, when to do it, [and] estimate the time needed." As well, incorporating personal interests or activities outside of school was useful for motivation. According to several participants, giving projects with a "high degree of biography" that were related to "personal passions and interests" helped encourage students to persist with the work. I found these results interesting because in the literature I reviewed, motivation was primarily external (teacher cues, visual prompts, checklists, and reminders). The teachers in this study seemed to be more interested in fostering intrinsic motivation in their students. A final common strategy for these participants was to be liberal with positive reinforcement and to highlight success at the current stage. One teacher dealt with student motivation by constantly "re-affirming their progress in a positive way" and helping the student project long term events. She asked students questions to help them independently make decisions about their own work: "what did you do yesterday? What is your goal for this class? What is the next step you need to take to complete this assignment? What do you need to bring tomorrow?...How much extra time will you need? When do you think you will be finished and pleased with your final product?" These strategies seemed to focus more on intrinsic motivation, which contrasted with strategies in literature that were more extrinsic.

Low Motor Skills: Barkley (2005) maintains that "as many as 52% of children with ADHD, compared to up to 35% of children without ADHD are likely to have poor motor coordination-especially fine motor coordination, [in tasks] such as...drawing and writing" (p. 103). Some general behaviours of students with poor motor skills include: issues with grip and grasp of tools (leading to uncomfortable and untidy writing), difficulties with controlling the speed and force of movements (tears in paper), clumsiness and frustration (spilling and breaking objects), and excessive muscular tension during fine-motor tasks (Rief, 2005, p. 245). I was unable to find specific strategies in current literature that addressed motor difficulties for students with ADHD in art classrooms; however, Rief (2005, p. 245-249) discusses some general strategies for these learners: practicing fine motor activities (sorting, stringing beads), using pencil grips or mechanical pencils for easier control, frequent corrective feedback, and reduced demands (on time spent and volume of work). For this research study, participants were asked if they had found any ways to help art students with low motor skills. While the overall strategies were similar to those presented by Rief (2005), the teachers in this sample were able to provide specific ways of applying the strategies in an art classroom. For instance, practicing and repetition can be incorporated into more meaningful learning opportunities. One participant stated that she had students repeat the exercise: "that is not working, can you please cut out another one? The walls are too thick in that pinch-pot so let's try another....[she asked] them to feel the thickness with their fingers, judge the thickness of several others...repeat, repeat!" In my sample of participants, expectations were not necessarily lowered; rather they were modified to

fit the strengths of the student. In some cases, this did involve decreasing the complexity of a project or providing more time (as possible accommodations), however, the main consensus was that finding an appropriate media was highly beneficial for these learners. One important finding was that several teachers had success with "attainable tasks" and the "predictability of a favoured medium." Specifically, art teachers found that students with ADHD with low motor skills worked well with charcoal, conte, 3D/sculpture media (especially clay), expressive and abstract work, and collage. One teacher also found it helpful for these students to trace a drawing onto a painting surface. Offering larger surfaces and larger materials was also helpful because the level of fine detail required was reduced, however, some students found it daunting to fill in large spaces. One participant made the noteworthy observation that students with low motor skills can often be intimidated by students with higher skills in art, so reminding all students that "art is for everyone" is crucial. This teacher described how evaluation in her class was based on the individual, rather than a comparison to peers. Having a positive peer mentor and working one on one with the student can also have positive effects. Overall, the strategies being used by art teachers for students with low motor skills were similar to those presented in the literature, however, this sample of teachers were able to provide more specific ways to address low motor skills in the art classroom.

Hyperactive Symptoms:

Disruptions or Interruptions: According to Barkley (2005, p.36), students with ADHD are more sensitive to irrelevant distractions than their peers, and are less likely to

return to their work once disrupted. As well, they have difficulties with deferred gratification (i.e. ADHD children prefer a small, immediate reward to a large, delayed reward[29]) and impulse control (Barkley, 2005, p. 38). As a result, students with ADHD tend to "blurt out" comments and monopolize conversations in educational and other social settings (Barkley, 2005, p. 39). After identifying the target behaviour (for instance, controlling verbal responses), Rief (2005, p. 120-131) recommends the following tools: goal sheets, daily report notes, written contracts, token or reward systems, breaks, and self-monitoring. In this study, I was interested in how art teachers dealt with disruptions or interruptions in their classrooms. Interestingly, none of the teachers in my sample stated that they used written behaviour charts or reward systems specifically for disruptive behaviour; teachers seemed to approach disruptions more holistically. The five main strategies used by these art teachers were: establishing clear expectations, providing one-on-one support, offering breaks, self-monitoring systems, and being flexible. After expectations were outlined at the beginning of the term, teachers seemed to have success with putting the onus on the student (ADHD or not) to remember what the rules were. If a student stood up to go to the sink in the middle of a lecture, one teacher replied that she would "generally stare them down and wait for them to notice that their behaviour [was] rude...[or]...make a joke of it and repeat the expectation." Another teacher dealt with interruptions "peacefully, with grace and

[29] In 2002, Barkley and colleagues found that teens with ADHD were more likely than controls to choose a small amount of money immediately than a larger amount offered later. They found that for the ADHD teens, the wait time decreased the value of the reward by 20-30% when compared to the non-ADHD teens. This study is reminiscent of Mischel et al.'s 1972 study on delayed gratification in children aged 3-5 (Cognitive and Attentional Mechanisms in Delay of Gratification, or "The Stanford Marshmallow Experiment").

respect...followed by a clear expectation of what should be happening as vocalized by the disruptor, not by [the teacher]." Other teachers found success with individual ("one-on-one") discussions with the student. This allowed teachers to determine the specific needs of students, and how they could help; as well, private discussions with students as soon as the issue started gave teachers the opportunity to "work with" the individual to come to an understanding of what would be acceptable. Another strategy for interruptions was to give the student a break by requesting assistance or giving the student "space." Several teachers also used cues and self-monitoring strategies to help students understand and correct their disruptive behaviour. For instance, a few teachers stated that they would use their presence as a teacher by moving closer to the student while continuing instruction. In some cases, this was followed by a specific signal or gentle tap to remind the student of their inappropriate behaviour or to calm hyperactivity. Being flexible was also important for teachers. A few teachers stated that finding a way to integrate the interruption into the lesson or simply going "with the flow" of the class could be helpful as well. This group of art teachers handled interruptions and disruptions by establishing expectations at the beginning of the term, working individually with disruptive students, providing appropriate breaks, teaching self monitoring strategies, and being flexible to the needs of students.

Organizing Breaks: Rief (2005) observes that the school day of an ADHD student "needs to be structured with altering of active and quiet periods" (p.49); she suggests that "teachers may permit the child to get up, walk around quietly, and try to redirect when possible" (Rief, 2005, p. 49). This study asked teachers how breaks were

organized in their art classrooms. In this sample of art teachers, breaks were of paramount importance for students with ADHD; both self directed and teacher directed breaks were used. The majority of the teachers (9 out of 11) relied primarily on student directed breaks; students monitored their own needs and let the teacher know. There were three main ways that student directed breaks occurred in art classrooms: verbal communication, written communication, and independent decisions. Verbal and written communication was used when students took breaks outside of the classroom, independent decisions occurred when breaks were within the classroom. Teachers who used verbal communication allowed students to approach the teacher with their need for a break, and verbally encouraged them to take one. Teachers who used written communication used a "sign out" system, where students could write down the time and reason for the break, and leave on their own. Common examples of breaks that were used for both verbal and written communication were: going to the bathroom, getting a drink of water, taking a walk, getting a snack, and going to [the student's] locker. It should be noted that these breaks were permitted individually, not in groups. In some cases, student directed breaks occurred within the classroom. In-class breaks occurred during work periods, and were either passive or active. Passive breaks gave students the opportunity to break from the specific activity that they were working on, while remaining seated. For example, one teacher permitted students who were frustrated or still thinking of ideas to "sketch in their sketchbooks or talk to other students for short [amounts] of time," as long as they returned to their projects within a reasonable time period. Active breaks involved physical movement within the

classroom, such as getting up to obtain new materials or look at the work of peers. In some cases, teachers used combinations of breaks (for instance, independent decisions along with verbal communication). One teacher used "self referral" processes, where students had three options for breaks. First, they could "stop and sit silently for 1 full minute at their desk (self monitored)." If the student needed more time after the first break, they could ask the teacher to leave the room for 5 minutes. If a longer break was still required, the student could "go to the program support room at Special Ed and check in with their monitor teacher for an extended break." In addition to self directed breaks, teacher directed breaks were used to alter active and quiet periods. Teacher directed breaks occurred individually (for one specific student) or collectively (for the class as a whole). For some teachers, noticing that an individual student was "restless" provided an opportunity for the student to perform a simple task, such as delivering a note to another classroom or helping the teacher by gathering materials. Collective breaks involved the entire group of students. One teacher used "critique and mini instruction sessions as planned breaks to cut down on socializing." He described "silent" critique sessions as periods where the entire class would stop working; students would move to stand beside the work of a peer and find one positive component of the work to discuss. This type of break functioned in two ways; it gave all students an opportunity to review concepts and information, but also provided physical movement for students who might have needed it. Overall, the teachers in this study did use breaks regularly in their classrooms; however, they were able to provide more specific ways of incorporating breaks within the context of an art studio. Teachers used both

self directed and teacher directed breaks to provide students with opportunities for physical movement and time away from their work periods.

Managing or Redirecting Fidgeting: Excessive movement or hyperactivity to an extent that is greater than others of the same age group is a feature of hyperactive type ADHD (DSM IV, 1994, p.78). Hyperactive symptoms may manifest themselves through restlessness, fidgetiness, unnecessary pacing, and excessive talking (Barkley, 2005, p. 42). Although one critique of the excessive movement criteria is that fidgeting is normal, studies with ADHD children and controls (Barkley & Ullman, 1975, Porrino et al., 1983) demonstrate that ADHD children tend to have higher levels of motor activity, and have more arm and leg movements while seated at a table than their peers. In this study, teachers were asked if there were any ways that the fidgeting in students with ADHD could be managed or redirected. Of the 11 teachers in the sample, there were two teachers who did not feel that fidgeting should be controlled. One response stated: "Fidgeting is normal, who would stop it? Most often it is a biological response to growth. As long as the work is getting done, let kids move." Another teacher agreed, noting that fidgeting was "a natural expression that is often the lesser of any other behaviour that the student replaces stimming[30] with." While the remaining teachers (in general) did not encounter or notice many "fidgety" students, they did have a few strategies for managing fidgeting behaviours. First, teachers stated that fidgeting was usually taken care of through physical breaks, such as going for a walk or being asked to help the teacher find materials. They also suggested engaging the student with

[30] "Stimming" is an abbreviated term for "self stimulation."

materials and activities that would require their hands. One teacher responded that she would give fidgety students a piece of clay and ask them to describe the characteristics and to explain to the other students how it felt. She also mentioned "keeping them busy [and] involved" in the lesson. Another teacher recommended that students with a lot of energy who were having trouble working could be redirected to "creating artwork that is more physical, like working on the pottery wheel." A few teachers mentioned that students are unlikely to fidget when they have something in their hands; two teachers specifically suggested stress balls for these students. The overall findings of this aspect of the research seem to extend Stalvey and Brasell's (2006) study on stress balls as tools that can aid students "during both direct instruction and independent practice" (p.7). The art teachers in this sample found ways for fidgeting to be redirected towards demonstrating curricular information or art making activities.

Additional Emergent Themes:

Student Ownership/ Student Centered Learning: In general, the theme of student ownership emerged as an underlying strategy for many of the teachers in this sample. This strategy reflected a student centered teaching viewpoint; teachers empowered their students to be accountable for their own learning and behaviour. Some examples of teacher strategies that encompassed a student-centered perspective were: allowing students to communicate the amount of work they could handle, letting students make their own decisions about breaks (type and time), permitting students to choose music that was helpful for them, being flexible with media and subject matter choices, and expecting students to be able to verify expectations or instructions.

Student choice and subject matter of personal interest to students were emphasized by these participants. A student-centered approach was also successful for a colleague of mine who works in the art education department at the University of Alberta. He remarked to me (at a conference) that during one year in which he taught in a public school, he had an ADHD student in his art class. The student had experienced difficulty in his other subjects and had a "wall of defeat;" the student lacked confidence and did not believe that he would be successful. My colleague was able to help the student get past the "wall" and the ADHD label, which were being used as "crutches" that prevented meaningful learning. He started the process by getting the student to take ownership of the issue; the student was asked to describe what he thought he couldn't do, and to name what he hadn't tried (what he *could* do). This allowed my colleague to understand that the student had trouble maintaining attention for long periods of time, and needed to take a break or pause every two minutes. Through dialogue with the student, my colleague was able to help the student sustain attention by laying out a variety of tools and simply prompting the student to switch to a new tool every two minutes. This method eventually helped the student focus for up to 12 hours, and was adapted in other subject areas (Ron Wigglesworth, personal communication, October 27, 2012).

ADHD in Art and Other Subject Areas: Overall, there was collective agreement amongst most of the participants that students with ADHD often have fewer difficulties in art than they do in other subject areas. One participant noted that in her experience, "most students with ADHD do well in visual art because I can accommodate their

particular learning needs without singling them out amongst their peers." Another teacher agreed, observing that "the nature of the art studio offers [students with ADHD] freedom to move around more than in a traditional classroom environment and I've found that there is always a project or medium that is enticing to them. Usually they have had a high degree of success in the art studio." A participant who was interviewed for this research informed me of a project that the arts (visual art, drama, dance, and music) teachers in her school were taking on for the year. She described students who were "at risk" (failing their core subject classes):

> [Students] were failing their core subjects- so what did they [administrators] do? They asked all the core subject [teachers] to meet- but a lot of those students are doing quite well in my class. So would they not want to know why they're doing well in my class and not in the core subject class? I mean, it just makes so much sense, I should be at the meeting saying, "hey, this child cannot sit in their seat, you need to...give them hands on activities...it needs to be for short amounts of time...tasks need to be broken down," or whatever strategy works for me...Would they not be interested in that?...Some of them are very successful, and why? Those are the ones that we're going to try to focus on, [to] try to help the core subject teachers.

This anecdote suggests that some strategies that are being used in art classrooms may be useful to teachers in other subject areas.

Advice for New or Emerging Art Teachers: In the interviews that were conducted for this study, I asked art teachers what advice they would give to new or student art

teachers. There were three main ideas that emerged: collaboration, flexibility, and one-on-one time (getting to know the student). Collaboration was significant; it was important for new teachers to realize that they weren't alone, that it was acceptable to ask for help without feeling that it was a sign of failure. Collaboration included utilizing all other people in the student's life: EAs (educational assistants), other teachers, administrators, parents, and other students. Flexibility meant creating a program that was inclusive of everybody and their individual needs. As one teacher described, not "everybody in the art room [wants] to sit down and be quiet and create a masterpiece...maybe in each grade there would be two really talented artists. We wouldn't have a program if we didn't include everybody." Flexibility also included allowing students to explore materials without emphasizing curricular outcomes; allowing students to "get their hands in the paint and ruin the clay." The teachers also felt that spending time to get to know the student contributed to optimal learning. Understanding the student beyond the information presented in the file made teachers more sensitive to personal stressors, outside interests, and paths to incorporate the curriculum. Specifically, one teacher found success by inviting two at-risk students to participate in a community mural project:

> They spent almost the whole weekend there; they only had to spend a couple of hours. I made them call, made them be responsible for their time, how to get there, and I just met up with them 4 or 5 times on the weekend, you know...just to check out what they were doing...and they were just amazing...I really appreciated them doing that, and really sticking with it.

She went on to describe how the students' self esteem went up because their peers saw their accomplishments. The same teacher enhanced the curriculum through field trips to local galleries and invited guest artists to show students "what exists around in their own world...they often don't even think about jobs that can be in the fine arts."

Summary:

This chapter discussed the demographics of participants in the study and discussed some of the emergent themes from the surveys and interviews. Participants used a variety of teaching strategies in approaching ADHD in their art classrooms; some of these strategies were based on literature, implying that teachers were able to modify existing strategies for the context of the art classroom. In these cases, this study was able to extract more specific ways that art teachers can help students with ADHD. There were also strategies, such as community involvement, that were not discussed in the literature; this suggests that art teachers may have valuable insights that are not being fully exploited. A surprising finding of this study was that many students with ADHD do not struggle in art to the extent that they might in other subject areas; teachers speculated that this may be due to the flexibility and openness of the art curriculum. The next chapter will summarize the main points of this research, and explore some of the implications of the results. Practical uses of this study and future directions will also be discussed.

CHAPTER 5: CONCLUSIONS

This chapter summarizes the purposes of this study and highlights the most salient findings from the email surveys and in-depth interviews. The implications of the results, future directions for this research, and how these findings might be useful in the field of art education will be discussed.

Review of the Research Problem:

Throughout history, behaviours of children who seemed to have certain characteristic symptoms to a greater extent than others of the same age group have been analyzed by scientists, psychiatrists, and medical professionals. Although the term ADHD was applied fairly recently (DSM III, 1980), symptoms were observed as early as 493 BC (Langwith, 2009). Because this disorder is still not fully understood by specialists, it is likely that the name, symptoms, and diagnosis will evolve to reflect new information and research. In the literature that was reviewed for this study, data on ADHD specifically in art classrooms was significantly disproportionate to general resources for elementary classrooms and strategies for math and language arts classrooms. This research project was interested in determining whether art teachers were adapting existing strategies (and if so, the specific methods that they used) or if they had new strategies that were not in the literature. The purpose of this study was to expand my knowledge of approaches to classroom art education, and to provide emerging art teachers with a relevant, subject-specific source with which to refer.

Summary of Findings:

To answer the research question, I created a survey to question junior high and high school art teachers about their experiences in working with students with ADHD. A sample of the survey participants were also interviewed, to explore ideas in greater detail. The survey and interview questions addressed general observations about students with ADHD and art-making, organization and classroom management, inattentive symptoms, hyperactive symptoms, and overall thoughts about the topic. For some questions, the strategies being used by teachers were similar to those in existing literature; for example, all teachers agreed that music could be effective in focusing or motivating students. Other questions elicited responses that were not present in the literature reviewed. For instance, when asked how fidgeting could be managed or re-directed, a strategy used was to engage the student with relevant media, such as a piece of clay. This was followed by verbal prompts that asked the student to respond to and describe the media to his or her peers. A large, overarching theme that emerged from both sets of raw data (surveys and interview transcripts) was that teachers primarily taught from a student centered approach. In student directed learning, the onus is on the student to decide how optimal learning and behaviour occur. In this study, student-centered learning occurred through three main facets: flexibility, "one-on-one" time, and community involvement.

Flexibility: Teachers in this study had highly flexible attitudes in attending to the needs of students with ADHD. Flexibility occurred primarily with curricular expectations, but was also present for some aspects of behaviour management. For

most teachers, curricular adaptations were based on student IPP/IEPs and student knowledge of their own capabilities. To accommodate ADHD learners, art teachers made modifications such as increasing the size of a project (to reduce the level of detail), decreasing the size of a project (to provide the student with enough time for completion), decreasing the complexity of a project (for instance a still life with three items rather than ten), providing more time for projects, and breaking larger projects into smaller components. As well, teachers took advantage of the flexibility available in the curriculum itself by providing students with choice in subject matter and media. Teachers were still able to meet curricular outcomes, but found that students with ADHD were successful with projects that appealed to their personal interests or passions. Teachers were also receptive to individual preferences for physical positions in the classroom by allowing students to work in a variety of areas (on the floor, on an easel, on a wall). Participants in this study also gave students opportunities to explore a medium without the pressure of a final outcome; students had time to simply "play" and explore the possibilities of a new medium with little or no teacher involvement. As well, flexibility was utilized for behavioural expectations. When students were disruptive during class time, teachers would give them opportunities to notice and correct their own behaviour; often teachers also had visual cues to remind students to monitor their actions. Behaviour was also regulated through breaks that were recognized by either the teacher or the student. Some teachers encouraged students to take a break if interrupting was becoming a problem, and in other cases students recognized their own need for a break. Additionally, teachers kept lesson plans flexible,

and incorporated disruptive students into the lesson by giving them a special task or engaging them through questions. For both curricular and behavioural expectations, being aware of individual preferences and providing choice were important.

One-on-one Time: Several teachers also experienced success with students with ADHD by spending time with them individually. This allowed teachers to review techniques and concepts in greater detail, while attending to possible motor or attentional challenges of students with ADHD. By sitting beside a student and their work, teachers were able to assess what future steps would be needed, and could provide students with feedback to help them achieve their own goals. One-on-one time was also useful in improving technical skills, because more specialized instruction could be given. For example, if a student was struggling with a clay project, spending time with the student individually could reveal that the clay was too dry or that an important step was forgotten. Teachers also used one-one-one time in contexts away from the other students in the class. Taking an individual student aside to another location (such as the hallway or the teacher's desk) provided privacy to address behavioural concerns. Teachers and students mutually discussed the issues and came to an understanding of how the problems could be resolved; often this resulted in visual cues such as a nod or gentle tap to signal returning to one's seat. The main benefit of one-on-one time was that teachers could begin to understand the student as a whole. Spending time with individual students gave teachers important insight into their personal lives and interests, which ultimately lead to ideas on how curricular content and behavioural management could be made more relevant and meaningful. For instance, a teacher

who knows that a student enjoys skateboarding on the weekends could have the student design and paint a skateboard rather than adhering to the standard method of painting on canvas. Getting to know the personal interests of students also provided ways to engage them in non-curricular activities, such as after school or community art programs.

Community: The final component of student-centered teaching and learning was being aware of the larger community that encompassed the student. Both the school community and the public community were important in engaging students with ADHD in art. In schools, other teachers, EAs (Educational Assistants), parents, and peers were important resources in understanding the needs of particular students. According to one participant, other teachers and EAs were often able to communicate the type of day that a student was having; providing cues as to whether the student would need support. Parents, in addition to being a part of a student's IPP/IEP team, usually had knowledge about their child that was not accessible through reading a file. Peers or friends of the student were also able to act as positive influences, and sometimes provided the teacher with valuable information that was relevant to learning and behaviour (i.e. incidents during lunch or other non-curricular times). Teachers also established positive and inclusive classroom communities, where all students felt "safe" to express ideas. One way that teachers in this study maintained a positive atmosphere in their classrooms was through music; teachers who used communal music systems stated that allowing students to take turns with selecting classroom music promoted mutual respect and a sharing attitude amongst students. Teachers also encouraged

students to become involved in communities that extended beyond the classroom. This was done through workshops and lectures from guest artists as well as by helping students volunteer in public art projects. For many students with ADHD, these opportunities resulted in recognition from the greater school community (peers, other teachers, administration, and provided a sense of personal accomplishment.

Implications of Results:

This study has implications for educational policies and procedures as well as for pre-service teacher education.

Policy/ Procedural Implications: In this sample of teachers, the importance of one-on-one time with individual students was stressed; teachers found that taking time to get to know students was beneficial both academically and behaviourally. In schools, responding to the individual learning needs and goals of students has been designated to be done through IPPs/IEPs. Although these tools can be useful in improving academic results by establishing realistic goals and offering objective measures of progress, some teachers in this study stated that they were actually burdensome:

> from my experience and the experience I've heard from other teachers-in fact just this morning- is that teachers are finding it very difficult, because we have more and more put on us...we have larger classrooms, we have smaller budgets, we have all of these IPPs and TPGP[31]s and...and all of this reporting stuff to write...So you have less time to actually spend with the child...This is all for

[31] Teacher Personal Growth Plan.

somebody *up there*. I'm not sure where, we can't figure it out. Someone *up there* who hasn't been in the classroom for a long time.

When teachers in this study spent time with individual students, they were getting to know the student genuinely, through authentic communication. IPPs/IEPs seemed to be more theoretical and contrived; an IPP/IEP does not ask teachers to learn about a student's interests and passions outside of school, yet this was one of the most useful ways that teachers found to engage their students with ADHD.

This study also found that while students with ADHD still struggled with sustaining attention on a task, motivation to start and finish assignments, and persistence through challenging work, they seemed to have more behavioural and academic success in art (or other option) classes than they did in their core subject classes. This implies that art teachers may have information that could be of value in other classes, and that they (along with other teachers of option classes) should be involved in meetings about how to help at-risk[32] students be successful. Some aspects of an art classroom could be adapted for other subject areas; teaching other curriculums through art could help increase student engagement. As one teacher stated, "even during parent teacher interviews...the core teachers have such huge lineups, and I see those students with ADHD's parents talking to those other teachers, where they're not doing well, and I say, you know, come talk to me and I'll tell you what they're doing right!"

[32] In this context, at-risk refers to students who are at risk of failing in their core subject classes (math, science, social studies, and English).

Implications for Pre-Service Teacher Education Programs: This research also demonstrated that in most cases, art teachers either observed or perceived higher numbers of students with ADHD in their classrooms than the estimates in current literature (8.7% rather than 3-6.3%). In addition, some teachers expressed that the art classroom was a "melting pot" of many different coded students: "we wouldn't have a program if we didn't include everybody." One of the challenges of having multiple coded students in the same classroom is that individual needs can clash; music that an ADHD student finds helpful may be over-stimulate an autistic student. One teacher also described behavioural and emotional challenges: " [two students] have this little symbiotic kind of relationship which I think is really unhealthy..." This finding has major implications for teacher education and training programs; art teachers must attend to a more diverse group of coded learners than what is represented in the literature. While training emerging teachers about various possible codes is important, art teachers in particular should be equipped to handle a high number of coded students simultaneously.

Another interesting finding was that through experience, teachers in this study had developed more detailed and context-specific ways of using existing strategies. For example, a general strategy that any teacher could use is to give a hyperactive student a task that requires mobility, such as delivering a note to another classroom. For art teachers, this was modified to incorporate the curriculum; one strategy was to give the student a material and have them discuss the properties of it with the class. While all teachers can give students a break to visit the water fountain, art teachers can

incorporate a break into a critique, where students stop their own projects and engage in the work of a peer. These ideas are not readily available for pre-service teachers, and were not presented in my teacher education program. It would be useful for some of the knowledge and insight from experienced art teachers to be utilized by implementing more detailed training as well as mentorship programs for newer art teachers.

Reporting Findings:

The results of this study were presented at two conferences in 2012. In October, I presented the preliminary findings at the CSEA (Canadian Society for Education through Arts) annual conference; in November of 2012, a revised and more detailed set of strategies was presented at the Mount Royal University Symposium for Teaching and Higher Learning. As well, a summarized version of this research project and the resulting teacher strategies were submitted to the CAT (Canadian Art Teacher) journal for publication. The purpose of presenting the findings of this study was to provide art teachers with information that could have practical uses as well as to contribute to a larger discourse about students with special considerations. As the results of this research demonstrate, some strategies were being used by art teachers but were not present in existing literature; these could be useful for new or emerging art teachers. This study also emphasized the need for more specific resources for art teachers, as well as mentorship programs for newer teachers. In addition, this research suggested that using visual arts in other subject areas could be beneficial for students with ADHD (and potentially other students). It is my hope that by bringing awareness about the issues

surrounding ADHD in art classrooms, newer teachers will feel more prepared and confident in their roles.

Future Directions:

As the behaviours of students with ADHD and subsequent strategies for those behaviours in the context of an art classroom are understudied, there are various ways that this area can be researched more extensively. The results of this study indicate that further research with different populations could be beneficial in better understanding ADHD in art classrooms. In particular, I am interested in learning more from pre-service teachers, students (junior high and high school), and in-service teachers.

Pre-Service Teachers: Art teachers who participated in this study had developed effective strategies for engaging students with ADHD from many years of experience. In future research, I would be interested in determining the attitudes of pre-service art teachers towards inclusive education. One of the participants in this study noticed that her student teachers initially had the same high behavioural and academic expectations for all students, even though some tasks were beyond the capabilities of certain students. I would be interested in studying how prepared pre-service teachers feel before beginning a practicum or actual teaching experience, and whether they have or learn strategies for dealing with ADHD and other coded students. In addition, I am interested in learning whether teacher education programs prepare future art teachers for the diversity of coded students that was experienced by teachers in this study. A future study could use surveys and interviews to ascertain what strategies pre-service

teachers had before and after a practicum experience, as well as what concerns they had before and after student teaching. This could be compared to the ideas and perceptions of in-service art teachers at various stages of experience (for instance 3 years, 10 years, and 20 years).

Students: Due to ethical considerations, this research focused on the experiences and perceptions of art teachers, however, interviewing ADHD art students and their non-ADHD peers would add multiple viewpoints and greatly inform this project. In future research, interviewing students would help art educators understand what strategies students perceive to be the most helpful. The student viewpoints could be compared to interviews with parents and teachers to provide a more rounded awareness of the issues and possible solutions. Several teachers in this sample specifically mentioned clay as an engaging media; I would like to compare how students with ADHD work with clay in contrast with other possible materials. I would like to actually test different types of projects (kinesthetic, large or small scale, expressive, sculptural) with groups of students with ADHD and compare the findings with a control group. A new study might also determine the effect of medication on students with ADHD and the type of art that they produce. There was some discussion amongst teachers in this study about medication, and the effect it might have on students with ADHD. One teacher was able to observe a student before and after medication, and found that the student's behaviour and academic performance improved after medication. Another teacher wondered if kids were medicated to "protect their safety and the social health of some family units...[as] families in distress over behaviour can

become over-stressed." Medication seems to be a concern for some teachers; I would be interested expanding Munley's (2001) study to compare drawings of medicated and non-medicated students with ADHD.

In Service Teachers: In this study, some teachers expressed dissatisfaction over the amount of "paperwork" that they were required (by the school board or government) to complete; they suggested that some of the policies were inefficient and ineffective. In one interview, a teacher stated that the entire grading process could be simplified, and that decreasing the irrelevant demands of teachers would result in more time spent with students. In my experience as a teacher, I would often hear my colleagues explaining the weaknesses of top-down procedures; teachers seem to have an understanding of what is actually needed in the classroom. In future research, I would be interested in gaining teacher perspectives about educational policies, along with their suggestions on what an effective system would be. To further expand this idea, it would be fascinating to actually implement a teacher-designed system within a school and evaluate the effectiveness for students, parents, and teachers.

Summary:

This research used emailed surveys and in-depth interviews to determine what strategies were being used by art teachers to help students with ADHD be successful. The literature review revealed a gap in current knowledge about ADHD specifically in art classrooms; this study found that art teachers were able to provide new strategies, as well as more detailed examples of how to use existing strategies. Additionally, this research implied a need for changes in educational policies and modifications to teacher

education programs. As a result of this study, I have expanded my reflective practice as a teacher. I have learned that the curriculum is secondary to the needs of the student, and that students can often be important advocates and partners in their own education. The strategies that surfaced from this study, along with the accompanying literature will be implemented in my classroom; I hope that they can also be of value to another teacher.

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APPENDIX A

Survey Questions:

Purpose: The goal of this questionnaire is to determine what strategies art teachers use to help students with ADHD (Attention Deficit Hyperactivity Disorder) be successful in an art classroom. Success in the context of this survey means: Able to sustain attention on a task, able to finish projects/ work in a reasonable time frame, and able to enjoy the art-making process.

Directions: Please type an answer for each question, drawing upon your own experiences as an art teacher. You may also print and handwrite your answers. All of the questions relate to students with ADHD within ART classrooms. If a question does not apply, please type "NA". If you are unsure, please type "unsure." This survey contains 21 questions and should take approximately 30 minutes to complete. Please submit your answers by November 1, 2012.

Questions 1-4 are about you, and will be kept confidential.

1. How long have you been teaching art?

2. How long have you taught students with ADHD?

3. At what grade level do you primarily teach? (you may put down more than one)

4. Approximately what fraction of your art students have ADHD?

For the next set of questions, please put down everything you can think of that relates to the question. Questions 5-9 are general questions about Students with ADHD and enjoying art-making.

5. Have you ever used music in your classroom? If yes, how has music influenced students with ADHD?

6. In your experience, have students with ADHD been successful with or preferred certain sizes to work with (for example large murals or small, detailed projects)?

7. In your experience, have students with ADHD been successful with or preferred working with specific types of media? (i.e. clay, paint, charcoal)

8. Do certain physical positions ever help students with ADHD? (for example drawing on an easel or painting on the floor)

9. If you use computers, iPods, or other electronic devices in your classroom, how have students with ADHD responded to these?

Questions 10-15 relate to organization and classroom management.

10. Do you modify your lessons to accommodate students with ADHD? If so, in what ways?

11. What type of seating arrangements work best for your students with ADHD?

12. What strategies do you use to help students who have difficulty following directions?

13. Are students ever allowed to draw while you are giving directions or demonstrations? If so, does it seem helpful or distracting?

Questions 14- 15 relate to <u>inattentive</u> symptoms.

14. Are there any ways to help students with ADHD get motivated to start and finish art projects?

15. Have you found any ways to help art students with low motor skills?

Questions 16-18 relate to <u>hyperactive</u> symptoms.

16. How do you deal with disruptions or interruptions in your classroom?

17. How do you organize breaks in your classroom?

18. Are there any ways that fidgeting can be managed or redirected?

Questions 19-21 are your final thoughts on this topic.

19. How do you help students with ADHD enjoy art?

20. Any additional comments or insights?

21. Would you be willing to participate in a 1 hour interview? (at a date/ time of your choice)

Thank you for taking the time to fill out this survey! I appreciate your commitment and dedication to helping all students succeed in art. The answers you have provided will be valuable in contributing to the field of art education.

<u>When you are finished, you may send your responses in two ways:</u>

By e-mail (with your responses and release form as attachments):
menekathirukkumaran@gmail.com

By ground mail (with a printed release form and printed responses):
Meneka Thirukkumaran
#203, 41 6A St. NE
Calgary, Alberta, T2E 4A2

General Interview Questions:

So just to confirm, you are okay with me taking an audio recording of this interview? You can stop at any time, and you can withdraw at any time without any negative consequences.

One thing I'm always interested in with art teachers is what type of art they like to make- just for my own curiosity would you mind telling me a little more about your art practice?

When I first started to send out surveys, I actually got a very low response rate. Could you tell me a little bit more about why you care about or why you're interested in this issue?

Today's classrooms tend to me more inclusionary than they have been in the past. How does it feel to be a teacher in a classroom with many diverse learners?

I think I know the answer to this question, but I want to get your take on it. You are a teacher with lots of experience- experience can't really be taught. Can new art teachers get everything they need from resources at their schools (ie books)?

Why do you think new teachers seem to have trouble with students who have attentional difficulties?

What advice would you give them?

Are there any strategies that work for you, but may seem counter-intuitive to a newer teacher? Anything that has unexpected benefits?

You mentioned in your survey that you allow students to listen to music on their iPods while working. This is a common strategy that all of the teachers seemed to have positive results with- but some preferred communal music systems. What do you do when they don't hear your instructions because they are listening to their iPods? (Or, how do you prevent them from missing information because of iPods?)

Do you feel that, in general, ADHD symptoms are decreased in an art classroom as opposed to say, a math classroom? If so, why do you think this may be the case?

When I was a teacher, I would often have students who seemed "spacey"- they would stare, sometimes they were sluggish, they had difficulties with filtering important and unimportant information. What sorts of art activities or strategies could help this type of student?

And students with ADHD can also exhibit symptoms that seem to be the opposite of this- they seem to have "too much" energy, and they are very impulsive. How can art teachers help these impulsive students?

Sometimes students with IPP (IEP)s can feel isolated from their peers. How can art teachers accommodate their needs, but still make them feel like part of the classroom community?

One strategy that teachers use with students with ADHD is to simply scale a project down- level of detail, size, etc. This helps the student finish, and also gives the teacher something to mark. Do you think this helps students feel accomplished? Or do they feel socially inadequate to their peers?

What do you think are some of the biggest challenges for art teachers with students with ADHD?

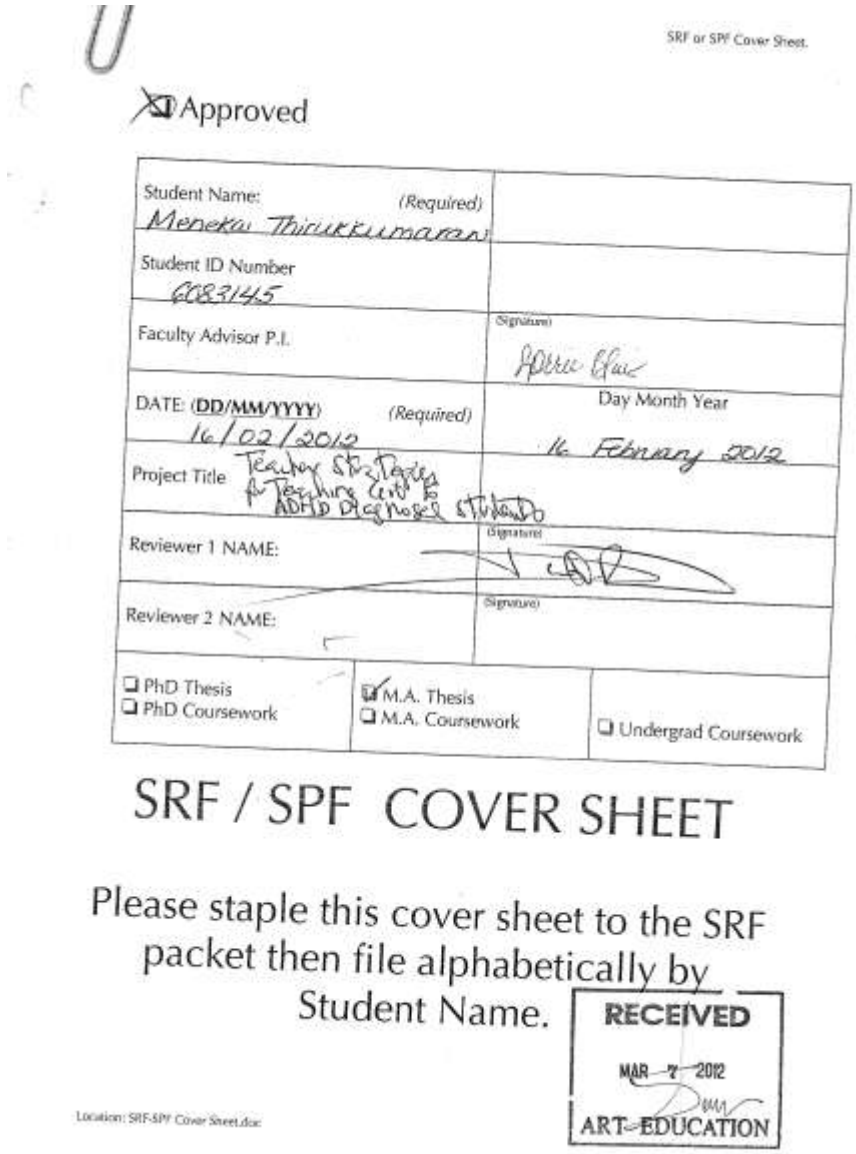
What would be your ideal solution or resolution?

Perhaps we can end this interview with your opinion on ADHD?

Is there anything else you would like to add or that you think is important for me to know?

APPENDIX B

Concordia University Ethics Approval:



SRF or SPF Cover Sheet

☒ Approved

Student Name: (Required) Meneka Thirukkumaran	
Student ID Number 6083145	
Faculty Advisor P.I.	(Signature)
DATE: (DD/MM/YYYY) (Required) 16/02/2012	Day Month Year 16 February 2012
Project Title Teaching Strategies for Teaching Girls with ADHD Diagnosed Students	
Reviewer 1 NAME:	(Signature)
Reviewer 2 NAME:	(Signature)

☐ PhD Thesis ☐ PhD Coursework	☑ M.A. Thesis ☐ M.A. Coursework	☐ Undergrad Coursework

SRF / SPF COVER SHEET

Please staple this cover sheet to the SRF packet then file alphabetically by Student Name.

RECEIVED
MAR 7 2012
ART-EDUCATION

Location: SRF-SPF Cover Sheet.doc

Calgary Board of Education Ethics Approval:

1221 – 8 Street S.W., Calgary, AB T2R 0L4

www.cbe.ab.ca

May 1, 2012

Ms Meneka Thirukkumaran
#203, 41 6A St. NE
CALGARY, AB T2E 4A2

Dear Ms Thirukkumaran,

I am pleased to confirm that the Calgary Board of Education has granted permission for you to conduct the study entitled "Strategies for Teaching Art Students Diagnosed with ADHD."

The granting of this approval indicates that as a school jurisdiction we have no ethical concerns with your study. **The final decision to participate rests with the school administration, teachers, students and parents involved. This letter does not obligate participation by anyone associated with the Calgary Board of Education.**

Please present this letter to Calgary Board of Education personnel when requesting access to teachers and students. This approval does not include access to student, staff or school records.

We wish you success in your study. We would appreciate your sharing your findings and a copy of any material that you subsequently publish.

Yours truly,

Pat Kover
Research and Innovation
t | 403-817 7514
f | 403-777 6159
pakover@cbe.ab.ca

learning | as unique | as every student

Calgary Catholic School District Ethics Approval:

CALGARY CATHOLIC SCHOOL DISTRICT

April 2, 2012

Ms. Meneka Thirukkumaran
203, 41, 6A St. NE
Calgary, AB
T2E 4A2

Dear Ms. Thirukkumaran:

The Calgary Catholic School District grants you permission to conduct the research project, "*Teacher Strategies for Teaching Art to ADHD Diagnosed Students*". This approval indicates that as a school district, we have no ethical concerns with your research. The final decision for participation at the school level rests with the school principal and, thereafter, the teachers, parents and students involved. Elements such as space, time, use human and other resources and general disruption to school may lead to the principal choosing not to participate. This approval does not obligate participation by anyone in the Calgary Catholic School District.

I wish you success with your research and would appreciate a copy of any material you may publish.

Sincerely,

Ms. Debra Polischuk
Supervisor, Instructional Support Team

DP/jk

Catholic School Centre 1000 Fifth Avenue SW, Calgary, Alberta, Canada T2P 4T9
Tel 403-500-2000 Fax 403-500-2927 www.cssdab.ca