COLLABORATIVELY DEVELOPING GUIDELINES FOR USING PERSONAL MUSIC PLAYERS IN THE CLASSROOM

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Jolee Kambeitz

ABSTRACT

The purpose of this study was to work collaboratively with a group of high school students to develop a list of guidelines for using Personal Music Players (PMPs) in their classroom. Even though PMPs are extremely popular with secondary school students (Boal-Palheiros & Hargreaves, 2001; North et al., 2000) and there are benefits associated with music listening that align with learning and academic goals in certain school settings (e.g., Abikoff, Courtney, Szeibel & Koplewicz, 1996; Beentjes, Koolstra & van der voort, 1996; Boal-Palheiros & Hargreaves, 2001; Hallam & Price, 1998; Hallam, Price & Katsarou, 2002; Morton, Kershner & Seigel, 1990; Rainey & Larsen, 2002; Saarikallio & Erkkila, 2007; Savan, 1998,1999; Thompson, Schellenberg & Husain, 2001), school stakeholders remain divided on the use of such devices in schools and outright banning occurs in many school environments (Domitrek & Raby, 2008). Another approach would be to consult with and include students in developing guidelines for incorporating new technologies. Researchers have recommended the inclusion of student voices in both research that affects them (Powers & Tiffany, 2006; Rodriguez & Brown, 2009) and in the development of rules and regulations (Domitrek & Raby, 2008; Raby & Domitrek, 2007; Raby, 2008). Student involvement can decrease rule-breaking behavior, increase student responsibility and ownership, and to teach students to be participate and be involved in matters that affect them (Raby & Domitrek, 2007; Raby, 2008). Using an action research model (Mertler & Charles, 2005; Mertler, 2006), a research team composed of myself and a small group of high school students moved through three cycles of the action research process in order to collaboratively develop, reflect upon and revise guidelines for using PMPs in their classroom. A list of seven guidelines was generated. Additionally, the student members of the research team provided information about their thoughts and feelings regarding music

listening in their classroom and I provided reflections on conducting an action research project

with youth. Implications for practice and further research were identified.

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CHAPTER ONE: Introduction

Throughout my career as a teacher I have had numerous opportunities to observe students and their use of Personal Music Players (PMPs) in the classroom setting. Based on my informal observations, there appears to be something about music listening that really works for students. I have witnessed the teenage desire to listen to music while engaged in school work across multiple grades, classrooms and schools. I have watched PMPs transform a disruptive and boisterous group of grade nine students into a quiet and diligent group of workers. However, when working as a substitute teacher, I encountered schools in which students were not allowed to listen to their PMPs. On one occasion I was told after the fact – that is, after the students had asked me if they could use their PMPs while they worked and after I had allowed them to listen - that PMPs were not allowed in the school. It seemed odd to me to prohibit the use of devices that our young people so badly wished to use and that may enhance their learning. However I also recognized challenges associated with allowing PMPs in the class. When students used their PMPs while they completed independent seatwork, I observed a number of problems, from my perspective of course, not theirs. For example, it seemed that some students wasted valuable independent work time looking through their playlists in search of a desired song. I could also sometimes hear students' music even though they had headphones on. Yet other students shared headphones, giggling and talking while they worked.

Nevertheless, during informal conversations with teachers and students throughout my teaching career, it became apparent to me that many teachers choose not to enforce bans on PMPs. Some teachers told me that they do not agree with school-wide bans; others said that they could not be bothered to discipline students about petty infractions when they personally did not see the harm in using such tools.

I agree with these teachers. I do not believe school-wide bans of PMPs are the answer. I feel that we need to find a way for PMPs to work in our schools and including students in the development of guidelines for their use would be a way to increase responsibility and ownership of the rules and lessen the demands on the teacher in terms of enforcing rules that the teacher and students did not support.

In turning to the literature, I found support for including students in decision-making processes (Domitrek & Raby, 2008; Raby & Domitrek, 2007; Raby, 2008). I also found a number of studies documenting music listening benefits that are pertinent to school settings. Music listening has been associated with cognitive benefits (Domitrek & Raby, 2008; Hallam, Price & Katsarou, 2002; Morton, Kershner & Seigel, 1990; Rainey & Larsen, 2002; Wiebe, 2007; Savan, 1998, 1999), academic benefits, (Abikoff, Courtney, Szeibel & Koplewicz, 1996; Beentjes, Koolstra & van der voort, 1996; Hallam & Price, 1998; Hallam, Price & Katsarou, 2002) and behavioural benefits (Chalmers et al., 1999; Hallam & Price, 1998; Savan, 1998, 1999). Music has also been identified as serving as a means of enjoyment (Boal-Palheiros & Hargreaves, 2001), a way to change moods (Boal-Palheiros & Hargreaves, 2001; Lamont et al., 2003; Saarikallio & Erkkila, 2007) and a way to meet social needs (Boal-Palheiros & Hargreaves, 2001; Campbell et al., 2007; Larson, 1995; Schwartz & Fouts, 2003).

Although further research is needed, there is a promising literature suggesting that music listening may be a useful strategy for assisting adults, children, adolescents, and special populations such as children with ADHD in educational settings. It seems reasonable that schools consider the potential benefits of allowing music listening in classrooms when making decisions about PMP use.

Studies addressing the practical application of PMPs in the classroom setting are still progressing. Researchers have called for student education regarding proper etiquette for using PMPs in the classroom (Hirsch, 2005; Domitrek & Raby, 2008) and school-wide bans of electronic devices have not been recommended (Domitrek & Raby, 2008; Stiler, 2007). Researchers have discovered conflicting attitudes about the use of electronic devices, such as PMPs, within school environments (Domitrek & Raby, 2008; Wiebe, 2007). As mentioned, some schools have banned PMP use altogether (Domitrek & Raby, 2008; Stiler, 2007; Wiebe, 2007). Differing views on the use of such electronic devices are apparent between students, teachers and administrators (Domitrek & Raby, 2008). Researchers have called for these concerns to be addressed by including student voices and participation in the development of rules to increase ownership and responsibility (Domitrek & Raby, 2008; Raby & Domitrek, 2007; Raby, 2008).

This study was a response to this need. I decided to embark on an investigation of how I could collaborate with a group of secondary students to include their voices in the development of guidelines for using PMPs in their classroom. As a researcher, former teacher, and current consultant in a school setting, I especially wanted to do practical research at the school level that can be valuable and applicable to practitioners and students. Action research was a research method suited to this purpose. According to Reason and Bradbury (2001), "action research seeks to bring together action and reflection, theory and practice, in participation with others, in the pursuit of practical solutions to issues of pressing concern to people, and more generally the flourishing of individual persons in their communities. (p. 1).

Thus, the aim of this project was to work collaboratively with a group of high school students to develop a list of guidelines for using PMPs in their classroom. Through the process of action research, a research team consisting of myself and a group of 3-7 secondary students

worked together in a manner that aspired to be democratic, egalitarian and empowering for the students. The study's significance was in addressing a practical problem, engaging students in an empowering process, as well as contributing to the current literature in music listening and action research.

The thesis is presented in five chapters. Chapter One gives an overview of the study, its purpose and significance. Chapter Two includes a review of the relevant literature followed by an explanation of the research methodology in Chapter Three. The results are presented in Chapter Four and Chapter Five discusses the results and implications for practice and further research.

Please note that the following term appears throughout the document and is defined as follows:

Personal Music Players (PMPs) – refers to devices such as iPods, Mp3 players or other technology that can be used to listen to music through the use of headphones.

CHAPTER TWO: Review of Literature

In the following chapter, I begin by presenting the research literature on portable music listening in terms of its functions for listeners and the ways in which people listen. Then I narrow in on the research literature specific to music listening and adolescence. This section includes an overview of studies that investigate the various benefits associated with music listening. Cautions and contrary findings, and the explanatory model of arousal and mood are also described. I conclude the chapter with attention to the pragmatic issue of incorporating music listening into the classroom setting, a real-life problem that has emerged within the context of the earlier reviewed literature.

Portable Music Listening

Associated Functions

Portable music listening technology is dramatically changing the way people listen to music, allowing people to listen to privately and personally-chosen music in various public and private settings (Bull, 2005; Williams, 2007). Portable music can be defined as recorded music chosen by the listener, which is listened to through headphones using technology such as an iPod or Mp3 player. These portable technology tools permit users access to a variety of music styles by allowing them to store and readily access music (Williams, 2007). The convenience of portable music listening technology allows listeners to use their music as they wish.

During the mid-1990's, when Sony Walkmans were the most common type of portable personal stereos, Bull (2000) conducted individual and group interviews to discover their significance for over sixty music listeners. Eleven strategies were identified that were used at different times and for different reasons to help manage their everyday lives. Subsequently, Williams (2007) used individual interviews with 26 participants to adapt Bull's eleven strategies

and reflect the functions of newer portable music tools such Mp3 players. The eleven functions are described as follows.

First, portable music listening allows individuals to listen to chosen sounds (i.e., to exercise personal preference) and fulfill that desire. A second function of portable music is learning, which involves understanding and analyzing the music being listened to. A third function is aestheticisation, in which the listener develops a perception of both their visual and aural environment through their music. That is, portable music allows the individual to experience their day-to-day lives as being similar to a movie with a soundtrack. Environmental control is the fourth function, which means that listeners can replace the sounds of their environment with the sounds of preferred music. An "alternative soundscape" (Williams, 2007, p. 5) can be created by replacing undesirable sounds with pleasant ones. The fifth function recognizes that portable music can also be used as a means of boundary demarcation, a way to musically separate listeners from their surroundings (e.g., listening to their music while riding public on transportation). A sixth function is interpersonal mediation, whereby personal interactions with others' are controlled with the portable music listening technology. For example, listeners can focus on their music, which sends a message that they are busy with music listening and are not open to social interaction. A seventh function associated with portable music listening is company, in which music becomes a companion (e.g., the musician acts as a companion for the listener). Portable music can also act as an aural mnemonic, which is the eighth function: particular music reminds the individual of past events and induces emotions related to that event. The ninth function is mood management. Music listening can influence the listener's mood, so listeners can choose music to alter an undesirable mood or maintain a desirable one. A tenth function is the use of portable music for time management, a tool that

listeners can utilize when they have nothing to do or are engaged in tasks that are repetitive or experienced as boring. Lastly, the eleventh function suggests that portable music allows for activation. That is, music listening can arouse physical movement in the listener.

Ways of Music Listening

In addition to identifying portable music's multiple functions for listeners, the literature has also differentiated between ways of listening: passive or background listening versus active or focused listening. Focused or active music listening involves listening to the sounds and considering what they symbolize (Dibben, 2001). In focused music listening, listeners not only focus on the structural components of music, but also extend their focus to concentrate on the structure of the music for meaning and what the sounds represent. Some may focus on musical structures such as rhythm or melody, but others may focus on the personal meaning they make from the sounds they hear or what the sounds represent to them. For example, one may focus on a particular feeling evoked by the music. Clarke, Dibben and Pitts (2010) suggested that how individuals choose to focus their attention when listening to music depends on their personal reasons for listening (e.g., an aspiring musician may analyze the performer's technique while another listener might attend to the personal meaning associated with the concert as a whole).

Passive or background listening occurs while engaged in another activity (Clarke et al., 2010). When music is listened to in the background, the listener's attention is on an activity other than the music. For instance, homework or driving might be the primary activity and music is secondary to that task.

It is also recognized that music listeners can shift between these two modes while listening to music and that all ways of listening are not fully captured in these two categories (Clarke et al., 2010). There is also an inconsistency in the literature around the use of the terms

"listening" and "hearing" when referring to music. Although Clarke et al. (2010) suggested that "listening" pertains to focused or active engagement with the music and that "hearing" refers to music in the background while engaged in another activity; much of the literature uses the terms interchangeably.

Summary

Recent research (Williams, 2007) has explored a number of functions that portable music listening serves for the listener and different ways that an individual can listen to music, including passive or background listening and active or focused listening (Clarke et al., 2010). While the information outlined above is not specific to adolescents, the functions of portable music and the ways that individuals listen to music provide a starting point for understanding how teenagers might engage with their music. For example, Williams (2007) outlined specific functions of portable music listening that are internal to the individual and may not be apparent to someone on the outside. This is pertinent when thinking of adolescents and their music use, suggesting that there may be more going on for the individual subjectively than what adults may see and that music can be experienced in multiple ways.

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Music Listening in Adolescence

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Music is important to adolescents and they spend a significant amount of time engaged in music listening (Boal-Palheiros & Hargreaves, 2001; North et al., 2000). Popular music listening increases during adolescence (Larson Kubey, & Colletti, 1989) with children and adolescents self-reporting that as age increases, so does time spent listening to music (Lamont, Hargreaves, Marshall & Tarrant, 2003). According to Arnett (1995), time spent music listening peaks during adolescence. Unsurprisingly, a 2006 Canadian report indicated that almost sixty

percent of Canadian youth aged 12-19 years, owned PMPs (Canadian Radio-Television and Telecommunications Commission, 2006).

Several researchers have investigated adolescents' music consumption. North et al. (2000) surveyed 2465 British adolescents between the ages of 13- and 14-years to determine the frequency of their music listening. They reported that 39.6% of the surveyed adolescents listened to music as often as possible, which was more than one or two times per day. On average, these teens spent 2.45 hours per day listening to music and for 60% of the respondents, music listening was usually a solitary activity.

Lamont, Hargreaves, Marshall and Tarrant (2003) used questionnaires, interviews and focus groups to determine the views of British teachers and students (aged 8-14 years) about music as a subject area in school as well as music listening outside of school. Of interest to the present study were the findings on music listening out of school. Results indicated that many of the student participants listened to CDs, cassette tapes and the radio. Based on the student participant's reports, the amount of time they spent listening to music increased as they got older. Students reported listening mainly to pop, dance, rock or R&B styles of music. Similar to Boal-Palheiros and Hargreaves (2001), Lamont et al. (2003) discovered that these students believed that music listening provided them with a means to navigate and change their emotional states.

More recently, Bahanovich and Collopy (2009) conducted a comprehensive survey of 1,808 young British people's (aged 14-24 years) music consumption habits. They found that the computer was adolescents' main station for entertainment with 68% of the participants listening to music on their computer on a daily basis; 58% of participants reporting daily music listening on an iPod or other Mp3 player. Secondly, the authors discovered that young people have access to huge digital libraries (that is, all the digital music files on their computer hard drive). The

average British teen reported having 8,159 tracks, which the authors equated to 17 hours of non-stop music. Further, Bahanovich and Collopy (2009) discovered that the average British teen had 1800 tracks on his/her Mp3 player. They found that young people generally did not carry many digital music tracks on their cell phones, with the average being 32 tracks. Finally, the results indicated that when these young people were asked which mode of entertainment would be missed most if they were stranded on a deserted island in 2009, 90% of respondents said it would be music, compared to the Internet or mobile phones.

Unsurprisingly, adolescents consider music listening to be one of their most important leisure activities (Boal-Palheiros & Hargreaves, 2001; North et al., 2000). Boal-Palheiros and Hargreaves (2001) used individual structured interviews to investigate the role of music listening in young people's leisure interests in general and specifically regarding music listening at home and at school for 60 British and 60 Portuguese students aged 9- to 14-years. Results indicated that music listening was an important leisure activity, especially for older children and whereas music listening at home served as enjoyment, a means to change mood and engage in social relationships, music listening at school served as motivation for learning and being active and particular lesson content.

Campbell, Connell & Beegle (2007) collected student essays written about the meaning of music in their lives as well as why the students thought music should be in schools. Many students wrote about greater life benefits associated with music: e.g., self-discipline, music's ability to enhance cognitive skills, concentration and the ability to memorize information, and generalize information to school work. They also wrote about music as building character and shaping the individuals they will become.

Summary

Research sheds light on to the availability (Bahanovich & Collopy, 2009) and importance of music for adolescents (Boal-Palheiros & Hargreaves, 2001; North et al., 2000). Young people readily have access to music on their computers and Mp3 players (Bahanovich & Collopy, 2009). Unfortunately, the studies speaking to the importance of music for adolescents are dated. Since these studies were published, our youth have experienced greater access to music and advances in technology. New tools, including Mp3 players and music through the Internet, have likely created easier access to music for today's teens and may influence the way in which teenagers engage and value their music. As can be seen, music is a part of the daily existence of an adolescent and given both its availability and importance, it seems preferable to consider ways to incorporate its use in the classroom.

Music Listening Benefits for Youth

Research underscores some benefits associated with music listening for both typical adolescents and those with identified challenges. For example, music's positive effect on cognitive skills (Hallam, Price & Katsarou, 2002; Morton, Kershner & Seigel, 1990; Rainey & Larsen, 2002) can have academic benefits (Abikoff, Courtney, Szeibel & Koplewicz, 1996; Beentjes, Koolstra & van der voort, 1996; Hallam & Price, 1998; Hallam et al., 2002) as can music's positive influences on emotions and mood (Boal-Palheiros & Hargreaves, 2001; Chabris et al., 1999; Lamont et al., 2003; Thompson, Schellenberg & Husain, 2001; Saarikallio & Erkkila, 2007; Siemens, 2006), social development (Boal-Palheiros & Hargreaves, 2001; Campbell et al., 2007; Larson, 1995; Schwartz & Fouts, 2003) and behaviour (Abikoff et al., 1996; Beentjes et al., 1996; Domitrek & Raby, 2008; Hallam & Price, 1998; Savan, 1998, 1999; Wiebe, 2007). Other research has cautioned that background music can also interfere with task

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performance (Anderson & Fuller, 2010; Pool et al., 2000, Pool et al., 2003; Ransdell & Gillroy, 2001; Tze & Chao, 2010).

Cognitive, Academic and Behavioural Benefits

Schellenberg (2005) noted a growing interest in the connection between music and cognitive performance and suggested that music listening may enhance performance on a variety of cognitive tasks. Beentjes, Koolstra and van der voort (1996) surveyed 1,700 grade 8 and 10 Dutch students about how often they used background media while doing homework and how they thought it affected their homework. Findings revealed that background audio media was often used while students completed homework assignments, especially for paper-and-pencil type assignments. Most students had access to cassette/CD/radio in their rooms or living room and preferred to do homework with music rather than television. Most of the students reported placing the majority of attention to their homework task; however, some students paid more attention to the background music and some noted shifting between music and homework as being the primary or secondary task. The students, in general, felt that listening to music improved their performance on the paper-and-pencil task whereas it was seen as detrimental to learning assignments.

Rainey and Larsen (2002) conducted two experiments testing the hypothesis that music acts as a mnemonic device when used in the form of a melody that is familiar to the listener. A sample of 79 adult students (mean age of about 19 years) learned a list of names that was either spoken without music or sung to a familiar melody. The number of times necessary to present the list to learn the list initially and then again after a week was noted. No significant difference was reported between the participants' ability to learn the list initially, but individuals who listened to the list that was sung were able to relearn the list in fewer trials after a week.

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Morton, Kershner and Siegel (1990) explored music's effect on the memory and attention of a sample of 16, 10- to 12-year old boys. The participants engaged in a dichotic listening task that involved listening to a list of digits, after either listening to music or sitting in silence. For each session, the participants recalled as many digits as they could remember; then the digits they heard with their left ear; and the digits they heard with their right ear. For children exposed to the music listening condition, there was a significant increase in their memory for digits and a reduction in their distractibility. The authors concluded that music may increase the ability to process directed information and proposed that these findings may have implications for populations that are considered highly distractible, such as children with ADHD or autism.

Hallam et al. (2002) conducted two studies investigating the effects of music listening on mathematics and memory tasks for 61 elementary school students aged 10- to 12- years. In the first study, 31 students were divided into two groups: one group completed mathematics problems with music played in the background and the other group completed their mathematics problems with no music. The authors recorded the number of math problems each student tried, the number of items that were correct and their overall accuracy score. Results of this study revealed that the number of mathematics problems completed by the group of students listening to their music while working was significantly higher than those with no music. However, the number of correct items and the students' accuracy did not differ significantly between the two groups. The authors suggested that listening to background music while working on mathematics problems may improve the speed at which children complete their work. They explain the results in terms of the arousal that the music produced in the participants.

To further explore their hypothesis, Hallam et al. (2002) did another study to determine if

listening to more arousing, aggressive music would interfere with students learning. Thirty students were assigned to one of three groups: a control group (no music), a calming music group and an aggressive music group. The students were required to memorize sentences and then fill in missing words from the sentences while music was playing (or not playing for the control group). In addition, students were asked to read short stories and respond to questions about what the stories' characters would do in a given situation. Answers were analyzed based on whether or not their answers included altruistic behaviour. Results revealed that calming music had a significant positive influence on the participants' memory for sentences and for increasing answers demonstrating altruistic behaviour. Further, music that was perceived as aggressive and arousing had a negative effect on the participants' memory for sentences and likelihood of giving altruistic answers. The authors noted that even though the heightened levels of music-induced arousal was helpful for completion of the tasks, this level of arousal may not be appropriate for all children, especially those who have difficulties with concentration, an area that was identified as needing further exploration. Hallam et al. (2002) concluded that based on the studies, music has the potential to create a favorable environment for children to complete individual work both in and outside of the classroom setting and can be used to achieve desired behaviour; however, they also cautioned that some music may interfere with students' learning and the importance of considering the type of music listened to.

Attention, concentration and focus, length of time staying on task, and behaviour have also been reported as positively impacted by music listening (e.g., Abikoff, Courtney, Szeibel & Koplewicz ,1996; Beentjes, Koolstra & Van der voort, 1996; Domitrek & Raby, 2008; Hallam & Price, 1998; Savan, 1999; Wiebe, 2007) for both typical youth and those with challenges. Abikoff, Courtney, Szeibel and Koplewicz (1996) compared nondisabled children and children

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diagnosed with Attention Deficit/Hyperactivity (ADHD) disorder completing their homework under three conditions: listening to music, watching television, or silence. The forty male participants included two groups of children in second to sixth grade, a group of 20 nondisabled students and a group of 20 children with ADHD. The children completed mathematics problems during either 10-minutes of self-identified favourite music, background speech (taped television report) or silence. Results indicated no significant difference between conditions on the nondisabled children's performance; however, the children diagnosed with ADHD answered significantly more questions correctly when they listened to music than when they listened to the television in the background. Further, the authors discovered that the order in which the conditions were presented made a difference for the children with ADHD. They found that the number of correct items for these children nearly doubled if the music condition was presented first; the children also attempted more questions. The authors noted that auditory stimulation in terms of music or television did not have a negative impact on either group's mathematics performance; that music had a positive influence on the children with ADHD; and that the nondisabled students demonstrated a similar performance across all three conditions.

Savan conducted a pilot study in 1998 and examined the behaviour and physiological responses of ten boys aged 11- and 12-years with emotional and behavioural difficulties while they listened to Mozart during their normal science lessons. Music was played during ten 40-minute science lessons while the students were videotaped to monitor their behaviour and task performance. Measurements of blood pressure, temperature and pulse were recorded at the beginning, middle and after the lesson. Results suggested that these students showed increased cooperation while the music was playing along with changes in physiological states. The author

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suggested that music can produce a calming effect on children by influencing biochemical changes.

To follow up, Savan (1999) conducted another study in which she examined the idea that certain properties of Mozart's music improve the coordination skills of students with behavioural and emotional difficulties. Measurements were taken of blood pressure, body temperature and pulse rate (at the beginning of the lesson, 20 minutes in, and one hour afterwards) to see if the music had an effect on the students' physiological states. Measurements were also taken during lessons without the use of background music. The students were videotaped during the lessons to document their behaviour and responses to the tasks required of them. Observations were made regarding their coordination, amount of work completed, completion of tasks, neatness, level of noise in the classroom, length of time concentrating and attention-seeking behaviours. The observations were compared with those made in lessons before and after the science lesson. Savan (1999) found a significant decrease in physiological measurements and improved behaviour as a result of listening to Mozart during science lessons. Additionally, improvements in coordination and length of time students were able to concentrate were noted.

Hallam and Price (1998) examined the effects of background music on the behavioural and mathematics performance of 10 children, aged 9- and 10-years, with emotional and behavioural difficulties. The children completed a mathematics booklet without music and then with calming music played in the background. Each time the children worked on their booklets, the number of math problems they completed correctly was recorded along with the number of rule infractions. Results showed a significant decrease in disruptive behaviour and an increase in academic performance, especially for children whose difficulties stemmed from over-activity or

stimulus-seeking. The authors noted further improvements in cooperation and lower levels of aggression.

A qualitative case study was used by a University of Saskatchewan graduate student to investigate the use of music listening with headphones during school seatwork for an adolescent boy with Attention Deficit Hyperactivity Disorder (ADHD) (Wiebe, 2007). Multiple sources of data were used to understand how listening to music when completing classwork and homework impacted the boy's academic experiences and his perceived ability to manage his symptoms of ADHD. Separate interviews were conducted with the boy and his teachers before, during and after implementing music listening in his classroom and at home during homework. His teachers also completed a standardized attention checklist prior to the study, during the music implementation, and after the completion of the music implementation to provide another measure of the boy's attention. The adolescent boy reported that in his opinion, listening to music improved his concentration, motivation and attitude when completing his course work, elevated his mood while completing school work, and increased the amount of information he could learn and remember for his exams. The parents and teachers agreed, although the teachers expressed concerns about classroom implementation of music listening.

Another study (Chalmers et al., 1999) focused on the effect of playing background music on the behaviours of challenging children and the overall noise level in a school lunchroom. The number of behavioural interventions and noise level in the lunchroom were measured over 20, 25- minute lunch sessions. Over the course of the study, music (both classical and popular) was played during some sessions. The authors found both the number of interventions required for children who displayed challenging behaviours and the overall noise level were lowered when

music was playing. These authors suggested that music can have a calming effect when played in the background of a lunchroom.

Contrary Findings. Whereas utilizing media in the background (e.g., music listening, television) with completing homework is common practice for many students (Beentjes, Koolstra & van der Voort, 1996) and music may provide positive distraction from tasks that are perceived to be repetitive, boring, or routine such as exercising, driving, or homework (Clarke et al., 2010; North et al., 2000), especially for adolescents (Arnett, 1995; North et al., 2000); research also suggests that the use of background media while completing homework may interfere with students' performance. It is argued that engaging simultaneously in two tasks can cause one's attentional capacity to be exceeded (Pool et al., 2001; Pool et al 2003; Ransdell & Gillroy, 2001; Tze & Chou, 2010).

Pool et al. (2000) conducted two experiments to examine how background media, including television shows, music videos or no television, influenced grade 8 Dutch students' performance on homework tasks and if the level of task difficulty affected how distracted students were while completing homework with background media. Findings showed that performance was affected in a negative way when listening to Dutch language soap operas in the background, but not when listening to English-language music videos or silence. Further, the background Dutch language soap opera media condition only interfered with students' performance on difficult homework tasks. None of the background conditions interfered with performance on easy tasks. The researchers speculated that soap operas required more attention from the students than did music videos, which resulted in weaker performance on the tasks; however, the authors believed that the soap operas being in the participants' native language while the music videos being in a second language, was an unintentional confounding factor that

may have influenced the results. Furthermore, the authors felt that the ecological validity could be enhanced and attempted to do so in a second experiment that more closely resembled a homework situation. Pool et al.'s (2000) second experiment was similar to their first; however, the homework assignments were completed by the participants without the presence of the experimenter and the instructions were more explicit. The authors found similar results in their second experiment.

Pool et al. (2003) extended their earlier studies (see Pool et al., 2000) and observed the effect that background media, including both radio and television, had on the homework performance of 160, Dutch grade 8 students. Students were assigned to complete paper-and-pencil and memorization homework assignments while participating in one of four background conditions including a soap opera, music videos, radio music, or silence. Results were replicated from the previous study and students' performance on both types of homework tasks was negatively influenced by soap operas played in the background, however; music videos and radio played in the background did not affect students' task performance in a negative way. The authors noted that the results of these studies regarding music videos cannot be generalized to students completing homework while listening to music in their native language because the music used in this research was played in a second language. Pool et al. (2003) suggested that background music videos or radio played in a foreign language is not harmful to homework performance. However, the authors wondered if music videos played in an individual's native language would demand more attention.

Other studies investigated the impact of background music on specific academic tasks, such as reading comprehension (Anderson & Fuller, 2010; Tze & Chou, 2010) and writing fluency (Ransdell & Gilroy, 2001), which require full attention. Anderson and Fuller (2010) gave

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a reading comprehension subtest to a sample of 334 grade seven and eight students while listening to either popular music or no music. The students also completed a survey regarding whether or not they preferred to listen to music while studying. The results demonstrated a significant decrease in reading comprehension for these students when they listened to music while reading. Furthermore, the students who preferred listening to music had the greatest decrease in reading comprehension performance. Anderson and Fuller (2010) suggested that these students may be unaware of the amount of attention they are focusing on the music and noted that they may be so used to studying with music that they may not realize their comprehension may be enhanced by studying without music. The authors wondered if the group of students whose performance did not decline during the music listening tasks had developed strategies to deal with stimuli that competed for their attention.

Tze and Chou (2010) wanted to find out if music listening affected concentration during a reading task, and whether light music (classical) was more or less distracting than heavier music (hip hop). Based on a sample of 133 Taiwanese college students, the researchers found that background music listening lowered performance on a reading comprehension task compared to no music; and that high intensity music (e.g., hip hop), compared to light music (e.g. classical) or no music, was more distracting.

Similarly, an earlier study by Ransdell and Gilroy (2001) found that background music listening interfered with the writing fluency of some college students. Forty-five college students were required to compose two essays under two conditions: background music (instrumental, vocal or combination) or silence. Results indicated the students' writing fluency was disrupted when music was playing in the background regardless of the type of music. The authors noted

that individuals with musical training and stronger working memory skills were less affected during the task.

Arousal and Mood Explanation. Thompson, Schellenberg, and Husain (2001) proposed the arousal and mood hypothesis to explain the effects of music listening on cognitive performance, i.e., that effects occur as a result of changes in individuals' state of arousal and mood. This hypothesis provided a model to explain the controversial *Mozart Effect,* the phenomenon that individuals perform better on spatial-reasoning tasks if they listen to Mozart's music before completing a given task (Rauscher, Shaw & Ky, 1993). The arousal and mood hypothesis argues that this effect is not a result of Mozart or the music, but rather, a result of the enjoyment and elated mood that listeners feel while listening to the music, which improves their performance on subsequent tasks (Chabris et al., 1999; Thompson et al., 2001).

Rauscher, Shaw and Ky (1993), the original investigators of the *Mozart Effect,* explored the effect of listening to Mozart on spatial reasoning task performance. Thirty-six college students completed three sets of spatial reasoning tasks after exposure to all three conditions: listening to Mozart's music, listening to a relaxation tape, and silence. The authors found that the participants' performance was temporarily enhanced on the spatial reasoning tasks after listening to Mozart, compared to listening to a relaxation tape or silence. The authors took the pulse of each participant after each condition, but found that there were no differences between the conditions and excluded arousal as a cause of the differences in performance.

Nantais and Schellenberg (1999) conducted two experiments on the effect of music on adults' spatial task performance. The first experiment aimed to reproduce and extend the findings of Rauscher et al. (1993) by examining 56 adults' performance on a paper folding and cutting task after listening to Mozart, Schubert or silence. The adults participated in both the music and

control groups on different days in which they completed the paper folding task after listening to either Mozart or Schubert. The authors found that performance on the task was positively influenced by listening to both types of music over silence and discovered the same positive *Mozart Effect* was noticeable when participants listened to Schubert. They suggested that the effect of music on spatial performance was not related to Mozart but rather with any type of classical or romantic music and proposed that the same effect would be demonstrated with any positive condition being paired with a condition that is less engaging for the participants.

Nantais and Schellenberg's (1999) second experiment examined the idea that positive performance on spatial tasks after listening to Mozart results from the participants' preference for a particular condition. They assumed that an individual's performance would be enhanced following their preferred condition. They examined 28 adults' performance on the paper folding task after participating in one of two conditions, listening to Mozart or a short story. Furthermore, the participants were asked afterwards which condition they preferred. Results indicated no difference on the task between the music or story groups and suggested the *Mozart Effect* disappeared when a story was used in place of the silence condition. Further, they found that the participants' performance was better on the tasks when they listened to their preferred condition. The authors suggested that the positive effect on spatial abilities may not be a result of listening to music, but rather resulted from listening to an auditory stimulus considered to be pleasant to the listener.

Chabris et al. (1999) conducted a meta-analysis of sixteen studies investigating the *Mozart Effect*. They suggested that the effect of Mozart's music on cognitive performance was minimal and could not be attributed to IQ in general, but rather to improved performance on very specific cognitive tasks, including abstract reasoning and spatial-temporal processing, which they

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explained as a result of location in the right cerebral hemisphere, similar to that of cognitive arousal. Chabris et al. (1999) concluded that an effect is apparent; however, the improved performance on spatial tasks could be attributed to the enjoyment of the music being listened to.

Thompson et al. (2001) subsequently explored the effect of Mozart's music in terms of arousal and mood. Twenty-four university students aged 20- through 60- years with some formal music training participated in the study. The participants listened to music that induced a positive mood (Mozart sonata) or music that induced a sad mood (Albinoni adagio) or silence and subsequently completed a spatial abilities test. In addition, the authors examined the participants' enjoyment, arousal and mood. Results indicated that performance was better on the spatial ability test when individuals listened to the pleasant and energetic Mozart music compared to silence and that the slow, sad Albinoni music had no effect on spatial task performance. The participants responded differently to the styles of music in terms of enjoyment, arousal and mood; listeners reported a positive mood while listening to the Mozart music and a negative mood while listening to the Albinoni music. The authors suggested that their findings provide evidence that heightened arousal and mood are responsible for any so-called *Mozart Effect.*

The same effect has been evidenced using other types of music, including music by popular musicians (Schellenberg & Hallam, 2005), Bach (Ivanov & Geake, 2003) and Schubert (Nantais & Schellenberg, 1999), with the commonality between all studies being the positive mood and enjoyment of the music. Schellenberg and Hallam (2005) examined the spatial skills of 8,120 British children aged 10- and 11-years after they listened to popular music, Mozart, or a verbal discussion. They hypothesized that as a result of enhanced arousal and mood induced with popular music, the children would perform better on the spatial tasks preceded by popular music rather than Mozart or discussion. They also hypothesized that there would be no performance

difference between the Mozart and discussion groups conditions. The students participated in one of the three 10-minute listening conditions prior to completing two paper-and-pencil tasks that examined spatial abilities: square completion and paper folding. Square completion involved choosing from a list of options the item that completes a given square. The second task, paper folding, required the students to choose from a list of options the item that demonstrates what the piece of paper looks like when unfolded. Results indicated a better performance on the paper folding task while participants listened to popular music, which the authors named the *Blur Effect* (the title of one of the popular songs being listened to). No difference between conditions was evident on the square task. The authors concluded that the positive effects of music listening on the listeners cognitive skills are more apparent when the music is enjoyable to the listener and recommended further exploration of the reasons for performance differences on the two tasks while listening to popular music. They speculated that the effect may be more apparent on more challenging tasks or may be related to the order in which the tasks are presented.

Ivanov and Geake (2003) examined the temporal-spatial reasoning ability of 76, fifth and sixth grade students aged 10- through 12- years under one of three music listening conditions: listening to Mozart prior and during the task; listening to Bach prior and during the task; and listening to background noise during the task. The task involved a paper folding activity in which participants figured out how a folded piece of paper would look unfolded. Participants also answered a questionnaire about musical experience. Results indicated the performance on the paper folding task was significantly higher for the Mozart group and Bach group compared to the control group of background noise. The authors suggested the *Bach Effect* to be similar to that of the *Mozart Effect*. In addition, level of musical experience did not have significant effect on the children's performance on the paper folding task. The authors hypothesized that enjoyment of the

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music, novelty or enhanced mood may be attributable to the enhanced performance while listening to Mozart or Bach.

The above studies provide credence to Schellenberg's (2005) claim that music is not the key to improved task performance, but "rather, upbeat, age-appropriate music can improve listeners' arousal level and mood" (p. 318). Improved performance resulting from increased arousal and positive mood has also been evidenced in tasks that require skills other than spatial ability. Schellenberg et al. (2007) measured 48 Canadian undergraduate students' performance on subtests measuring processing speed and working memory from the Wechsler Adult Intelligence Scale-Third Edition (WAIS-III) (Wechsler, 2000), after listening to different types of music, including music that elicited high-arousal and positive mood and music that elicited low-arousal and negative mood. As predicted, when individuals listened to music that increased arousal and created a positive mood, scores on the WAIS-III subtests were higher.

Crncec, Wilson and Prior (2006) reviewed literature regarding claims made in terms of cognitive and academic benefits of music to children. Pertinent to this discussion is their exploration of the *Mozart Effect* and use of background music in classrooms. The authors argued that the *Mozart Effect* has not been reliably demonstrated with children and they questioned the validity of the effect with adult populations. They suggested that no direct implications for the classroom result from this body of research. Further, the authors noted that the use of background music in the classroom setting also has not been demonstrated to reliably show cognitive and academic benefits for children. However, they suggested that this type of music may be beneficial for special needs populations as music may help decrease arousal and improve focus. The authors suggested that further research needs to address these affects in normal populations. In conclusion, these researchers suggested that the research on the specific cognitive and

academic benefits of music listening on learning was too narrow, and they recommended that the benefits of using music in the classroom not be restricted to cognitive and academic outcomes.

Emotional and Social Benefits

Youth identify emotional and social benefits as an important part of their music listening experiences. A number of studies investigating the effects of music on adolescents' mood and emotions report that youth use music means to fulfill both emotional and social needs (Arnett, 1995; Boal Palheiros & Hargreaves, 2001; Campbell, Connell & Beegle, 2007; Domitrek & Raby, 2008; Lamont et al., 2003; Larson, 1995; North et al., 2000; Saarikallio & Erkkila, 2007; Schwartz & Fouts, 2003; Siemens, 2006). Music listening is associated with enjoyment and creative expression (Campbell et al., 2007; North et al., 2000; Saarikallio & Erkkila, 2007) but it also helps adolescents cope with difficult situations and get through challenging times (Boal-Palheiros & Hargreaves, 2001; Campbell, Connell & Beegle, 2007) as well decrease loneliness and alleviate boredom (North et al., 2000). Larson (1995) described music listening as a common coping strategy used by adolescents to self-regulate emotional states, that is, a tool to explore and change their mood (e.g., when they are experiencing negative emotions such as anger, sadness, boredom or tiredness) and to reduce tension or stress (Boal-Palheiros & Hargreaves, 2001; Lamont et al., 2003; Saarikallio & Erkkila, 2007). Few studies have explicitly considered gender differences in adolescents use of music listening. However it makes sense that differences may reflect the differing needs of boys and girls when it comes to music listening. For example, North et al. (2000) found that girls tended to use music to fulfill emotional needs while boys employ music as a means of presenting a particular image to others.

Saarikallio and Erkkila's (2007) study is noteworthy as a qualitative study that used grounded theory in order to improve understanding about the emotional functions of music and

begin to develop theory. Eight adolescents, aged 14- and 17-years, participated in two interviews and completed forms independently between interviews. Findings led to the development of a "theoretical model of mood regulation by music in adolescence" (p. 93). The model is explained in terms of goals to regulate mood and strategies used to achieve these goals through musical activities, such as listening, playing, and performing. The main goals of mood regulation identified included mood improvement (changing one's mood to feel better) and mood control (having control over one's emotions and determining one's mood), both of which could be achieved through a number of regulatory strategies. Regulatory strategies included a number of musical activities, which the authors suggested had to be voluntary and involve music that fit the youth's current mood and energy. Musical activities were identified as regulating three distinct aspects of the adolescents' subjective experiences: valence of feelings (improving positive feelings and steering away from negative ones); intensity of feelings; and clarity of feelings (increasing understanding of feelings). Regulation of emotion also influenced energy levels. Eight strategies were identified that helped adolescents regulate their moods: entertainment, revival, strong sensation, diversion, discharge, mental work and solace. Each strategy was associated with different goals. Entertainment involved listening to music to feel better and improve mood. Revival involved listening to music, playing, singing or songwriting as a means to relax and revive oneself. Strong sensation meant using music, in any form, to initiate intensity or thrills. Diversion involved utilizing listening, singing and playing enjoyable music as a way to help the participants forget about their current mood state. Discharge referred to listening to and playing sad or aggressive music as a means of discharging and expressing negative mood states. Mental work involved listening to music or writing songs as a way to think about the world and

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gain better understanding of themselves; and last, solace involved listening to music with a focus on the lyrics to help adolescents feel understood.

Other researchers have also commented on the importance of lyrics in music listening. As part of their study in which 164 adolescents (average age of 16-years) completed a questionnaire that included a personality inventory and questions regarding music preferences, Schwartz and Fouts (2003) reported that lyrics were experienced as reflecting individual personalities and developmental challenges. They further reported that adolescents' musical preference demonstrated unique personality traits and developmental issues, which supported their hypothesis that teenagers enjoy listening to music that reflects their personality and issues that they are dealing with during adolescence. Schwartz and Fouts (2003) suggested further research to explore using knowledge of teenagers' musical preference as a means of understanding their internal world and whether a strong preference for a particular musical style may be suggestive, not causal, of difficulties with personality or developmental issues.

Another study noted that lyrics provided adolescents with a sense of reassurance that they were not alone in the world (Campbell et al., 2007). Campbell et al. (2007) analyzed essays of 1,155 13- to 18-year old teenagers submitted to a national essay competition. Content analysis was used to examine student essays about the meaning of music in their lives and more specifically, reasons why music should be kept in schools. Themes related to social and emotional benefits of music included music as a means of controlling or releasing emotions, particularly those that were perceived as negative and as a means to reduce tension or stress related to family, social, or academic demands. It was noted that two out of three students discussed these emotional benefits in their essays. Music as a therapeutic tool, with reference to using music as a way to deal with pain or abuse for example, was brought up in many essays as a

benefit of music. As mentioned, lyrics in songs were experienced as providing messages and reassurance to adolescents and helped them feel less alone in the world. Siemens (2006) reported similar findings specific to the romantic experiences of a small group of Canadian adolescent girls who described music listening as a way to express feelings, connect with others, cope with difficulties in relationships, and provide comfort and reassurance that others have similar romantic experiences.

Music listening also allows adolescents to meet social needs (Boal-Palheiros & Hargreaves, 2001; Campbell et al., 2007; Larson, 1995; North et al., 2000; Tarrant et al., 2000), in part because music facilitates connection with peer groups and creates a common ground for them to explore relationships (Arnett, 1995; North et al., 2000). The student essays collected by Campbell et al. (2007) included beliefs that music brings people together by providing a way to make friends, create a sense of belonging and relinquishing boundaries between people of different backgrounds. The students also noted the positive influence of music as a means of distraction from detrimental activities such as drugs and alcohol. North et al. (2000) noted that music listening can facilitate the development of identity during adolescence, allowing adolescents to create and project a desired image to peers and other people. Tarrant et al. (2000) reported that male adolescents' used music to help establish their place within their peer group. Larson (1995) described music as a way for teenagers to symbolically separate from their families and allow a sense of individuality by providing the opportunity to demonstrate their tastes and activities, which are separate from their families. Listening to music has been described as creating personal space for adolescents (Domitrek & Raby, 2008; Larson, 1995; Williams, 2007), perhaps especially important in environments where they have less autonomy such as at home, school or public places (Larson, 1995).

The control experienced in music listening may be especially important for adolescent music listeners. Boal-Palheiros and Hargreaves (2001) suggested that adolescent-controlled music listening, in which the individual has control over the type of music (e.g., when and why they listen), is more meaningful to the listener because it allows the individual to satisfy their own individual personal needs. Though control of music listening may be important for the general population, control over music may be of particular importance during adolescence, perhaps because teens are striving for autonomy during this developmental period.

Summary

Studies have demonstrated a number benefits of music listening, including cognitive benefits (Domitrek & Raby, 2008; Hallam, Price & Katsarou, 2002; Morton, Kershner & Seigel, 1990; Rainey & Larsen, 2002; Wiebe, 2007; Savan, 1998, 1999), academic benefits, (Abikoff, Courtney, Szeibel & Koplewicz, 1996; Beentjes, Koolstra & van der voort, 1996; Hallam & Price, 1998; Hallam, Price & Katsarou, 2002) and behavioural benefits (Chalmers et al., 1999; Hallam & Price, 1998; Savan, 1998, 1999). Music was found to serve as a means of enjoyment (Boal-Palheiros & Hargreaves, 2001), a way to change moods (Boal-Palheiros & Hargreaves, 2001; Lamont et al., 2003; Saarikallio & Erkkila, 2007) and a way to meet social needs (Boal-Palheiros & Hargreaves, 2001; Campbell et al., 2007; Larson, 1995; Schwartz & Fouts, 2003).

While the above studies suggested a number of potential benefits related to music listening, many of these studies are dated and current literature is not available. Further, some of the studies involved the use of adult populations (e.g. Rainey & Larsen, 2002) or younger children (e.g. Morton et al., 1990) and therefore cannot be generalized to adolescents. What can be gained from this body of literature, however, are a number of benefits that stem from music listening, for adults, children, adolescents, and special populations such as children with ADHD.

Given these benefits, it may become increasingly important for schools to consider these potential benefits when making decisions about PMP use.

Some researchers have noted that music can potentially distract students from homework tasks as the music competed for an individual's attention (Pool et al., 2000, 2003; Tze & Chou, 2010). Studies have found, for example, that music listening may have a detrimental effect on reading comprehension (Anderson & Fuller, 2010; Tze & Chou, 2010) and writing fluency (Ransdell & Gillroy, 2001). It can be inferred from this body of research that in the classroom setting, music could potentially interfere with the learning of students who use it as a means of distraction during activities that require their full attention, but could be useful for other tasks that are found to be boring or repetitive. While some research suggests that music listening during some tasks may interfere with performance, the findings are limited and further study is required. For example, the ways in which students listen to music while they engage in these activities and the students' perspectives on how listening to music in the background influences their performance on particular tasks were not considered; nor were the students' listening preferences.

The arousal and mood explanation (Thompson et al., 2001), suggested that increased cognitive performance while listening to music can be explained as a result of increased arousal and mood. This hypothesis explains the *Mozart Effect* that suggested individuals may experience enhanced performance on spatial-reasoning tasks after listening to Mozart's music (Rauscher, Shaw & Ky, 1993). Other researchers have found a similar effect while listening to music other than Mozart (Ivanov & Geake, 2003; Nantais & Schellenberg, 1999; Schellenberg & Hallam, 2005) and tasks that require skills other than spatial ability (Schellenberg, 2007). Based upon understandings of the arousal and mood hypothesis (Thompson et al., 2001), it can be assumed

that students who listen to music during individual seatwork activities may benefit from a change in mood, thus improving their performance and productivity on some tasks. However, these studies examined performance on cognitive tasks, such as spatial reasoning and working memory tasks that do not resemble real life classroom or homework assignments. As can be seen, there is a growing body of evidence that suggests enjoyable stimuli that elicit high arousal and improved mood have a positive influence on cognitive tasks and further, the positive effect on cognitive task performance may be dependent on the music preference of the listener.

Music has been demonstrated to help adolescents meet both emotional and social needs (Boal Palheiros & Hargreaves, 2001; Campbell et al., 2007; Saarkallio & Erkkila, 2007). Music listening has been used by adolescents as a coping strategy and helps to regulate their emotions (Boal-Palherios & Hargreaves, 2001; Lamont et al., 2003; Saarikallio & Erkkila, 2007). Further, music has been thought to aid in the developing adolescent identity (North et al., 2000). The emotional and social benefits of music, combined with the perceived importance at this particular developmental period, imply that it may be beneficial for adolescents to be encouraged to use music as a tool to help them achieve their needs. Allowing adolescents to use PMPs at in the classroom and school setting may be a means to help them achieve these needs.

Music Listening in School Classrooms

Although research documents the accessibility and potential benefits of music for adolescents, studies on the practical application of music, specifically PMPs in classrooms, are still progressing. Some teachers and administrators may be skeptical about the benefits to be gained with music listening; others are concerned about the practical challenges of implementing music as a tool to help with learning in the classroom. A limited number of studies suggest ways to move forward.

Differing Perspectives

There are conflicting attitudes regarding PMP use in the school setting. Wiebe's (2007) qualitative case study that explored the use of music listening for a boy with ADHD concluded with a note that in spite of the reported benefits that music had for this particular student, his school policies had a banned the use of Mp3 players and the study's findings were not readily accepted by all school personnel. Domitrek and Raby (2008) also uncovered conflicting views amongst Canadian high school students, teachers and administrators about school-wide bans of electronic devices and issues that arose regarding their regulation. Utilizing previous data collected from focus groups with secondary school students, and interviews with administrators and teachers that focused more generally on the topic of rules in schools and developing policy for their implementation (Raby & Domitrek, 2007), the authors found pertinent information on administrator, teacher and student perspectives on the use of electronic devices such as Mp3 players. Domitrek and Raby (2008) reported that many administrators believed that electronic devices, such as Mp3 players, distracted students from learning and thus, supported the trend towards school-wide bans of electronic devices schools. The administrators also believed it was their role, not the teachers', to make decisions about the use of PMPs in classrooms. Conversely, many students and teachers believed that using PMPs in the classroom was acceptable and beneficial, if used appropriately and effectively. Some teachers reported intentionally using music as a tool to help students remain on task, especially for students with behavioural issues. These teachers thought that music listening during activities unrelated to instruction helped keep students focused on their work, limited social distractions, and allowed students to produce quality work. Although some students may find music distracting, Domitrek and Raby (2008)

concluded that most teachers and students felt that listening to music while engaging in seatwork was acceptable given that it did not disrupt the learning of other students.

Moving Forward

Several suggestions have been forwarded to reconcile the varied perspectives. Stiler (2007) noted the importance of teacher and administrator education, training and support. A focus group used to explore seven American secondary school teachers' perspectives and recommendations on the potential uses of PMPs in the secondary classroom generated many ideas for non-music related applications of Mp3 players (e.g., data storage, music listening, use of audio books); however, much discussion focused on policies and problems with such technologies in the schools. Some teachers noted that even though there are potential uses for Mp3 players, their school wide ban of Mp3 players would interfere with any uses being actualized. They recommended the school-wide ban of such devices be lifted in order for changes in the use of such technology to occur. Further recommendations were to train and support teachers in using Mp3 players. Stiler (2007) noted a concern that teacher unfamiliarity with technological tools may lead to missed opportunities to make use of the tools that are accessible and desired by their students. Technological advances were seen as potentially creating challenges for teachers trying to incorporate such tools into their classrooms, and teachers could not be expected to be familiar with every new technology that presented itself. However, the study's participants thought that generational differences needed to be diminished through exploring new teaching and learning tools in the classroom.

In a paper discussing the challenge of incorporating new technology into schools while at the same time ensuring appropriate use, Hirsch (2005) suggested that it was important that school personnel shifted their thinking from a position of trying to protect students from the

harms of such technological tools, to educating them about how to use them appropriately. Hirsch noted that the presence of student-based technology, such as PMPs, provides educators with a unique opportunity to engage students; however, in order to incorporate these technologies, educators need to instruct students about the technology available to them and how to use it responsibly. Other researchers have also suggested that allowing the use of such tools will help students to learn etiquette regarding appropriate use of PMPs in the classroom (Hirsch, 2005; Domitrek & Raby, 2008).

Inclusion of students is a key recommendation for developing useful rules and guidelines in schools. Raby and Domitrek (2007) examined Canadian high school students' views and experiences with rules, in general, in their school environments. Nine focus groups each consisting of 3 to 14 secondary school students aged 14- through 18-years, were asked for their opinions regarding their school rules and how they were enforced; what types of changes they would like to see in terms of the rules; how they challenged authority when they were accused of breaking the rules; and if they had participated in the development of their school rules. Thematic analysis revealed that a number of students were in agreement with their school rules, mainly the major important rules, such as those around safety. Students were more accepting of rules when they felt they made sense, were practical and were for the betterment of themselves and other students. However, participants expressed problems following less important rules that they believed were enforced only as a means of control on part of the administration. The researchers suggested that students responded to such situations with challenge and rule-breaking behaviour, responses that might be reduced if the perspectives and concerns of students were invited. This is different than the conventional authoritarian top-down approach to rules in school environments which leaves students passive, and with little say in the development and

deployment of the rules. Raby and Domitrek (2007) further suggested that the system of rules that exists in schools hinders students in learning how to be participatory citizens and teaches students that rules do not have significance and are meant to be broken.

Domitrek and Raby (2008) and Raby (2008) reiterated the call for student participation in developing rules for using electronic devices such as Mp3 players in the classroom. Noting that rules and regulations regarding electronic usage in schools are set forth by administrators and school boards, with little input from other important stakeholders such as students and teachers, they again emphasized this situation is undesirable. The authors suggested that given divergent views on the use of electronic devices, inclusion of all stakeholders in policy development seems appropriate to ensure success. Domitrek and Raby (2008) also suggested that clear rationales behind rules should be explained to students and etiquette should be taught surrounding their use in different situations and potential uses and misuses should be highlighted. Raby (2008) argued that if students participated in the development of rules, they may develop greater ownership and responsibility over the rules rather than rebelling against them.

Summary

Although there are many studies discussing potential benefits of music listening for adolescents, studies addressing the practical application of PMPs in the classroom setting are still progressing. Researchers have called for student education regarding proper etiquette for using PMPs in the classroom (Hirsch, 2005; Domitrek & Raby, 2008) and school-wide bans of electronic devices have not been recommended (Domitrek & Raby, 2008; Stiler, 2007). Researchers have discovered conflicting attitudes about the use of electronic devices, such as PMPs, within school environments (Domitrek & Raby, 2008; Wiebe, 2007). Some schools have banned PMP use altogether (Domitrek & Raby, 2008; Stiler, 2007; Wiebe, 2007) and have

interfered with these benefits being actualized (Wiebe, 2007). Differing views on the use of such electronic devices are apparent between students, teachers and administrators (Domitrek & Raby, 2008). Researchers have called for these concerns to be addressed by including student voices and participation in the development of rules to increase ownership and responsibility (Domitrek & Raby, 2008; Raby & Domitrek, 2007; Raby, 2008). In the review of pertinent literature, no studies were found that included student voices in the practical application of PMP use in the classroom setting. This study is a response to this need with aims to collaborate with a group of secondary students to include their voice in the development of a list of guidelines for using PMPs in their classroom.

Conclusion

Given that music listening is both a highly valued and meaningful activity for adolescents and the increasing accessibility of electronic devices such as PMPs, combined with the ever changing advances in technology and proliferation of PMPs, it seems preferable to support the use of PMPs in the classroom setting. Research demonstrates a number of benefits associated with music listening, many of which may transferable to the school setting. It is also clear that the experience and benefits related to music listening are dependent on a number of factors, including individual differences, the type of task engaged in, and the way in which one listens to music, and therefore makes it difficult to have definitive claims supporting benefits of incorporating music listening into schools.

Despite research still to be conducted to further knowledge and understanding, a real life problem in schools exists where proliferation of mobile phones, PMPs, and the use of computers are bringing music into schools and creating a situation that requires the development of guidelines and policy from schools. It has been suggested that banning of such devices is not the

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answer, rather inclusion of student voices in the development of rules and policy may be beneficial. In keeping with recommendations that student involvement in the development of rules and policy regarding matters that affects them directly, an action research project was conducted to focus on the use of PMPs in the classroom, and more specifically, to form a collaborative research team, including myself and a group of volunteer and interested secondary school students, to develop a list of seven guidelines for using PMPs in the classroom.

CHAPTER THREE: Methodology

In the following chapter, action research is introduced and explained in terms its purpose, process and values. Details specific to the study are outlined, including information regarding the goals and purpose of the research, the research team, and the procedures for data collection, data analysis and consideration of criteria pertinent to the study's validity. The chapter concludes an exploration of ethical considerations.

Action Research

Qualitative research allows educators to study their school environments in their natural state (Bloor & Wood, 2006), specifically to "gain greater insight into the ways people interpret events from their own perspective, providing culturally and contextually appropriate information assisting them to more effectively manage problems they confront in classrooms and schools" (Stringer, 2004, p. 15). Action research is a particular approach to qualitative inquiry.

Introduced by Kurt Lewin (1946), action research is an orientation to inquiry based upon a cyclical process of planning, acting and reflecting aimed at influencing social change. Over the last several decades, action research has developed substantially and has been used in a variety of disciplines, especially education (Stringer, 2004).

While all action research is based on the idea of systematic inquiry through cycles of action and reflection, the term currently applies to diverse methods and practice (Reason & Bradbury, 2001), and represents a framework from which a variety of research projects can be conducted. Although a number of definitions have been developed to explain action research, Reason and Bradbury (2001) provide a concise explanation, suggesting that

Action research is a participatory, democratic process concerned with developing

practical knowing in the pursuit of worthwhile human purposes, grounded in a

participatory worldview …. It seeks to bring together action and reflection, theory and

practice, in participation with others, in the pursuit of practical solutions to issues of

pressing concern to people, and more generally the flourishing of individual persons in

their communities. (p. 1)

Thus, the central tenet of action research is the development of research that aims to uncover

practical knowledge and understanding that can be used to develop solutions to everyday

problems and improve situations, and further, to disseminate this new understanding to the wider

community (Reason & Bradbury, 2001; Stringer, 2004, 2007).

A participatory worldview informs action research. This perspective assumes that (a)

contribution of participants in research is vital; and (b) people reflect on their actions as they

construct reality based on their own experiences of the world (Reason & Bradbury, 2001).

Operating from this perspective encourages researchers to place high value on the knowledge,

experiences and perceptions that participants bring to the project. Reason and Bradbury (2001)

suggested that all action research should be considered participative as "action research is only

possible with, for, and by persons and communities, ideally involving all stakeholders both in the

questioning and sensemaking that informs the research, and in the action which is its focus"

(para.6).

Newton and Burgess (2008) identified three modes of educational action research:

knowledge-generating; practical mode; and emancipatory mode. The knowledge-generating

mode aims to contribute knowledge to the community by testing out interventions based upon

theory; the practical mode aims to improve educational practice; and the emancipatory mode

aims to improve the understanding for those involved of their own problems and encourages

them to initiate change (Newton & Burgess, 2008). Newton and Burgess (2008) argued that

while the majority of action research projects appear to have emancipatory goals, in fact, the primary aims of most projects fall within the first two modes.

The present study had an emancipatory aim of creating fair educational practices by eliciting participation from those directly affected and by encouraging the student team members to have a voice in a matter that affected them. This goal is aligned with the emancipatory mode of action research because of the intent to involve students in the project in a way that valued their contributions, and in a process that was democratic and personal to matters that affect them. A research team, including myself and a group of secondary students, collaborated to include the student voice in the development of guidelines for using PMPs in this classroom. The study also involved practical goals that were aligned with the practical mode of action research. A research team worked together to improve the practice of how PMPs were being used in their classroom through the development of guidelines for their use.

Value of Student Involvement and Participation. Several researchers have discussed youth involvement in research for emancipatory goals as well as other purposes. O'Donoghue, Kirshner and McLaughlin (2002) defined youth participation as "a constellation of activities that empower adolescents to take part in and influence decision making that affects their lives and to take action on issues they care about" (p.16). Powers and Tiffany (2006) described four research projects that involved youth involvement in participatory research and evaluation to illustrate why youth voices be valued, listened to and acted upon. First, youth participation can enhance research quality because youth are most familiar with the issue being addressed and therefore can provide more reliable data and interpretation. Youth involvement in research also provides opportunities for growth, development of partnerships with adults, creation useful data, contribution to change and improvement, and a chance to make a difference. Further, these

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authors suggested that research with youth involves much practice and that the cyclical nature of participatory research is ideal for engaging teenagers and allowing them to practice and learn. They also recommended that the time frame for such projects be considered - that is, the project needs to be long enough to develop the data, but not so long that the completion of the project does not come to fruition. Youth need to be informed about their responsibilities and rights as subjects in such a research project and to be sure that confidentiality concerns were addressed. Finally, the authors suggested that a variety of avenues for participation is key, and that the youth should be able to adapt their level of participation to their needs.

Goodyear and Checkoway (2003) described participation of youth in community evaluation and research as including

> Efforts by adults to involve young people in research and evaluation of programs that serve young people; by young people to organize their own community action projects; and by youth and adults to work together in intergenerational partnerships toward social justice. All of these are legitimate ways for young people to generate knowledge of, by, and for young people as well as to inform the people, programs, and policies with whom they interact" (para. 3).

These authors suggested engaging in such processes provides youth with the opportunity to practice exercising their rights, utilizing and developing critical thinking skills and participating democratically, while initiating change.

Rodriquez and Brown (2009) also noted that youth involvement in research is an ideal way to bring power to the voices of youth who are marginalized, which also helps youth "develop the knowledge, leadership skills, and sociopolitical power needed to redress mounting educational and social injustices" (p.32). Based upon their research experiences with

disenfranchised youth, Rodriquez and Brown (2009) suggested guiding principles for conducting

what they referred to as participatory action research (PAR) , i.e., research that involves youth

and uses the youth's own experiences to influence the direction of the research. Although they

stated that power should be shared with the youth, they also suggested that it is the researcher's

responsibility to lead the youth, scaffold their learning and develop cohesion in the group to

ensure quality research. They noted that researchers are required to make decisions regarding the

work of the research team that they believe will benefit the youth involved and the reliability of

the project. They stated that in their experience as researchers working with youth, they used

their position of power to work together with youth to build relationships and collaborate with

students to engage in inquiry-based learning. They noted that using their power was necessary to

the learning process for youth involved in participatory research.

Other guidelines included that the research be situated and inquiry based, and that the

perspectives and experiences of the youth researchers on a real problem are addressed: youth

"deserve meaningful participation in the construction of knowledge that guides policies and

practices important to their experiences" (p.25). Like O'Donoghue et al., (2002), Rodriquez and

Brown (2009) noted that youth have both experience and expertise to bring to the table and their

contribution improves the quality of such research. They also advocated for transformative

research that aims to make changes by improving the situations of the youth involved. Further,

they believed that the research should also include some form of action, e.g., presenting the

views of young people to upcoming teachers in education colleges.

The Process of Action Research. Although a variety of models exist for conducting

action research, they commonly involve a cyclical process including stages of planning, acting

and reflecting by conducting continuous systematic procedures to improve situations and solve

problems (Mertler, 2006; Stringer, 2004; 2007). The cyclical and ongoing nature of the action

research process allows those involved to better understand their situation through a process of

observation, reflection and action (Stringer, 2007).

Mertler (2006), and Mertler and Charles (2005), outlined a methodological framework

for conducting action research that progresses through four distinct phases of continuous

systematic procedures including planning, acting, developing and reflecting to discover solutions

to identified problems. Many authors have described systematic processes for engaging in action

research that are based on the principles of cycling through phases of action and reflection;

however, the framework described by Mertler (2006) and Mertler and Charles' (2005) is

straightforward and easy to follow. For the purposes of this project, this four-phase model was

adapted to include three distinct phases. For example, Planning and Developing was collapsed

into one phase that began each cycle (see Appendix A). In this phase, the research team outlined

the problem to be explored and developed a plan for conducting research and action to be taken.

The second phase, the Acting Phase, involved the actual implementation of the action planned in

the previous phase, which generated data. The last phase, the Reflecting Phase, involved a

discussion of the results and group reflection of the process of action research. As the research

team progressed through each phase, the cycles were repeated with the aims of developing

improvements in practice as each cycle completed.

The Present Study

Identifying the Problem

My career as a classroom teacher and my current employment as a consultant in the area

of school psychology contributed to my interest in working with a group of students to develop a

set of guidelines for using PMPs in the classroom setting. Informal conversations with teachers

and students preceded the research and they revealed that many teachers and students had opinions about the use of PMPs in the classroom, and about school policies that often deemed what was acceptable. Students talked about their desire to listen to their PMPs in the classroom, and some teachers disclosed allowing students to use PMPs in their classrooms despite a school policy banning such devices. Based on these conversations, my own experiences in classrooms, and familiarity with pertinent research literature, I believed that PMP use in classes was a current topic of interest in schools.

Recruiting the Research Team

The next step was to recruit a research team who wanted to develop guidelines for PMP use in their classroom as a solution to a practical problem in their lives, and as part of a research project. I decided to start by recruiting an interested teacher who would allow me to propose the project to students in one of his or her classes. With school division approval, a recruitment poster (Appendix B) was circulated to high schools in a mid-sized Canadian prairie city. The criteria for the teacher's involvement were (a) a desire to incorporate PMPs into their classroom; (b) teaching a high school subject that involves individual seatwork activities for the students; and (c) the support and cooperation of the school administration to participate in the project. Two teachers responded and I was able to schedule a meeting with one of them. During this meeting I reviewed the project and gained his informed consent to recruit students by conducting an information session using PowerPoint (Appendix C) in one of the teacher's classes. During this presentation, students who (a) found PMPs use to be a problem in their classroom, (b) had an interest in developing guidelines for using PMPs in their classroom, and (c) were interested in participating as members of the research team, were invited to show up to the first research meeting. The first research meeting was held immediately after the information session. The

teacher and students were informed that they could choose to participate or withdraw at any point during the process.

This process ended up creating a research team that included me and a small group of grade 11 students who were taking a media-course in a classroom where PMPs were used freely without any direction or guidance from the teacher. Their role as members of the research team was to participate in the process of action research including both data collection and analysis. Student team members participated in group discussions that involved both reflection and planning in each team meeting to inform subsequent actions. During designated class times, they listened to their PMPs and followed the rules, later writing about these implementation experiences on a blog if they wanted to. This level of involvement in the research process encouraged these students to voice their concerns and address problems around the use of PMPs in their classroom.

My role as a member of the research team was different than the student members. As part of the research team, I facilitated the development of the guidelines for using PMPs in the student members' classroom. I provided these students with the opportunity and resources to solve a problem that affected them. My involvement as a team member allowed the student team members to fully explore the use of PMPS in their classroom. Further, I supported the student members by providing them with a framework for solving the problem being addressed. By showing the students the action research model, I taught them how to use cycles of action and reflection to come to a solution to the problem. I provided both ongoing encouragement and support for the student team members as we cycled through the action research process to develop a list of guidelines for using PMPs in their classroom.

Implementing the Action Research Cycle

Three Phases. Data collection and analysis occurred over two months, from May 2010 to June 2010 (Appendix D) and involved three cycles through the action research process, adapted from Mertler and Charles (2005) and Mertler (2006) (Appendix A). Each cycle included three phases: Planning and Developing; Acting; and Reflecting.

In the first phase of the cycle of action research, our research team collaboratively planned a list of guidelines for using PMPs in the classroom. For the first Planning and Developing phase, the student team members drew from their previous knowledge about guidelines they felt would or would not work in their classroom. In subsequent Planning and Developing phases, the list of guidelines was revised based on the reflections of the previous sessions.

After each Planning and Developing phase, the new set of guidelines was implemented and observed by the student team members (data collection and analysis) in the second phase of the action research cycle. The Acting Phase provided the student team members with an opportunity to explore the guidelines and consider which aspects of each were effective for their classroom.

After the guidelines were trialed in the classroom, our research team had the opportunity to reflect on the effectiveness of each guideline and make suggestions for future developments. This third phase of the action research cycle allowed our research team to discuss each of the guidelines in detail and how they could be revised to enhance their success in the classroom.

Research Team Meetings. The action research cycle and its phases were implemented using face-to-face research team meetings. In total, one information session and four research team meetings were held over the two-month period, May 2010 to June 2010 (see Figure 1). The

meetings were held in the students' media/computer classroom over the lunch hour, with lunch

provided for those that attended.

Figure 1

Visual Model of Implemented Action Research Cycle
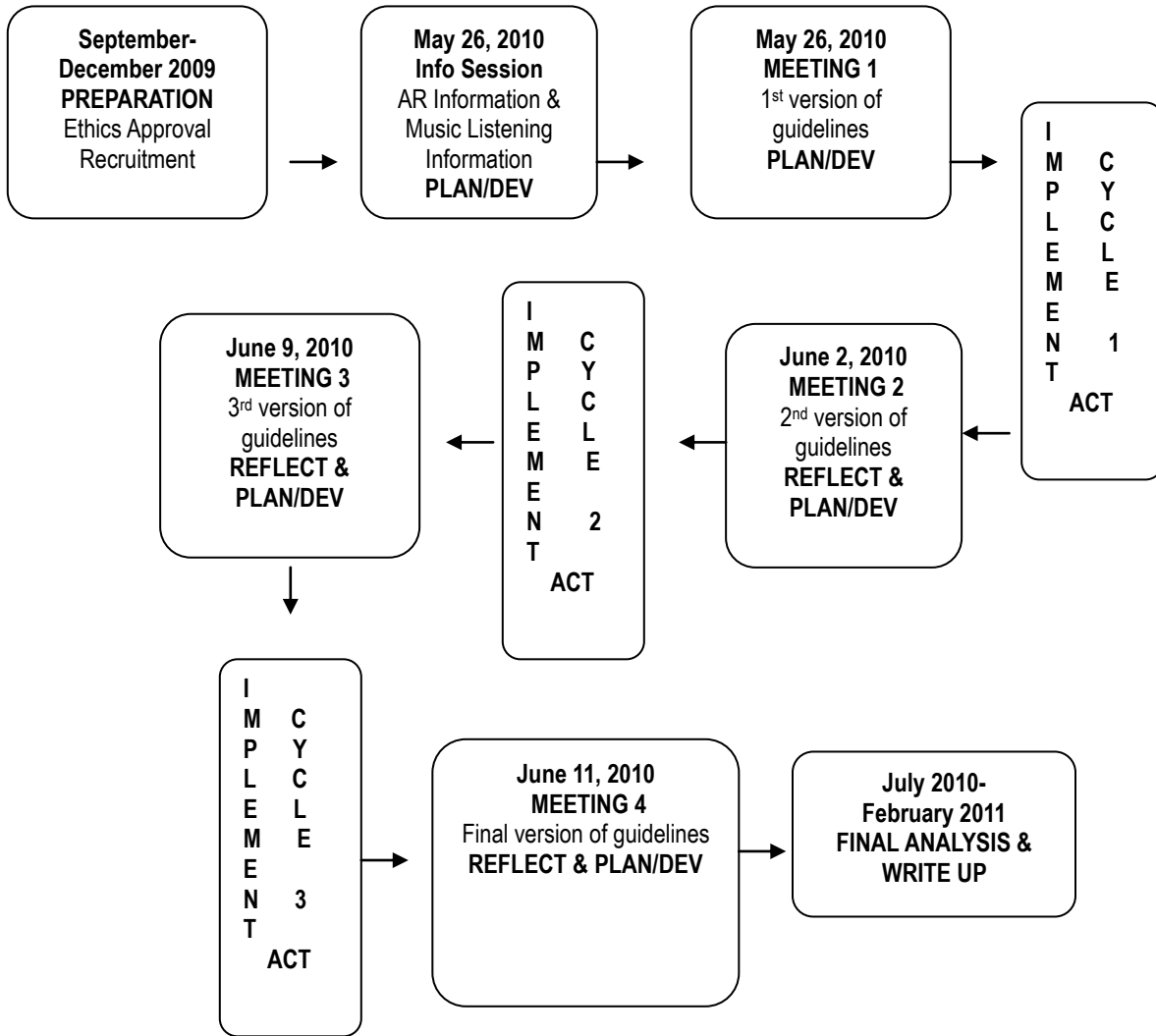
As mentioned, an information session was held in the teacher's classroom, which provided an introduction to the project to the participating teacher's media-related class comprised of twenty-five students. The aim was to recruit interested students to join the research team. The participating teacher and his students were provided with information about action research; research findings about the benefits of music listening and functions of portable music listening; and detailed information about the activities of the project (Appendix C). At this point, the students were also invited to talk about their own music listening experiences pertinent to concentrating, studying, and completing homework, for example. During this meeting, a discussion was held about choice of participation and alternate activities that could be conducted during the implementation time.

The first research meeting was held immediately following the information session, during lunch hour. Seven students attended along with the teacher. Student consent documents (Appendix E) were handed out and the document was read aloud to ensure understanding. Each student research team member signed the consent document and was provided time for any questions. Seven students signed consent forms and participated as research team members during the meeting. During this meeting, our research team collaboratively planned and developed an initial set of guidelines for implementation of PMPs during the Cycle 1 Acting Phase. In an informal and democratic manner, our research team discussed which guidelines would be necessary for the first implementation. These guidelines were recorded on a chart (Appendix F), to act as a reference during the implementation period and to be revisited in the next meeting.

After the first research meeting, our research team chose a one-hour class period on the following day to try out the guidelines in their classroom while music listening with PMPs. The

guidelines developed in the previous research meeting were left in the classroom to provide the student team members with a reference. The student team members put music listening into practice during individualized seatwork activities. During the last ten minutes of the implementation period, they anonymously filled out guiding questions (Appendix G) and observations (Appendix H) in a password-protected blog. Through the blog, the student team members were invited to write their thoughts, ideas and reactions to the session.

The second research meeting took place one week later during the lunch hour. Three student team members participated in this meeting and their teacher was in attendance sporadically during the meeting. At the beginning of the third meeting, the information in the student consent document was reviewed once again, with a reminder that any member could withdraw as part of the research team at any point. The second meeting involved a collaborative reflection and evaluation of the Cycle 1 Acting Phase along with a discussion of new solutions and planning for the implementation of PMPs during the Cycle 2 Acting Phase. Our research team engaged in an informal discussion about how the music implementation session went and reviewed the data retrieval chart developed in the previous meeting. With reference to student blog entries, our research team discussed the positive and negative aspects of each guideline and formulated a revised list of guidelines for trial in the next implementation session and recorded them on the data retrieval chart.

After the second research meeting, our research team chose another one-hour class period one week later to try out music listening using PMPs during a one hour class period. The guidelines developed in the previous research meeting were left in the classroom to provide the student team members with a reference. The student team members put music listening into practice during individualized seatwork activities and during the last ten minutes of the

implementation period, once again responded to guiding questions and observations in the blog. Through the blog, the student team members were once again invited to write their thoughts, ideas and reactions to the session.

The third research meeting took place on the same day as the implementation period, one week following the second research meeting. At the beginning of the third meeting, the information in the student consent documents was reviewed again, with a reminder that anyone could withdraw from the research team at any point. The third meeting involved a collaborative reflection and evaluation of the Cycle 2 Acting Phase along with a discussion of new solutions and planning for the implementation of PMPs during the Cycle 3Acting Phase. Our research team participated in an informal discussion about how the previous music implementation session went. Team members reviewed the data retrieval chart developed in the previous meeting. With reference to the student blog entries, our research team once again discussed the positive and negative aspects of each guideline and developed a revised list of guidelines for trial in the next implementation session and recorded them on the data retrieval chart.

After the third meeting, the research team chose another one-hour class period on the following day to try out music listening using PMPs during the students' one hour class. The guidelines developed in the previous research meeting were left in the classroom to provide the students with a reference. The student team members put music listening into practice during individualized seatwork activities and during the last ten minutes of the implementation period filled out guiding questions and observations in a blog. Through the blog, the student team members were again invited to comment on their thoughts, ideas and reactions to the session.

A fourth and final meeting was held two days following the third research meeting, after the implementation of the Cycle 3 Acting Phase, in order to determine a finalized version of

guidelines for using Personal Music Players in this classroom. The fourth meeting involved a final collaborative reflection and evaluation of the Cycle 2 Acting Phase through an informal discussion about how the music implementation session went, combined with a review of the students team members blog entries. Our research team reviewed the data retrieval chart developed in the previous meeting, and as a group, discussed the positive and negative aspects of each guideline. Using the data retrieval chart, our research team prepared a final list of guidelines for using PMPs in this classroom. During the final meeting, a discussion regarding the possibility of future disseminations of the project findings was held. The student team members were invited to share the project with other students and teachers, and were encouraged to consider creative methods for dissemination of their findings. The student team members were invited to think about their ideas for dissemination and to let their teacher know if they wished to contribute in this way.

Sources of Data. Data collection strategies were continually developed and revised throughout the duration of this research project specifically, during the Planning and Developing Phase and Reflecting Phase, data were generated through discussion amongst the research team members. Guidelines were negotiated between the research team members in an informal manner, and generated in a list format. During the Reflecting Phase of the action research process, the guidelines were revised based on the student team members' recollections of which strategies were effective or not effective during their classroom implementation periods. A data retrieval chart (Johnson, 2009) (Appendix F) was used during research meetings to record and organize the data generated by the research team throughout the meetings. With the aim of tracking progress, the data retrieval chart was used during each research meeting to record the list of developing guidelines, reflections of the guidelines, and the revised list of guidelines. The

use of data retrieval charts assisted in the analysis of the data by allowing the research team to visually track the progress and development of the data.

An online blog was set up to generate data during the Acting Phase. The student team members were asked to log into a password-protected blog where they found guiding questions in which they anonymously commented on their thoughts, ideas, reactions and observations about each music listening session (see Appendix G & H). The student team members were asked to write in the blog after each implementation session with the aim of recording their thoughts, feelings and ideas about the music listening session. The blog entries acted as a reminder of the student team members' experiences during the music implementation session when our team met again to reflect on the guidelines and facilitate discussion during the meeting. Using the information provided in the blog entries, at each meeting I reiterated some of the themes running through the student team members' blog entries prior to the Planning and Developing Phase and Reflecting Phase of the research meetings to remind the student team members of their feelings and thoughts about the implementation. During the Reflecting Phase, myself and the student researchers discussed anything they wished to discuss regarding the implementation and the content of their blog entries. To aid in the development of revised guidelines as our research team continued through subsequent cycles of action research, the blog provided useful information about the student members' thoughts and feelings at the time of implementation and effective or ineffective aspects of the guidelines. The information gathered from the student team members' comments and observations aided in reflection and future planning of guidelines. Though the main purpose of the blog was to remind the students of their thoughts and feelings about the music listening session as a means to combat the possible lengthy period of time between research meetings and implementation periods, the blog entries

also provided information about the functions that music listening served for these students during their implementation periods.

A final source of data was my ongoing personal reflections, observations, and notes. I paid attention to my own reactions, thoughts, and feelings as well as unexpected events. These data were discussed with my research supervisor and incorporated into the findings.

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Quality Concerns in Action Research

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"Quality, validity, accuracy and credibility of action research and its findings" (Mertler, 2009, p. 24) must be considered in the development of any action research study. As a result of varied definitions and applications of action research, considerable debate exists in literature regarding the appropriate terminology and criteria necessary for action research to be considered high quality (Feldman, 2007; Newton & Burgess, 2008). To correspond with the research that has informed the quality criteria outlined for this study (see Anderson & Herr, 1999; Newton & Burgess, 2008), the term validity will be used when referring to the quality of action research.

Validity in Action Research

Validity in qualitative research concerns the ability of a study to represent accurately what it intended, or specifically in action research, the ability of a study to solve the intended problem (Feldman, 2007). Since the primary goal of action research is to improve situations by developing solutions to identified problems, criteria should be used to evaluate how well the research met the goals identified and the quality of the generated solution (Feldman, 2007).

As noted earlier, Newton and Burgess (2008) identified different types of action research based on its goals: knowledge-generating, practical, and emancipatory. Based upon the work of Anderson and Herr (1999), Newton and Burgess (2008) suggested five corresponding validities for different types of action research. They argued that the process by which knowledge claims

are justified in action research should reflect the mode and goals of the specific research project. The different modes of action research are believed to depict separate knowledge claims and thus, require different types of validity criteria (Appendix I).

Five types of validity are presented: dialogic validity, catalytic validity, outcome validity, process validity and democratic validity (Anderson & Herr; 1999; Newton & Burgess, 2008). While Anderson and Herr (1999) suggested that all types of validity criteria are "tentative and in flux" (p.16), Newton and Burgess (2008) suggested that each action research mode has both primary and secondary validities. Primary validities aim to address the extent that the goal of the research has been reached while secondary validities ensure the research being conducted is true to action research. Based on Newton and Burgess' model (2008), the present study fell primarily within the emancipatory mode: dialogic, democratic, and catalytic validity were primary validities to address the extent that project goals were met; process and outcome validity were secondary validities to ensure appropriate implementation of the research.

Newton and Burgess (2008) suggested dialogic validity as fundamental to all three modes of action research. Dialogic validity involves discussion about the research amongst the participants and amongst other professionals. An action research project should facilitate reflection of the process and interpretation between researchers and their peers as well as among participants. Dialogic validity was addressed in the present study with the many opportunities for both formal and informal reflection of the process of action research and the development of solutions to the problem. Dialogue between the research team, including myself and the student members was ongoing as the team moved through the cycles of action research. As a result of being involved in this project, there was also an increased likelihood that the student members might share their experiences with the project with their friends, peers or teachers. There may be

post-research opportunities for the members of the research team to discuss the research. For example, in my role as a consultant in school psychology, I continuously talk about this project and our teams' findings with teachers, students and other staff. The student members may also have post-research opportunities to discuss the action research process and our teams' findings with other people they encounter in the school setting or in their lives. Further, through research team meetings and blog entries, the research team was involved in ongoing reflection of the effectiveness of the developed guidelines for using Personal Music Players in their classroom. As a team member, and novice researcher, discussion with my research committee and peers was ongoing throughout the action research process. I anticipated more discussion and reflection from the participants; but respectfully accepted the involvement that the student research members wanted.

Democratic validity refers to the degree that the research includes all stakeholders who are affected by the problem. Action research should be conducted with those that are affected by the problem being addressed by attending to multiple perspectives and viewpoints (Stringer, 2004, 2007). Democratic validity was addressed by including the voices of stakeholders that were affected by the problem and its solution, specifically by including the view the students who offered their perspective on the issue of how Personal Music Players can be implemented in their classroom. The democratic validity in this project was weaker as not everyone who was affected by the problem was necessarily involved as part of the research team. I anticipated that the teacher might consider himself a stakeholder affected by the problem but in this particular case, only a few students in the class felt there was a problem. That was the group of individuals who formed the research team. Further, the number of students who participated as members of

the research team was low. However, it is important to note that the students who did participate were those in the class that truly wished to develop a solution to this problem.

Catalytic validity involves the degree to which the participants' motivation to continue further social action is affected. The action research process should create further understanding and motivate the participants to continue change. Of importance is the ability of the project to stimulate and empower the participants to examine their own view of the issue and liberate themselves from the problem by discovering solutions (Stringer, 2007). Catalytic validity was addressed by to the best of my ability by engaging in a collaborative approach to the process of action research, which focused on cooperation of the research team throughout the process and providing opportunities for them to voice their concerns and make changes in their own classroom. Ultimately I cannot know exactly how participation in this study impacted the student members; whether they were empowered or whether they will be motivated to pursue future social action and they may not know right now either. The effects of the experience may take time to reveal itself and it is difficult to know how and when the student members may experience the effects. Nonetheless, I believe the possibility existed in the structure and implementation of the project for those involved to be personally and positively impacted. Part of not knowing for sure reflects the fact that the student members were in charge to decide and act as they wished.

Process validity refers to how well the process of action research addresses the problem and the evidence used to support its findings. Stronger process validity is achieved through several means: (a) repeated cycles through the action research process; (b) prolonged engagement and persistent observation to explore the topic of interest; (c) researchers who are knowledgeable about the action research process; (d) diverse methods for data collection; (e)

opportunities for member checking to verify the accuracy of the data; and (f) opportunities to debrief with the participants by allowing them to share their thoughts and emotions with regards to the research process and data collection (Mertler, 2009; Stringer, 2007). Again, these things were addressed to the best of my ability, and in response to the team members and the particular context we were in. Process validity was not as strong as I would have wished (e.g., drop off in participation between research meetings and in blog writing); however, I accepted and worked with the other team members as they wanted. We had three cycles of the action research, which involved four research meetings as well as implementation /observation periods and the use of multiple sources of data. I continuously used member checking to enhance the quality of the study: I involved the student team members in the collection and development of the data, thus providing the student members with the opportunity to validate the findings throughout the entire process. Later, we debriefed to encourage discussion regarding their reactions to the process of action research and the data collected. As a research team member, I brought eight years of teaching experience and familiarity with school settings and was supported by a committee that involved two faculty members and an external examiner with active research programs, and experience with action research.

Outcome validity is the degree to which the research is successful in its results or whether or not the solution to the identified problem has been reached. Action research aims to solve problems, and consequently, a quality study will evaluate how well the research met the goals identified, the overall solution of the problem and improvement of situations (Feldman, 2007). Outcome validity was attended to by establishing a goal to develop guidelines and then seeking opportunities for their dissemination. A final list was developed, which was helpful to the students who participated in the project as they were unhappy with the use of PMPs in their

classroom.   Dissemination remains ongoing. To date, the list has been shared with the classroom teacher; a presentation was made to a group of approximately 30 graduate education students; and I've spoken informally with students, teachers and school personnel I meet in my current job. It is difficult to know how the student members might disseminate the findings and share their experiences, but they may, for example, be more willing to share their experience with this project and concerns regarding PMP use with other teachers and students in future classes, which would aid in solving such problems beyond this particular classroom environment.

Ethical Considerations

Ethics approval was sought and granted from the university and school division ethics boards. Based on the nature of this research context, minimal risk for ethical violations existed as the study did not involve harmful activities or discussions, the use of deception, coercion or address sensitive issues. However, several ethical considerations were considered to ensure that the study imposed the least amount of harm on the members of the research team (see Appendix J for the Ethics Application for this study).

Permission from the school division needed to be obtained for any study conducted with students in a school setting so prior to sending recruitment posters to schools, written approval from the school division was obtained. After hearing from an interested teacher, we met and I obtained his informed consent. We reviewed the informed consent form (see Appendix K), which provided the teacher with a description of the project, a risk and benefit analysis, issues of confidentiality, and an option to discontinue participation at any time. I read through the informed consent document with the teacher to ensure he understood its contents and had him sign the document when I was positive it was understood (Corey et al., 2007; Tri-Council, 2005).

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Although this study involved working collaboratively with minors, specifically students aged 16- and 17- years, the student research team members were able to give their informed consent. Parental consent was not a requirement for this study due to the mature age of the students and minimal chance of harm to them. The students were informed of their rights as research team members at an introductory meeting prior to the first team meeting. The details of the informed consent form (e.g., the right to withdraw at any time without penalty) were discussed so that they could make an informed choice about participation as part of the research team. The document explained the nature and purposes of the study, the possible risks and benefits for team members, issues of confidentiality, and the option for them to discontinue participation in the project at any time (Corey et al., 2007; CPA, 2001; Tri-Council, 2005). Each student was provided a copy of the consent forms, which were read aloud with ample time to answer questions to ensure their understanding of the content. Once the students signed the consent forms, they were kept in a secure location under my care.

At the beginning of each research team meeting, the student team members were verbally reminded of their right to withdraw their participation at any time. If they wished to withdraw they were advised to let their teacher know, or call or email me directly, or not show up to the meetings. They were reminded in each meeting that if they attended the meetings, I assumed their ongoing consent for the meeting duration.

I anticipated that a potential for coercion existed given that the student members' teacher was in a perceived position of power relative to the students. There was a possibility that students might have felt obligated to participate in the study because their teacher was involved in the study. Students were reassured that they did not have to participate as team members if they wished not to, and the research meetings were conducted over the lunch hour so that only

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students who wanted to contribute would attend. Students who were not participating were allowed to choose to be present during the implementation sessions in the classroom as these activities were not anticipated to disrupt the regular class routine. Alternate activities, including attending the library or computer room, were arranged if the non-participating students preferred to not be present; however, no students utilized this option.

Because the students were part of the research team, working together to find solutions to a problem, the data that were collected represented a collaborative effort and no identifying information was included in the findings. Further, students were allowed to participate or withdraw from the study at any point and I did not have any identifying information about who participated as team members. The school and teacher were not identified in the write up of the study. Nevertheless, because the study was conducted in a school setting, the administrative staff, other teachers and students may have been aware of the research.

There were both potential benefits and risks for the students who participated in the study. The possible benefits included: (a) learning about how to conduct research in their classroom and gaining experience with the process of action research and problem solving by collaborating to discover solutions to a problem that affects them (b) increased confidence and self-esteem as a result of generating knowledge and contributing to the solution of a problem and engaging in opportunities to share their findings (c) an enhanced learning environment created through the project.

Potential risks for the student members of the research team were as follows: I anticipated that all students may not have access to PMPs and may feel uncomfortable or left out of the project. To minimize the negative effects of not having access to PMPs, the activities in the study emphasized the importance of all opinions related to the creation of guidelines for using PMPs in

this classroom. It was stressed that people who did not have access to PMPs were an important voice that needed to be heard in the development of guidelines for their use in their classroom. If students wished not to participate in the study, I encouraged the teacher to provide meaningful alternative activities.

As music listening can bring about emotional reactions, I needed to ensure that student team members were taken care of should they have an overwhelming emotional experience as a result of the study. I collaborated with the school counsellor and reminded students that if they had an emotional reaction to the music they listened to during the study they could see the school counsellor.

CHAPTER FOUR: Results

The purpose of this action research project was to work collaboratively with a group of secondary students to develop a list of guidelines for using PMPs in their classroom. Findings presented in this chapter include the final list of guidelines, the process by which they were developed, and the student descriptive data on their experiences with music listening in the classroom.

The Research Setting

A high school teacher volunteered his class as potential members of the research team and some of his eleventh grade students enrolled in a media-related course volunteered to participate as members of the research team in this study. Physically, the classroom in which the research meetings and music listening implementation sessions took place was bigger and more open than what one typically pictures a classroom to be, with each student having access to his or her own desktop computer. When I initially arrived to the classroom for the information session, the environment struck me as a busy place without structure. It appeared to me that the teacher had a very relaxed classroom management style. I observed the students in the class walking and talking freely in the classroom. Other students were hard at work on their assignments. Each time I came to the classroom, I noted the classroom environment to be interactive and busy. Students worked on projects both individually and in pairs, and talked and walked about the room without restriction. I noticed some students worked quietly with headphones in their ears and listening to music, while other students played their music out loud from their individual computer speakers without using headphones. Some students appeared to be more out spoken and disruptive to other students and some students appeared to be reviewing Internet websites rather than working on their assigned projects. During the time that I spent in this classroom, I did not observe formal

instruction; instead, many of the students worked individually on projects. Their teacher

circulated the room, offered assistance and answered queries as required. From observations of

the classroom and discussions with students and their teacher, it was clear that in this particular

classroom using PMPs was common practice and that the students were allowed to do so freely

without guidelines or restrictions. Based on my observations of the classroom, I wondered about

whether the absence of guidelines for using PMPs in this classroom was working for all the

students. I was struck by a feeling of chaos within the classroom environment that would not be

accepted in all classrooms.

The Development of the Guidelines

The guidelines for listening to PMPs in this classroom were developed and revised as the

research team moved through three cycles of action research. The research team collaborated for

a total of four research meetings and three implementation periods. The research meetings were

held over lunch time for approximately an hour each and the implementation periods ran for one

hour class periods. After each meeting, the student team members implemented the guidelines

during a music listening implementation session and answered some guiding questions about

their experiences in an online blog.

Information Session

During the initial information session held to recruit potential research team members in

the spring of 2010, students watched a PowerPoint that outlined the project (Appendix C). The

presentation included information about action research, research on the benefits of music

listening, and details about the activities of the project. Additionally, students were invited to

share their experiences about listening to music during class time and how they believed music

listening helped them both in general and in the classroom setting. Students were asked to

comment on whether they believed there is a discrepancy between student, teacher and administrator attitudes on the use of PMPs in the classroom setting (Domitrek & Raby, 2008), that is, although many students and teachers feel that music listening can potentially be a helpful tool, many administrators feel that music distracts students from learning. The group expressed opposing ideas: many felt that music listening was a helpful tool for them, whereas others felt that it was distracting. The students identified types of activities that lent themselves to music listening (e.g., computer work), and other tasks that did not (e.g., reading). Many students shared that they chose to use PMPs during this particular class; however, the group of students as a whole had difficulty articulating the reasons that they listened to their music during class time. Consequently, I presented reasons identified in literature on the benefits and functions of music listening (e.g., managing emotions and changing mood, limiting distractions) and the students were asked to consider these examples in terms of their own experiences using music in the classroom setting. Many of these students were able to identify with the examples I provided, noting they used music as a tool to influence their mood and improve their concentration. At the end of the meeting students were invited to stay for the first meeting if they were interested in participating in the project. The first research meeting was held over the lunch hour immediately following the class period in which the information session was held.

Meeting 1

Seven students attended the first research meeting. The classroom teacher was present for the first few minutes and then left and returned intermittently during the meeting. Our research team, including myself and the seven students, sat around a table and I passed out informed consent documents, which I explained in full. The students were invited to ask any questions that they had; however, no questions were raised suggesting that the group understood

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what had been explained. At the same time as the documents were being explained, I provided

pizza for our lunch. In an informal manner, I asked the student team members to consider,

discuss and develop a list of initial guidelines for using PMPs in their classroom. When I asked

the student members to initiate this discussion, at first nobody said anything. The students

responded in a manner that I assumed was typical of teenagers. The student members appeared to

be apprehensive and shy to begin with, which was evidenced by long silences when asked

questions. It seemed to me that nobody wanted to be the first one to talk about their view on

music listening. As a result, my role as a guide and facilitator came into action and I asked the

students questions to facilitate and encourage group discussion. Once one student took a risk and

spoke in front of the group, the others began to offer suggestions and initiate discussion. I felt

relieved when the other team members began to participate in the discussion because I had not

anticipated the difficulties students may have speaking in front of each other. However, the

relaxed and encouraging tone that I set by informally asking thought-provoking questions

seemed to put the other members at ease and they began to offer suggestions and ideas to the

group. Our initial list of guidelines was generated as individual students offered a guideline to

the group, which was then followed by a discussion to determine if everyone agreed with the

guideline. I gently guided the discussion by asking questions of the other members and

facilitating a discussion to determine everyone's agreement. If every team member agreed, the

guideline was added to the data retrieval chart. I invited the other team members to be the

recorder on the data retrieval chart, but nobody chose to volunteer, so I took on this role within

the group. The initial guidelines that our research team concluded would be useful for using

PMPs in their classroom included:

1) Students should not have headphones in when the teacher is giving a lesson;

2) If the volume distracts your fellow classmates, turn it down;

3) Use your headphones when listening to anything on your computer;

4) Make a playlist before class;

5) You can choose your own type of music as long as nobody else can hear it;

6) You can share headphones [with another student] as long as you are working;

7) If your phone is also your Mp3 player (e.g. iPhone), show your teacher that it has songs and don't text, use it for music.

During the informal discussion around which guidelines the team members felt would be necessary for the initial music listening implementation, one of the team members shared a concern about using PMPs during exams. He felt that although some teachers allowed the use of PMPs during class work, none of his teachers would allow them to be used during examinations. He said that music listening is a helpful tool that he uses to aid his learning and shared his desire to be allowed to use the music during an examination if he wished. At this point I felt that the tone of the research meeting changed as the remaining team members became more animated and engaged in the discussion, expressing their desire to choose to listen to their PMPs during exams. Many of the members felt that listening to music during an exam would be helpful for them; however, they felt that this practice would not be considered acceptable by their school administrators or teachers because the teachers would think that the music listening would interfere with their ability to write exams. Because this conversation was not directly related to this particular media-related course in which this study took place (a course that involved project work and no examinations), I encouraged the discussion but eventually brought the team members back to the task at hand, the development of the guidelines I felt that it was apparent from many of the student team members' enthusiasm and discussion around this topic that these

students wanted the control and power to choose the tools that they felt were effective for them in their learning.

Implementation 1

At the end of the first research meeting, as a team, we chose a one-hour class period for the student members to try out the list of guidelines we developed for listening to PMPs in the classroom. The data retrieval chart was placed in the classroom for the student members to reference throughout the implementation period. The research team listened to their music while following and contemplating the guidelines they had created. However, the music implementation period was held during their regular class time and the majority of the students in the classroom were not participating in this study, which provided the student research team members with a unique opportunity to observe their classroom environment with and without students adhering to their guidelines. I asked the student research team to listen to their music using their PMPs and anonymously log into the password-protected blog to answer a list of fifteen questions about the music listening session and their observations. Their classroom teacher reminded them to complete the blog when there was ten minutes remaining in the implementation class period. All of the responses to each question are outlined in Table 1.

Table 1

First Music Listening Implementation Blog Questions

1. What did you think of the music listening session?
"I thought that with Mp3 players people worked a lot better and it was quieter. I was definitely more focused." *"I liked it because I was able to take away all the distractions away by listening to*

music I want to listen to."
"I think it's good and productive because how can you study something without…studying it I guess?"
"It was good."

2. How did you feel during the music listening session?
"I felt good."
"I felt good 'cause I didn't have to listen to things around me."
"I felt good and focused because I didn't have to listen to people around me, I could just tune it out."

3. What were you listening to? Why did you choose it?
"I was listening to Led Zeppelin 'cause I just felt like listening to it."
"I was listening to a large variety of musics. I didn't really choose it. I just put my iPod on shuffle☺."
"I was listening to some heavy music because I enjoy it, and it does the best job of making other things not audible."
"I was listening to 'The Lotus Eater' by Opeth. I chose it because how he switches vocal styles just amazes me, also the piano solo."

4. How were you listening to the music? (e.g. full attention, background, on and off).
"[I was listening to the music] loud enough so that it was almost to the point of that [the music] being all I could hear."
"The music was in the background."
"I'm listening to it with one headphone in at a pretty low volume so I can hear my friend when he has a question, but still take away the distractions of others."

"I was listening to it in the background and headbangin' while I thought of   *answers for this study."*

5. Did the music listening session help you get your work done/focus/stay in your seat? How?

"It definitely made me get a lot more work done."

"I wasn't really working, I was reading. It was the same as when I don't listen to music."

"Yes, because I was able to actually get down and do work, instead of getting bored and doing other things."

"Well, because Opeth [the artist being listened to] is just that good, I couldn't leave my computer so I got more work done."

6. Which rules were helpful?

"I didn't really bother with the rules because no one had a problem with anyone's music, but I think the rules are fine."

"I found that all the rules were helpful."

"All of them."

"The listening to music with headphones [rule] was very helpful because I think we should be able to listen to what we want, as long as it's not distracting others like some people do."

7. Which rules were not helpful or need to be changed? If they need to be changed, what would work better?

"I don't think any of the rules weren't helpful. Nothing needs to be changed."

"None [of the rules] need to be changed, just some aren't as applicable to

everyone like the others, like the one involving cell phones with Mp3 players. I *highly doubt kids will go to their teacher, show that they have music on it and* *that'll be proof enough they're not using it as a cell phone.*"

8. What did you like about the music listening session?
"I liked the fact that most people were quiet." *"I liked listening to my music."* *"Listening to Opeth".* *"I liked that I could listen to my music, because it makes me feel more encouraged* *to work."*

9. What did you dislike about the music listening session?
"[I didn't like] the fact that the people who didn't have Mp3 players talked a lot." *"Nothing really, other than the fact that some people do listen to music, without* *headphones."* *"It was all good."* *"Nothing."*

10. Provide any other comments about the music listening session.
"People without them [PMPs] were talking."

11. What is the noise level in the classroom?
"There are many different sounds in the classroom". *"It is quiet, [some] classmates are working; a few without Mp3 players are* *talking; more work [is] being done."* *"The classroom is pretty quiet, and I am not currently listening to my iPod. There* *is one kid listening to stuff without headphones, but that's pretty much the only*

audible thing other than a couple of whispers.”

“Quiet, no music, nothing.”

12. What are your classmates doing? Explain what you see.
“My classmates are on the computer. I see teenagers on computers.” *“My classmates seem to be working on the computers. I don't really know;* *however, the guy beside me is filling gout this same survey.”* *“[My classmates are] answering the survey, doing their Photoshop work, [and]* *people listening to their iPods.”*
13. What is the mood of the classroom?
“The classroom feels normal.” *“The mood in the classroom is calm. No one [in the classroom] is overly hyper* *like usual, so it's pretty good, really.”* *“[The mood of the classroom is] ambient, calm and quiet.”*
14. What are some of the positive things you see?
“The positive thing I see is that some people are doing their work.” *“People getting their work done, I guess.”* *“Positives are that it's quiet, and it's a good place to work right now, and I could* *easily put some music on right now and work just the same, maybe with slightly* *less distractions.”*
15. What are some of the negative things you see?
“I see some people not doing their work.” *“Negatives would have to be the fact that there are still some noises and some* *people listening to music that is audible, but it doesn't really bother me, and I*

As revealed in Table 1, the student research team members felt that listening to music using their PMPs during the implementation session resulted in better concentration and focus because it allowed each individual to decrease distractions in the environment. Their responses suggest that music acted a tool to tune out background noise, which in turn, allowed them to focus on their work. In terms of the guidelines, most of the team members felt that the rules were helpful; however, one individual noted that he or she was not concerned with the rules and indicated that there were no problems during this implementation period with PMPs. Additionally, the responses reflected in Table 1 suggest that a number of individuals in the classroom who were not participating in the research and not following the guidelines were partaking in behaviours that the some team members found disruptive. One student mentioned that individuals who were not using PMPs were talking or listening to music without headphones. Furthermore, the team members' responses indicate that they enjoyed listening to music while they completed their class work. Some individuals noted that listening to music helped them feel more encouraged to work and aided them in escaping boredom. The team members described listening to music both in the background and with a focus on the music, and stated that they listened to specific artists and utilized the shuffle option (a setting in which the Mp3 player randomly chooses songs). The classroom environment during the implementation period was described by the research team to be calm and quiet. They noticed that their classmates were able to get their work done, however one individual observed some classmates not attending to their work.

Meeting 2

The second research meeting was held the following week during the school lunch hour. I reviewed the student consent documents with the student research team members and I invited them to ask any questions they had; however, no members present voiced any questions about the consent document. I provided pizza and drinks for our lunch during the meeting. I was disappointed that only three of the initial seven student team members who attended the previous meeting attended the second research meeting. The classroom teacher was present sporadically throughout the meeting and observed what was happening.

To start off the meeting, I asked the research team members to describe how the first music implementation session went for them and all members believed the implementation period went well. When I encouraged the student team members to explain further, they revealed that when they used the guidelines it seemed to have a calming effect on the entire classroom even though only seven students in the entire class were aware of and using the guidelines developed in our first meeting. The research team noted that the classroom seemed much quieter during the music implementation session. They shared that one student in particular, who was described by the team members to be an individual who is usually loud and disruptive in the classroom, was away on that particular day. They expressed their confusion about whether or not the absence of this particular student or the music listening was the reason for the quieter environment. After some discussion around the idea, the research team came to the conclusion that the combination of both the absence of this particular person, combined with the use and awareness of the guidelines for music listening resulted in a quieter environment in their classroom. The research team reported that with these guidelines in place, combined with their increased awareness of music listening in the classroom, they believed that they worked

more efficiently than they normally would. They shared that they felt more focused when they listened to music and that they usually use music as a means of drowning out distractions and background noise.

Following the discussion about the music implementation session, our team examined the data retrieval chart that we had created during the first research meeting in which we had developed an initial set of guidelines for using PMPs in their classroom. As a group, we reflected on each guideline by considering the positive aspects or 'what was good about it' and negative aspects or 'what didn't work so well'. If any negative aspects were shared regarding a particular guideline, I encouraged them to think of ways in which the guideline could be revised to make it better.

The first guideline we examined was "*students should not have headphones in when the teacher is giving a lesson.*" The research team felt that this was a good rule because "*if people followed it [took out their headphones when the teacher is giving a lesson], they wouldn't lose track of what they are supposed to do and you wouldn't have to ask any questions and you will know what to do*". The research team came to the conclusion that by having this rule in place, everyone in the class would be following the instructions of the teacher and there would be less confusion about what was being asked of them for assignments. When I asked the student members what they felt the negative aspects of this rule were, they agreed that the rule did not include all of the possibilities of what the teacher could say when the rule focused only on not using headphones when the teacher is giving a lesson. They felt that this rule was not inclusive and should be revised to include a wider range of events in which they must attend to the teacher. Thus, the rule was revised to *"students should not have headphones in when the teacher is talking."*

The second guideline that we examined was "*if the volume distracts your fellow classmates, turn it down.*" I encouraged discussion about whether or not the team felt creating a guideline with specific details as to appropriate volume would be helpful; however, the students felt that their classmates were responsible enough to control the volume of their music on their own. The research team believed that this was a good rule because they felt that if the individuals in their classroom turned their music down when an initial classmate asked them to, then in turn, the remaining classmates would not be distracted by the volume of the music. The research team members were unable to think of any negative aspects of this guideline and decided to leave it unchanged.

The third guideline that we investigated was "*use your headphones when listening to anything on your computer.*" The research team felt that this rule made the classroom environment quieter. They expressed their concern that some people might find it distracting if they were to hear music or noises from all or several of the computers in the classroom and thought it would be a challenge to focus on their work with several different noises going on in the background. Some of the team members felt that the level of distraction may be related to the type of music, for example, they proposed that heavy music may be more distracting compared to soft music. After much discussion around the positives of this particular guideline, the research team came to the conclusion that this particular rule would not be effective in situation where group work was involved, in which case the students felt that it would be acceptable to use the computer speakers instead of headphones. We therefore revised this guideline to "*use your headphones when listening to anything on your computer, except when doing group work.*"

The fourth guideline that we explored was *"make a playlist before class"*. The student members of team considered this rule to be very important. I also felt that this rule was important from a teacher's perspective and was in agreement with what the students said. The student members thought that if this rule was in place, students would not be physically shuffling through their playlists and songs during class time and thus, could get to work on their assignments faster. They also believed that if students created their playlist during class time, it would take away time from their class work. As a group, the team contributed to a list of suggestions regarding different ways in which students could listen to their music during class time that would not disrupt their learning. Some of the team members suggestions included having a school playlist, with songs of their choice already created in a list, playing their top rated songs (an option in which the Mp3 player plays a number of songs that an individual has listened to most often), or choosing one particular artist and play his or her entire album. All three of these ideas were thought to deter students from wasting class time on choosing music to listen to. The research team could not think of any negative aspects to this particular guideline; however, it was decided that the guideline would be changed *"have the music you are going to listen to prepared before class",* which included the same content but was worded in a different way to include more than only listening to playlists.

The fifth guideline that we investigated was *"you can choose your own type of music as long as nobody else can hear it."* The research team felt that this was a useful rule because it allowed students to listen to music of their choice as a result of varied musical tastes. I fully supported this rule. The student team members believed that it would be easier for students to concentrate when they listened to music they like. The research team did not feel that there were any negative aspects to this guideline, and thus, decided to keep the guideline the same.

The sixth guideline that we explored was *"you can share headphones as long as you are working."* The team felt that this was a good rule because they thought it would allow more individuals access to tools that help them learn. For example, they suggested that if an individual can concentrate and work better while listening to music and they don't own an iPod (or PMP), then they should be allowed to share headphones with others. I questioned the team about this guideline because I had observed problems in my experience around students sharing headphones, for example, students discussing which music they would listening, or talking to each other as a result of the close proximity to each other. However, the students did not see the same problem I did and felt that this guideline was reasonable. While the team thought this was a good guideline to follow, they felt that it was not applicable to this particular class setting because they thought that their classmates all had access to music through the use of their own PMP or through their computer, and therefore would never share headphones during this class. As a result, the research team chose to keep this guideline unchanged.

The seventh guideline that we explored was *"if your phone is also your Mp3 player, show your teacher that it has songs and don't text- use it for music."* Many of the guidelines that the team discussed throughout this meeting had already occurred to me. However, this was a new consideration for me, the idea that new technology allows for cell phones and PMPs to be combined in one device. I was extremely interested to hear what the student team members had to say in regards to this topic because it was a problem I had not encountered in my career as a teacher. The students generated some discussion around this particular guideline. Some members felt that having a PMP that is also a cellular telephone (e.g. iPhone) is not really a problem in their classroom, suggesting that students who have this technology only use it for music during class and do not use it for texting. Some members of the research team felt that

this rule would allow students to use their phone as their PMP and in turn, would provide an individual with the opportunity to fully utilize all of the functions on their device instead of buying an additional device like an iPod (or other PMP). Alternatively, some of the members voiced their concern that if students are allowed to use their phone as their PMP, some students may 'text and stuff anyways'. Further, the issue was raised that cellular service is limited in class, therefore making text messages difficult to send and receive, which may limit students' use of this function during class time. The team felt that there were no negative aspects to this guideline and chose to leave it unchanged. However, some discussion developed around the idea that this guideline may not be applicable in their particular classroom because they were not sure how many individuals had phones that were also PMPs. Nevertheless, the research team opted to keep the guideline in their list should their classmates have access to such technologies in the future and find themselves in a situation where this becomes a problem in the classroom.

Implementation 2

After the second research meeting in which our research team reviewed and analyzed the guidelines were developed during the first meeting, we chose another one-hour period to implement music listening and try out the newly revised guidelines, which took place one week following the second meeting. Once again, the data retrieval chart was placed in the classroom as a reference for the student team members throughout the implementation session. The student members listened to their music and anonymously logged into the password-protected blog to answer the same guiding questions regarding the implementation session and their observations. Following the second implementation session, only one of the members of our research team responded to the guiding questions presented in the blog. Two of the members reported that they did not participate in the music listening session during this class period because they were

participating in group work at that time. The one individual who participated in the music listening implementation session responded to 9 of the 15 guiding questions, which are outlined in Table 2.

Table 2

Second Music Listening Implementation Blog Questions

1.   What did you think of the music listening session?
"It wasn't as quiet as the last time. People in the back were being really loud and distracting. His music was way too loud and he kept talking really loud."
2.   How did you feel during the music listening session?
"I was really calm, and generally happy."
3.   What were you listening to? Why did you choose it?
"I was listening to Green Day [name of artist]. I chose it because they are upbeat and happy; they know how to get you on your feet and dancing."
4.   How were you listening to the music? (e.g. full attention, background, on and off).
"I was listening to it with both headphones in. I like to keep to myself when I work."
5.   Did the music listening session help you get your work done/focus/stay in your seat? How?
"I was quite focused until [specific student] came into the room and had his music up louder than mine, and I had an iPod."
6.   Which rules were helpful?
"None of the rules were helpful; no one ever listens to them, let alone

acknowledge[s] that they are there."
8. What did you like about the music listening session?
"I liked that everybody was happy and working, well, most were working."
9. What did you dislike about the music listening session?
"I didn't like that there were people that were very disruptive and not respecting anybody else."
10. Provide any other comments about the music listening session.
"I think the rules should be stated before class, and should be followed. That would make the sessions more productive, and you would get better information out of it."

As demonstrated in Table 2, this particular team member described the classroom during the second music listening implementation session to be less quiet when compared to the first implementation period. This individual stated that he or she felt calm and chose a particular type of music due to the uplifting nature of the music. However, this individual's responses indicate that one person in the classroom was disruptive which made it difficult to work, and thus felt that the rules should be reiterated for the class before the implementation session begins.

Meeting 3

The third research meeting was held one week following the second research meeting, during the school lunch period. The classroom teacher was present sporadically throughout the meeting. Three of the seven initial members of the research team attended the third meeting. Two members noted that they did not actively participate in the implementation period because they were unable to listen to their PMPs during the chosen period because they were doing group

work that particular day. However, the student members noted that they remained cognizant of the guidelines they had revised during the previous meeting and were able to participate in a discussion about the classroom environment during the music listening implementation. The student team members observed that their classroom was very loud during this specific class and implementation period. They observed several people walking around and not completing their assigned work. The team member who did listen to his/her PMP during that class period found that his/her music was a helpful tool to tune people out and minimize the external distractions of the classroom environment. With regards to the guidelines that were developed and revised, the discussion amongst the student team members revealed that they felt few individuals in their class adhered to the guidelines and most were unaware of their presence. The student members recognized that the rest of the class was not participating in the project and were therefore unaware of the guidelines; however, they believed that it would have created a better environment in their classroom if their teacher would have shared the guidelines with the remainder of the class. They felt that if everyone knew about the rules and they were enforced, then they would be more effective. After we engaged in a discussion about the music listening session, our team took another look at the list of guidelines to identify positive and negative aspects and make any required revisions.

The first guideline that we revisited was "*students should not have headphones in when the teacher is talking.*" The student members continued to believe this was an effective guideline because it ensured that everyone is listening and paying attention. However, the students noted that it may be difficult to know if everyone is listening, even if their headphones are not in their ears. All members of the team agreed that as long as individuals who are not listening to the instruction as a result of their PMP s are not disruptive to the rest of the class, it should not be a

concern because they are only interfering with their own learning. The research team chose to keep this guideline the same.

The second guideline we discussed in this meeting was *"if the volume distracts your fellow classmates, turn it down."* The student members again found that this guideline resulted in a quieter classroom. The student members suggested that individual voices may be louder than the music, thus making individual control over the volume of particular importance. They felt it was essential to have control over how much they were able to tune others out. I found the student members comments very informative because in my mind, coming from a teacher's perspective, it would be important to have guidelines in place to protect the listener's classmates from disruption if the listeners' music was too loud. I did not even consider the idea that the listener may require control of their volume to reduce external distractions. Realizations such as this made working collaboratively with these students such a rewarding experience! The research team believed there was no negative aspects to this guideline and chose to keep the guideline the way it was.

The third guideline we reviewed was *"use your headphones when listening to anything on your computer, except when doing group work."* The research team believed that this guideline was effective because it kept the classroom quiet so that they could work. The student members felt that this rule would allow their classmates who were working in a group the opportunity to attend to what was required for the group work; otherwise they would have to keep taking their headphones in and out of their ears. However, some members shared their concern that some individuals may use this as an opportunity to blast their music aloud. Therefore, the team chose to revise this guideline by adding a stipulation about the volume. The

revised version of the guideline was *"use your headphones when listening to anything on your computer, except when doing group work (you may listen to it, but not too loud)."*

The fourth guideline that we reflected upon was *"have the music you are going to listen to prepared before class."* The student members thought that everyone would get to work promptly because they would not be shuffling through their music to determine the type of music they wished to listen to during that class period. As a group, the members of the research team did not identify any negative aspects of this guideline and therefore, decided to leave the guideline untouched.

The fifth guideline that we explored was *"you can choose your own type of music as long as nobody else can hear it."* The team felt that this was a good guideline because it allowed students to listen to the music of their choice. The student members felt that this issue was of particular significance because they believed that listening to music that one likes helps an individual improve concentration. Additionally, the student members felt that this rule was good because not everyone likes the same kind of music and this ensures that the people around you do not have to listen to music that they do not like personally. The team could not identify any negative aspects to this guideline and chose not to revise it.

The sixth guideline we discussed was *"you can share headphones as long as you are working."* The team thought this was an effective guideline because they felt that it offered an opportunity for people who do not own PMPs to listen to music during individual work periods, therefore providing them with the opportunity to employ music as a tool to help them concentrate better. However, some discussion was generated by the team members around the idea that individuals may have different tastes in music, which subsequently may pose a problem when sharing headphones. The team felt if one person in the twosome sharing headphones liked

different music than the other person they may spend their time fighting over the music instead of getting their work completed. I was in agreement with the student members' thoughts, and felt that the revision to the guideline would be helpful to address this problem. To alleviate this potential problem, the team revised this guideline to *"you can share your headphones as long as you are working. You must listen to a playlist chosen by the owner of the music player."*

The seventh guideline that we explored was *"if your phone is also your Mp3 player, show your teacher that it has songs and don't text- use it for music."* The research team believed that this guideline gave students a chance to utilize the technology on their phone to listen to music instead of having to buy another technological tool to listen to it, and consequently, save money. However, the team felt that this rule would not stop individuals from texting and some student members were adamant that people will text whether or not they are listening to music. The student members felt that this may potentially be problematic and that showing the teacher that your phone had songs on it would not be enough to prove to teachers that you are not going to use it for texting. So, the team revised the guideline to *"if your phone is also your Mp3 player, leave it out so that the teacher knows you are not texting."*

Implementation 3

After the third research meeting in which our team reviewed and analyzed the guidelines developed in the third meeting, we chose another one-hour period on the following day to implement the final music listening session and try out the newly revised guidelines. Again, the data retrieval chart was placed in the classroom as a reference for the student team members throughout the implementation session. The student team members were asked to listen to their PMPs and anonymously log into the password-protected blog to answer the same guiding questions regarding the implementation session along with their observations. Following the

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third music listening implementation session, none of the team members responded to the questions in the blog.

Meeting 4

The fourth and final research meeting was held two days following the third research meeting, over the school lunch hour. Three members of the research team attended this meeting. The meeting began with a discussion of how the previous music implementation session went. The student team members all described the class period in which they implemented their music listening to be one that they considered rowdy. Overall, the team members felt that their class was more active than normal because it was almost the weekend. The student team members stated that even though the classroom was rowdy, they were all able to concentrate and get their work completed through using their music as a tool to help them focus and concentrate more effectively. One of the team members shared that he/she normally listens to music with only one headphone in, so that he/she can hear what is going on in the classroom. This particular member shared that during this particular implementation session; one of his/her classmates (not participating in this study) was playing music loudly on his/her computer without using headphones. As a result, the team member noted that he/she was required to turn his/her music up and use two headphones instead of one, after which he/she was able to concentrate and complete the required class work. Another team member commented that he/she was able to concentrate well during the music listening session using his/her PMP because he/she was not distracted by other noises in the classroom and therefore was able to complete a lot of work during that particular class period. One of the team members said that it was hard to concentrate because one of his/her earphones was broken, so he/she had to turn the volume up louder than usual. He/she stated that even with one earphone, he/she was able to tune everyone out.

During this meeting, our team reviewed the list of guidelines for listening to PMPs in the classroom once again. The first guideline was *"students should not have headphones in when the teacher is talking."* The research team agreed that this was a good rule because it ensured that everyone was listening. The team did not feel that there were any negative aspects to this guideline and chose to keep it unchanged.

The second guideline that we reviewed was *"if the volume distracts your fellow classmates, turn it down."* The research team felt that this was a good rule because if an individual asks once for a classmate to turn their music down, other people will not be distracted by the volume after that initial person. Also, the student team members thought that if everyone was to turn their music down then there would not be a 'battle of the bands' in which individuals would be competing to hear their own music. The team did not discuss any negative aspects of this guideline, and thus, left it unchanged.

The third guideline that we discussed was *"use headphones when listening to anything on your computer, except when doing group work (may listen to it, but not too loud)."* The team felt that this was an effective guideline because it helped to keep the classroom quiet. They also felt it was good because 'not too loud' is not defined to a certain volume level, which allows individuals the freedom to decide how loud they would like to listen to their music. The team members felt that groups listening to music without headphones are not a problem in their classroom because everyone is listening to their own music via PMPs, and therefore can tune out any noise in the classroom. The team felt the guideline was effective and chose to keep it unchanged.

The fourth guideline that we reflected upon was *"have the music you are going to listen to prepared before class."* The student team members felt that this guideline was effective. They

had no further information to add in regards to positive or negative aspects and chose to keep the guideline the way it was.

The fifth guideline that we examined was *"you can choose your own type of music as long as nobody else can hear it."* The research team felt that this guideline was valuable because certain music that an individual likes can affect their mood, for example, make them feel happy. They believed that if they could choose the type of music they wanted to listen to, they could choose music that makes them calm. The team could not think of any negative aspects of this guideline and thus, decided to leave it unchanged.

The sixth guideline that we explored was *"you can share your headphones as long as you are working. You must listen to a playlist chosen by the owner of the music player."* The team thought this was a good rule because it would ensure that nobody fights over music. However, the student members felt that there could potentially be a problem if the owner of the music player likes different music than the person they are sharing with. I felt that the student members had a good point and was in agreement with the revision of the guideline. Therefore, the team decided to revise this guideline to *"you can share your headphones as long as you are working. You must listen to a playlist chosen by the owner of the music player. If you don't like their chosen type of music, then don't listen."* The team felt that the change in this guideline would allow both individuals who are sharing a set of headphones to know the expectations beforehand and would help avoid any disputes over music preference.

The sixth guideline reviewed our team was *"if your phone is also your Mp3 player, leave it out so that the teacher knows you are not texting."* The team members concurred that this rule provides individuals with an opportunity to listen to music on their phones instead of having to buy a separate Mp3 player, therefore saving them money. On the other hand, student members

felt that some people will text whether they are listening to music or not. Further, they expressed concern that showing the teacher that the phone has songs on it would not be enough evidence for the teacher to allow them to use their phone as their PMP. However, the team could not think of a way to revise this guideline to make it better, so they left it as is.

Final Version of Guidelines

At the end of this meeting, our research team finalized a list of guidelines for using PMPs in this classroom. The final list of guidelines is listed below in Table 3.

Table 3

Final List of Seven Guidelines

_____

1. Students should not have headphones in when the teacher is talking.

2. If the volume distracts your fellow classmates, turn it down.

3. Use your headphones when listening to anything on your computer, except when doing group work (may listen to it, but not too loud).

4. Have the music you are going to listen to prepared before class.

5. You can choose your own type of music as long as nobody else can hear it.

6. You can share your headphones as long as you are working, you must listen to a playlist chosen by the owner of the music player. If you don't like their chosen type of music, then don't listen.

7. If your phone is also your Mp3 player, leave it out so that the teacher knows you are not texting.

A visual representation allowing the reader to track the changes made to the guidelines as our research team moved through the cycles of action research is outlined in Table 4. The revisions made by the team are demonstrated through the use of italicized text.

Table 4

Guideline Revisions and Reasons

Guideline # 1	
Version 1	Students should not have headphones in when the teacher is giving a lesson.
Version 2	Students should not have headphones in when the teacher is *talking*.
Version 3	Students should not have headphones in when the teacher is talking.
Version 4	Students should not have headphones in when the teacher is talking.
Reason for Revisions	The original version did not include all situations in which the teacher might address the class. If the guideline focused only on students not having headphones in while the teacher is giving a lesson, then they may miss valuable information during other parts of the class.
Guideline # 2	
Version 1	If the volume distracts your fellow classmates, turn it down.
Version 2	If the volume distracts your fellow classmates, turn it down.
Version 3	If the volume distracts your fellow classmates, turn it down.
Version 4	If the volume distracts your fellow classmates, turn it down.
Reason for Revisions	No revisions were made as the team felt that this rule was effective.
Guideline # 3	
Version 1	Use your headphones when listening to anything on your computer.
Version 2	Use your headphones when listening to anything on your computer, *except when doing group work*.

Version 3	Use your headphones when listening to anything on your computer, except when doing group work *(you may listen to it, but not too loud).*
Version 4	Use your headphones when listening to anything on your computer, except when doing group work *(you may listen to it, but not too loud).*
Reason for Revisions	The team thought that students should be allowed to listen to music/sounds on their computers if they were participating in group work and if they controlled the volume.
Guideline # 4	
Version 1	Make a playlist before class.
Version 2	*Have the music you are going to listen to prepared before class.*
Version 3	Have the music you are going to listen to prepared before class.
Version 4	Have the music you are going to listen to prepared before class.
Reason for Revisions	The team felt that specifying that students should have a playlist limits the type of listening they could participate in. For example, they could play a favourite artist, or put their device on shuffle, not only listen to a playlist.
Guideline # 5	
Version 1	You can choose your own type of music as long as nobody else can hear it.
Version 2	You can choose your own type of music as long as nobody else can hear it.
Version 3	You can choose your own type of music as long as nobody else can hear it.
Version 4	You can choose your own type of music as long as nobody else can hear it.
Reason for Revisions	No revisions were made as the team felt that this rule was effective.
Guideline # 6	

Version 1	You can share headphones as long as you are working.
Version 2	You can share headphones as long as you are working.
Version 3	You can share headphones as long as you are working. *You must listen to a playlist chosen by the owner of the music player.*
Version 4	You can share your headphones as long as you are working. You must listen to a playlist chosen by the owner of the music player. *If you don't like their chosen type of music, then don't listen.*
Reason for Revisions	The team revealed some problems with sharing headphones and addressed them by changing the guideline to suggest that the owner of the PMP has control over the type of music listened to.
Guideline # 7	
Version 1	If your phone is also your Mp3 player (e.g. iPhone), show your teacher that it has songs and don't text, use it for music.
Version 2	If your phone is also your Mp3 player, show your teacher that it has songs and don't text, use it for music.
Version 3	If your phone is also your Mp3 player*, leave it out so that the teacher knows you are not texting.*
Version 4	If your phone is also your Mp3 player, leave it out so that the teacher knows you are not texting.
Reason for Revisions	The team was concerned about the teacher's perception of student use of a device that is an Mp3 player and a phone, so they revised the guideline to include a means for the teacher to be aware of what is happening with their device.

CHAPTER FIVE: Discussion

In this chapter, I begin by summarizing the present study. Then I discuss particular aspects of the study in terms of the current research literature, and their implications for practice and future research. Whereas the student data on their experiences with music listening in the classroom and the final list of rules and guidelines are obvious results of the study, my reflections on the process of working collaboratively with students are another aspect of the study that will be useful to other teachers, adults, and researchers wanting to work collaboratively with students across various settings and contexts.

Summary of Research

The purpose of this research project was to work collaboratively with a group of high school students to develop a list of guidelines for using Personal Music Players in their classroom. Research demonstrates that music is both available (Bahanovich & Collopy, 2009) and important to adolescents (Boal-Palheiros & Hargreaves, 2001; North et al., 2000). Furthermore, the multiple benefits being associated with music listening (e.g., cognitive, academic, behavioural, emotional, social benefits) suggest positive implications for incorporating music listening into schools. However, there are practical issues to consider. What kinds of rules might be helpful in supporting teachers and guiding students? How can these rules and guidelines be developed?

Two Canadian educational researchers (Domitrek & Raby, 2008; Raby & Domitrek, 2007; Raby, 2008) argued that student participation in developing school rules and policies increases student acceptance and adherence of rules as well as encourages civic minded and democratic values. Action research has been advocated as an appropriate way to increase

inclusion of student voices and participation in research (Powers & Tiffany, 2006; Rodriguez & Brown, 2009; Stringer 2004). The present study reflects these recommendations.

Working together, a research team consisting of myself and a small group of grade 11 students progressed through three cycles of the action research process to identify, try out, reflect upon and revise a set of guidelines for using PMPs in the student members' classroom. A total of four research meetings were held in which our research team developed guidelines, reflected on them and revised them as needed. After each of the first three meetings, music listening implementation sessions were held in the student team members' classroom where the team followed their guidelines for listening to their PMPs and responded to guiding questions in a blog to facilitate their thoughts and reflections about the music listening session. One outcome was a collaboratively developed list of guidelines for listening to PMPs in this particular classroom. The final version of guidelines are suitable for teachers and students to use as a reference in working to develop guidelines in their own classrooms as well as for further investigation and study. The students comments in team discussions and on the blog were another outcome that further understanding about adolescent experiences with music listening. A third outcome was my reflections on my involvement with this action research project, which can provide guidance for other teachers and adults wanting to work collaboratively with student groups, either as part of professional practice or in formal action research studies.

<div align="center">**Discussion of Findings**</div>

The Guidelines

Through the process of action research, our research team collaboratively developed a final list of guidelines for using PMPs in this particular classroom. Each guideline came into

existence as the team worked together to formulate a guideline, trial its use in the classroom,

reflect upon and revise as necessary. The final list of guidelines is as follows:

1. Students should not have headphones in when the teacher is talking.

2. If the volume distracts your fellow classmates, turn it down.

3. Use your headphones when listening to anything on your computer, except when doing
   group work (may listen to it, but not too loud).

4. Have the music you are going to listen to prepared before class.

5. You can choose your own type of music as long as nobody else can hear it.

6. You can share your headphones as long as you are working. You must listen to a playlist
   chosen by the owner of the music player. If you don't like their chosen type of music,
   then don't listen.

7. If your phone is also your Mp3 player, leave it out so that the teacher knows you are not
   texting.

As a team, the students and I developed a list of guidelines for using PMPs in this

classroom. The collaborative development of these guidelines through the use of action research

was an ideal method for including the voices of these students on this matter that affected them.

Students, as key stakeholders in schools, are not typically consulted in regards to their

views and opinions about matters that affect them (Domitrek & Raby, 2008; Stringer, 2004).

Students need to be directly involved and engaged in the action research process to develop

solutions when they are affected by a problem (Stinger 2004; 2007). This research project

included students as members of the research team because the use of PMPs in their classroom

was an area of concern for them. Therefore, the students were directly involved in the action

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research process to develop a solution to this problem through the collaborative development of guidelines for their use in this classroom.

Raby and Domitrek (2007) have suggested that students often believe rules are put in place as a way to maintain control on behalf of school administration. Students were found to be more accepting of rules when they were practical and made sense to them, in addition to giving the feeling that they were put in place for the betterment of themselves and other students; however, students tended to reject rules that were deemed less important or 'petty'. Raby and Domitrek (2007) suggested that listening to students' perspectives in terms of rules and their concerns is important. Further, they noted that when administrators impose rules on students, they do not teach students how to be participatory citizens, which in turn, teaches students to break the rules as a means of voicing their concerns and being heard. The collaborative development of guidelines for using PMPs in this class utilized the action research process which allowed the student members to create guidelines that were effective from their perspectives while addressing their needs in the classroom. Because the guidelines directly reflected the student members' needs and concerns, I believe that these students would be more likely to follow and respect these rules that they made when compared to rules developed and enforced by their teachers or administrators.

Domitrek and Raby (2008) discovered conflicting attitudes across school stakeholders regarding views on the use of electronic devices in the school setting. They discovered that many administrators believed that electronic devices, such as PMPs, distracted students from learning and that it was their role to make decisions around their use or lack of, in the school context. These authors voiced their displeasure at this situation as it encourages students to become passive in matters that affect them and they called for inclusion of student views in policy

development. Domitrek and Raby (2008) suggested that given these differing views, it would be important to include all stakeholders in the development of school policy that affects them. While policy development was not the issue in this study, the project involved developing guidelines in one particular classroom and the comments Domitrek and Raby (2008) made still apply. As students are key stakeholders within the classroom setting, their voices were included on matters that are important to them, specifically the development of guidelines for using PMPs in their classroom. This study, through the collaborative development of guideline for PMP use, followed through with these recommendations. The students who participated as members of our research team actively worked towards developing rules from their perspective that they felt were essential or important and that addressed their needs.

Raby (2008), in examining students views and participation in the development of school rules, suggested that both participation and the opportunity to be involved in the development of rules is vital to allow students to develop greater ownership and responsibility over the rules rather than rebelling against them. She suggested that students are more likely to follow rules when they directly reflect their needs and concerns. In this classroom, the student team members seemed to be craving more structure in terms of PMP use and the inclusion of their voices as part of the research team encouraged the development of a list of guidelines that provided them with level of structure they desired. Since the guidelines reflect concerns that these students had regarding PMP use in their classroom, they are likely to take ownership and responsibility over the rules rather than rebel against them. However, given one student's comments about his or her desire for the teacher to reiterate the rules to the entire class, I believe that there may need to be some involvement from the teacher to remind students of the rules. However, if all students in

the class had been involved in the development of these guidelines, ownership and responsibility over the rules may have become a class wide endeavor.

It has been suggested that research with youth should be participatory in nature; that they should be involved in the research process and use their experiences to direct the research (Rodriquez & Brown, 2009). Youth participation in the process of research is beneficial as youth are most familiar with the issue being addressed (Powers & Tiffany, 2006) and their contribution improves the quality of the research (Powers & Tiffany, 2006; Rodriquez & Brown, 2009). Based on their own knowledge and past experiences, the students who participated as members of our research team collaborated with each other and me to create guidelines for PMP use in their own classroom. There could not be better individuals to provide more reliable information about which guidelines would be effective or ineffective in this classroom, other than these students themselves. I could and did offer ideas and suggestions about issues or concerns that I had as a teacher. However, my comments were based upon my experiences as a teacher in other classrooms, and did not stem from the reality of this particular classroom setting. My own personal experiences informed my ideas and suggestions which acted as a guide for discussion or encouraged the student members to consider different aspects of an issue. Nevertheless, the student members of our research team were able to provide the most reliable data and interpretation of that data because they were living the research project out in their classroom on a daily basis.

During our research meetings the students contributed knowledge that as a teacher, I just do not have. The student members, therefore, offered a different perspective and provided valuable information. For example, the students offered different perspectives when we discussed the issue of volume on PMPs. From a teacher's perspective, I wondered if (in the best

interest of the students' learning), there should be a volume limit established. The student members did not feel that this was important and shared their desire to have individual control over the volume of their own device so that they could have the freedom to block out external distractions as required. This is a perfect example of how the information provided by the student members added to the reliability of the project. They really saw the external distractions as a concern and the way in which the guidelines were developed directly addressed their concern.

Even though youth should be involved in research and share power, it has been suggested that it is the researcher's responsibility to lead the youth, scaffold their learning and develop cohesion in the group to produce quality research (Rodriguez & Brown, 2009). This was a role, although I was part of the research team, that I had to take on during the research project because the student team members did not have the knowledge, understanding or experience required to design and conduct action research and therefore benefited from the opportunity and framework I introduced them to in order to address the use of PMPs in their classroom.

Rodriguez and Brown (2009) suggested that youth involvement in research should be transformative and improve the situations of the youth involved in the project. In this project, student involvement in the development of guidelines for using PMPs created a better learning environment for the student team members. It gave the student members the knowledge and opportunity to address concerns that they had with PMP use in their classroom. Their involvement empowered them to make changes and gave them confidence to address concerns that they have. Without direct involvement in this action research project, these students may have never had the opportunity to have their voices heard and address concerns that they had regarding PMP use in their classroom. Participation in the project provided the student team members with skills that could potentially be extended to situations outside of this classroom.

For instance, they may share their research learning and experiences with other students and teachers and therefore extend the benefits and changes beyond this particular classroom setting.

Youth involvement in research provides the opportunity to exercise their rights, use and develop critical thinking skills and participate democratically while initiating changes that make a difference to their situation (Goodyear & Checkoway, 2003). The action research process encouraged critical thinking as the research team moved through cycles of action and reflection to identify guidelines for using PMPs in this classroom. Student member involvement as part of this research team offered the opportunity to exercise their rights and engage democratically in a matter of concern to them while trying to initiate change within their own classroom environment.

Allowing for the use of PMPs has been suggested by some researchers as vital for students to learn etiquette around their use (Domitrek & Raby, 2008; Hirsch, 2005). The collaborative development of guidelines for using PMPs in this classroom encouraged the student team members to critically think about and analyze each guideline. This deep examination of each guideline, at the same time, encouraged the consideration of proper etiquette for using PMPs in the classroom, which may be even more powerful than teachers 'teaching the etiquette' since the guidelines developed by the student team members directly addressed concerns they had in their classroom.

Students Reflections on Music Listening in the Classroom

In addition to the development of guidelines for listening to PMPs in this classroom, the student team members answered guiding and observation questions (see Appendix G & H) in a blog format. The responses to the blog questions provided a means for students to record their thoughts about the implementation session to aid in recollection at the time of the next research

meeting and provided insight into how and why the students listened to music while completing their work. Many of the student team members outlined reasons for listening to music that paralleled what has been discovered in the literature and therefore confirm previous findings.

The findings of this study suggest that many of the functions of portable music outlined by Williams (2007) can be applied to the classroom setting. As is apparent in the information gathered from the student team members' blog entries and previous literature, portable music can serve a variety of functions for the listener, and in the classroom, students can utilize several of them to meet their diverse individual needs. Through individual blog entries and discussion during the meetings, student members made reference to employing some of the functions of portable music outlined by Williams (2007).

For example, several student members noted using their PMPs to listen to chosen sounds, in which the listener desires to hear a particular piece of music and fulfills this need by listening to music of their choice. One student stated "*I was listening to Led Zeppelin 'cause I just felt like listening to it.*" Another student felt that they were able to "*take away all the distractions away by listening to music I want to listen to.*" One individual noted particular information about why he/she chose a particular song, stating that "*I was listening to 'The Lotus Eater' by Opeth. I chose it because how he switches vocal styles just amazes me, also the piano solo.*"

Of the functions of portable music, the most prominent in the student members' blog entries was that of environmental control, in which the listener uses their PMP to replace the undesirable sounds of their environment with music. Several student members noted using their PMPs to minimize and tune out environmental distractions. For example, one individual stated that their music was helpful because they "*didn't have to listen to things around me*". Another

individual responded that they "*didn't have to listen to people around me, I could just tune it out*". One student suggested that they used a particular type of music to help them control their environment by stating "*I was listening to some heavy music because I enjoy it, and it does the best job of making other things not audible*".

One student made reference to using their PMP as a means of interpersonal mediation, in which a listener can use their PMP to control their interactions with others, making them difficult to approach or distract. This individual stated that "*I was listening to it [PMP] with both head phones in. I like to keep to myself when I work.*" This response suggests that this individual consciously used two headphones as a way to keep to themselves and limit interaction with other students.

Mood management, in which the listener uses their music as a means to change their mood, was another function of portable music that was revealed in the blog entries. For example, one student stated "*I liked that I could listen to my music, because it makes me feel more encouraged to work.*" While not directly making reference to changing their mood, several other students noted feeling happy and calm while they listened to their PMPs. As student members did not specifically mention the mood changes, they may not be directly aware of how their music influences their mood.

Time management, in which an individual listens to their PMP while engaged in a task considered repetitive or boring, was brought up in the students' blog entries. For example, one individual noted that using their PMP was helpful "*because I was able to actually get down and do work, instead of getting bored and doing other things*". Another student mentioned listening to a particular artist that helped them manage their time, stating that "*Opeth is just that good, I couldn't leave my computer so I got more work done.*"

Finally, activation, in which music arouses physical movement in the listener, was noted by one individual. This student said they were "*listening to Green Day. I chose it because they are upbeat and happy. They know how to get you on your feet and dancing*".

It is important to note that the functions of portable music that were outlined by the student team members were pertinent to this particular class and environment, and on the particular day that the implementation session occurred. Environmental variables within the classroom may change the way in which the students' use their PMPs. For example, the type of project, the day (e.g. Friday), or the students present for that class may influence they way in which the PMPs are used. The student team members noted during discussion that the implementation session that was held close to the weekend resulted in a rowdy class, and thus, the functions of their PMPs may have been focused more on limiting distractions. Additionally, students may employ different functions of their PMPs in different environments, such as English class, at home, with friends and so on. The information gathered only provides a snapshot of this particular class.

Through the blog entries, the student team members noted listening to music both in a focused/active and background/passive way (Clarke, et al., 2010; Dibbens, 2001). Some of the student team members said that they listened to music in the background while they completed their work. However, other students made reference to listening to their music in a more active way, focusing on certain aspects of the music. It would be difficult for a teacher to monitor how students listen to their music in the classroom, placing the responsibility directly on the students to regulate the way in which they are listening to their music. Again, this points to the need to teach students about how and why they listen to their music in particular ways.

Some studies have suggested that music listening may act as a means to improve attention and concentration, decrease distractibility and relieve boredom (Arnett, 1995; Abikoff, Courtney, Szeibel & Koplewicz ,1996; Beentjes, Koolstra & Van der voort, 1996; Domitrek & Raby, 2008; Hallam & Price, 1998; Morton et al., 1990; North et al., 2000; Savan, 1999; Wiebe, 2007). Of the benefits of music listening for youth outlined in the literature, most prominent for the student team members in this particular class was that of improving concentration and reducing distractibility. During discussions with the student team members and through their blog entries, the team members consistently described using their PMPs and music as a means to improve focus by reducing the distractions in their environment. Further, the student team members noted using their music as way to relieve boredom during tasks that were considered boring or repetitive.

Literature suggested that using media (e.g. PMPs) during some activities may interfere with students' performance. For example, listening to music while engaging in a cognitively demanding task, such as reading, can limit students' ability to focus on that task (Anderson & Fuller, 2010; Pool et al., 2000; Pool et al., 2003; Tze & Chou, 2010). Interestingly, some student team members noted making the choice not to use their PMPs at particular times, such as when engaging group work or reading. This choice not to use their PMPs at certain times suggested that at this age some of these students may be aware of the tasks music listening interferes with and may have the ability to regulate their music listening on their own.

Personal Reflections

Reflections on Conducting Action Research. As a former teacher and current consultant in the area of school psychology, I was naturally drawn to action research. I personally found the process of action research very informative and in my previous work as a classroom teacher, the process was part of my natural classroom investigation to identify how I might improve my teaching practice. In past experiences, I had utilized what I would call a form of informal action research to identify solutions to problems I was experiencing as a teacher. In these previous projects, I was a teacher looking at how I could improve my teaching practice to enhance student learning. However in this project, I was no longer a teacher examining my own teaching and I was more informed about the theory of action research. Rather, I was invited into a school and collaborated with a group of secondary students to develop guidelines for the use of PMPs in a class where the instructor allowed students to use music as they wished. My role was that of facilitator and encourager, guiding our team work together to determine solutions to a problem. Initially, I found giving up my 'teacher role' to be really challenging. As a former teacher coming into this situation, I had my own preconceived ideas about what I felt were important aspects that should be incorporated into a set of guidelines for using PMPs in a classroom. For example, I personally felt that the volume on student PMPs is an issue because it can be distracting to other students (and the teacher!) and damage hearing. However, I found it challenging it was difficult for me to allow the research team to develop their own set of guidelines without my interference on issues that I felt were important. As a member of the research team, I had to be aware of my influence on the other team members and therefore gently offered suggestions or ideas without pushing my own beliefs. For example, in terms of the volume issue, I brought up the idea and encouraged the other members to discuss their thoughts

on it. The student team members did not feel that volume was a concern and the guidelines that we developed demonstrated a collaborative, not one sided approach to addressing the problem. Each member of this team brought their own experiences to the table, mine being from previous teaching experiences, theirs being their classroom experience. This project was a learning opportunity for me, in that I was not the teacher in control of the classroom situation, but rather the facilitator and encourager whose purpose was to guide our research team through the process of action research to work collaboratively to discover solutions to a problem. Many of the guidelines or issues that the student team members identified as issues for them paralleled concerns that I have had as a teacher; however, I was also surprised and excited when the student members brought up issues that I had not thought of, underscoring the importance of such a collaborative project that includes the voices of students! For example, since I have been out of the classroom setting for a few years, it had not occurred to me that students had access to technology that doubles as a mobile phone and an Mp3 player. iPhones and the like are common place amongst students and along with new technology comes new sets of problems. The student team members raised a concern that if an individual has this type of phone/Mp3 player, the teacher may think they are texting instead of listening to music, a valid and important concern that I had not even occurred to me!

While the process of action research involves repeated cycles to plan, act and reflect as solutions to problems are developed, I wonder if some of the student team members truly saw the value in what they were doing. For example, after the initial meeting in which seven members attended, only three members attended subsequent meetings. It is possible that the members who did not return felt that they had contributed enough information during the first meeting when they set up an initial set of guidelines. The blog acted as a venue for student members to share

their feelings and thoughts about the music implementation sessions and provided supplemental information in regards to music listening in their classroom. However, it appeared to have less value to the members during the second and third times. It may be that the student members had said all they had to say in their first blog entry and did not wish to repeat what had already been stated as there appeared to be little variation in the environment, assignments and overall situation during the music listening implementation sessions.

The students' limited participation may also have reflected a lack of full engagement in the problem. Since they volunteered to participate, the issue had some resonance with them; but, perhaps not of the intensity of a personally-generated problem rather than the one I introduced. With hindsight, I wondered if pursuing the students' interest in being allowed to listen to music during exams would have generated more involvement from them. I also recognize the limitation imposed from the start in terms of my position as an outsider to the classroom.

Unexpected Findings. A number of unexpected findings presented during the course of this project. Of course, I had a preconceived idea of how the project would unfold before I began. However, given the collaborative nature of action research, I had little control over the direction of the research as the members of our research team worked together to establish the guidelines for using PMPs in this classroom.

Firstly, the role of the teacher in the project did not turn out as I anticipated. Initially, I thought teacher would participate as a member of the research team, who would offer input and a different viewpoint during the development of the guidelines and provide responses to the guiding questions on the blog and add additional insight into the teacher's perspective on using PMPs in this classroom. However, such is the nature of collaborative research – individuals involved may contribute how they choose. As a result, the teacher was present only intermittently

for a few minutes at a time during the research meetings. I had hoped that the teacher would have wanted to be more involved in the project, but his response suggests that he may have seen the problem as one that his students encountered and thus wanted to let them come to a solution without his influence. Even though the teacher's involvement was not what I had anticipated, I feel that the teacher's absence diminished power roles and allowed the student team members to feel comfortable discussing their perspectives and thoughts easily. Had their teacher been present for some of the discussions, for example, around classmates who are disruptive or their use of music to limit external distractions, the students may not have spoken up to the degree that they did. The way that the research team developed allowed, in my opinion, the student members to address the guidelines from their perspective without any influence from their teacher.

Secondly, the information that the student team members shared in the blog became more important that I had initially thought. The purpose of the blog was for the student members to record their thoughts and feelings about the music listening session to aid in recollection when it came time for reflection and planning during the subsequent meeting. I had anticipated that there would potentially be long periods of time between the research team meetings and implementation sessions and I hoped that by using the blog to record thoughts and feelings, I could circumvent problems remembering what had happened during the implementation sessions. However, the time between meetings and implementation periods was not great and the information provided in the blog revealed additional valuable information about the how and why these students used music listening in this class. Going into this project, I felt that guidelines for listening to PMPs were a priority and really thought of the blog as a reminder for the team when it came time to reflect and plan. However, after reflecting on the information collected, the guidelines themselves do not provide the depth of information that the responses in the blog

provided. While the collaborative development of the guidelines for using PMPs in this classroom was certainly of great value, the blog responses provided insight into how and why students use their PMPs, which informed the development of the guidelines and further, informed the teacher about music listening from the perspective of the students in this classroom, yet another way for these students to voice their concerns. For example, the blog responses suggested that students in this particular classroom used their PMPs as a way to tune out background noise, decrease distractions and help them concentrate. This information provides insight into the development of the guidelines when one understands the reasons why students were using their PMPs, and further, provides useful information for the teacher so that he can address any perceived issues in the classroom. A classroom that is busy and active may encourage the students to use their PMPs for particular functions, and therefore require different guidelines than a class that is quiet and calm. Even though the blog responses provided insight into the reasons why students listened to their PMPs in this classroom, the team members had difficulty elaborating on their responses and some students did not fill out the blog the 2nd and 3rd times. Possibly, the students felt that the blog questions were repetitive and that their thoughts had been reflected in their earlier responses. From my understanding of the classroom through discussion with the student members of the research team, the implementation sessions were very similar in that students worked individually on their same projects over the duration of the study. The students may have had more to comment on if the implementation sessions had been different environmentally, for example, if the students were working on different projects each time rather than the same project.

Thirdly, I was surprised at the low number of students who attended the initial research meeting, and additionally, the drop off in team members for the remaining meetings. Of the

entire class (around 25 students) that were present during the information session, only seven

attended the first research meeting and three students attended the remaining research meetings. I

thought the students would be more excited about the project than what they seemed to be. I

believe that part of the reason for the low numbers was that the meeting was at lunch hour, which

for high school students is a time of socialization. Furthermore, prior to the commencement of

this project, the students were allowed to use their PMPs in the classroom freely without

restriction and therefore, may not have seen the value in such a project. Had this project taken

place in an English Language Arts or Math class, in a classroom that does not allow for free use

of PMPs, the interest and involvement of the students may have been higher.

Upon my reflection of the research meetings, there may have been ways to better engage

these students and given the nature of action research, the project could have gone in a different

direction. For example, the focus of the project could have changed to an aspect of the discussion

that the students were more engaged in, such as when some of the student research team

members demonstrated more enthusiasm when the idea of being able to use PMPs during

examinations was brought up. If I had taken this opportunity to steer the project in the direction

of student interest, the number of team members may have increased or stayed constant.

In this particular classroom, it appeared that the team members did not value the

guidelines as much as I would have hoped. This result may have presented for a number of

reasons and discussions with the student team members and review of their blog entries provided

some insight. Some of the responses in the blog entries indicate some level of frustration that the

entire class was not using the guidelines and that the teacher did not review them. Even though

the team expressed their desire to have their entire class follow them, they were reminded that

the entire class was involved in the research team and that only the members could participate.

One student suggested that the guidelines would be far more effective if they were adhered to by everyone. When only a few students followed them, it was not very meaningful. It can be inferred that the members felt that if their teacher reviewed the guidelines to the whole class and stressed their importance the classroom would have been a better place to work. With hindsight, I now recognize this could have been an action pursued as part of our action research project. I was so focused on developing the guidelines that I hindered rather than facilitated the student team members' in this case.

This point underscores the members' desire for structured guidelines for using PMPs in their classroom as well as the difficulty for the external researcher (myself in this case) to put preconceived notions aside. Originally, I had anticipated that the type of classroom that would participate in this project would be a more restrictive environment in terms of PMP use. I thought that most likely the subject area would be a core subject are, for example, English or Math, and that either the teacher did not allow the use of PMPs or that their use would be restricted. I thought that the potential student team members would be excited by the opportunity to create an environment in which the students developed the rules, therefore, seeming less restrictive from the students' perspective. Perhaps the development of guidelines in such a class would have created a less structured and restrictive environment. However, what actually played out during the study was completely different that what I had initially thought. The environment in this classroom was the opposite of what I had thought it would be- the content of the class was not a core subject area, rather a media-related course in which students worked individually on projects. There were no restrictions on the use of PMPs and students used them how they wished. Surprisingly, this environment did not seem to work for the students who participated as part of

the research team and it appeared they wanted more structure through the use of the guidelines they developed.

Strengths and Limitations of the Study

This study provides one example of student-developed guidelines for using PMPs in a secondary classroom. These guidelines could be used as a reference for other teachers and students who would like to develop guidelines for music listening in their classroom. The student team members' responses to the questions in the blog further theory by providing insight on potential functions of PMPs in classrooms for students. My reflections of the process of working with the students provide insight on methodological and practice considerations in using action research and working collaboratively with students.

The findings in this study were not meant to be generalized to the wider population; rather, they were intended to be used in this classroom to address the needs and concerns of these particular students. The process of action research supported the inclusion of student voices and represented student concerns and needs through the collaborative development of guidelines for using PMPs in this classroom. The nature of action research focuses on the development of solutions that directly affect the members of the research team and therefore, the solutions that are developed are specific to that research context.

Worth mentioning, however, is the difficulty the students encountered in providing depth and breadth within both their verbal and written responses to questions and therefore, the information they provided often lacked detail. The student team members also appeared shy at times and reluctant to speak up without encouragement during the team meetings. Further, there was a lack of explanation in the blog responses and as the action research process continued, the responses to the questions in the blog became less and less, possibly because the participants felt

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that they had said all that was needed to say at the initial blog entry. The lack of elaboration in responses may be the nature of doing work with teenagers; however, it is important for me to consider how I might have encouraged conversation amongst the team members and prompted richer responses from the students. For example, taking the research in a direction that was more engaging for the students may have prompted more responses and higher numbers of team members present at the research meetings. Here within lies a missed opportunity for this to happen during the research meetings and for engagement of the research team. The student team members became visibly and emotionally engaged in a discussion around the idea of being able to use PMPs during examinations. I observed the student team members to be somewhat quiet and passive during the research meetings; however, there was a noticeable difference in their enthusiasm and discussion when this topic was brought up. Had the direction of the research steered towards this topic, the student team members may have been more interested, provided more detailed responses or attended more meetings.

As a result of the student team members' difficulties elaborating on responses or speaking up, I considered the ethical implications of the consent process. As I explained the consent documents to the student team members, no questions were asked. It appeared to me during the process that the students understood the contents of the document; however, there may be a possible ethical issue since the nature of this group of teens was to remain quiet and not speak up. If they had a concern regarding the consent document, they may not have spoken up to say so.

Implications for Practice

When I started this research project, I felt strongly that student participation in the development of guidelines for PMP use was important and the findings overall support the need

for such student-derived guidelines. For example, the student team members, through the process of action research and blog entries, the student team members revealed that they crave the structure of guidelines as means to control their environment. The findings demonstrate how to include student voices in the development of guidelines for using PMPs in the classroom that could be used by other teachers and students who wish to do the same in their own classrooms. They also point to the need for inclusion of student voices in the development of these guidelines to address real concerns. For these students, the guidelines we developed as a team addressed the concerns and needs that they had in reference to their classroom environment. However, had general rules been enforced on these students by their teacher, they may not have addressed the needs that these students had and therefore may not have been as useful.

In addition and equally important was the information that the student team members shared in the blog about how and why they use music. I feel that teachers and students would find the guidelines useful when thinking about their own classrooms and setting up guidelines for PMP use; however, I believe that teachers would also interesting, the reasons that students use music in the classroom. Literature underscores the functions of music for adolescents, but focus has not been extended the use of PMPs in the classroom setting. I feel that it is important for teachers to be aware of how and why their students are using music, which can inform the development of guidelines, not only for music listening, but for the classroom setting and inform teachers about student perspectives in the classroom. In this particular classroom, many of the student team members used their PMPs to minimize external distractions. Many made reference to the classroom being a busy, interactive environment in which students talked and moved about freely. The students' reasons for using their PMPs in this classroom that came through the blog entries are very informative from a teacher's perspective. In such a situation, the teacher can gain

valuable information, for example, that the students feel the need to listen to their music to limit

distractions, which can provide the teacher with the opportunity to address these concerns.

The research also provides a platform to begin to discuss and teach students about their

use of music as a tool to facilitate their learning. Many of the team members made reference to

using music for a particular function; however, I am not convinced that they were aware of

exactly why and how they were using it. It appears that they were cognizant of some of the

functions for which they used their music (e.g. to decrease environmental distractions); however,

other functions they noted (e.g. interpersonal mediation and mood management) were not so

clear to them. It would be beneficial for students to be provided with an opportunity to discuss

and learn about how they use their music to achieve particular goals.

Recommendations for Future Research

The review of pertinent literature and the findings of the present study provide a context

from which future research could be explored. Past studies have explored the importance of

music for adolescents; however, these studies are dated. Updated information that reflects the

technological changes our society has experienced over the last decade and their effects on the

importance of music to today's teens would be beneficial. The literature identifies several

benefits of music in general for adolescents but does not address the use of PMPs and their

functions in the context of the classroom or at home. It would be interesting to explore the

functions that PMPs serve adolescents both at school and at home. Previous research does not

address the ways in which students listen to music while they engage in specific classroom

activities or students' perspectives on how listening to music in the background influences their

performance on particular tasks. I would love to see future research initiatives that address

student perspectives to provide an in-depth understanding of how and why students use their

music in different situations or classroom activities. Further, many studies talk about the benefits of music on behaviour and concentration students with behavioural issues, but this study along with Domitrek and Raby's (2008) study suggests that other students use music as a means of reducing distractions and improving concentration. Future research should seek out student perspectives on the functions that PMPs serve for them personally as they complete their work.

Future research may replicate and extend this study by developing guidelines for using PMPs while participating in different activities or different classrooms. The guidelines developed for a classroom in which the students are required to complete a significant amount of reading may be different than a class, such as the one portrayed in this project, that involves individual work at a computer. Further, it would also be interesting to see future studies use action research as a means to include the student voice in matters that concern them, such as the development of rules both in and out of the school setting.

I would like to see a similar project to address the directions that this project did not steer towards: e.g., a study in which the student team members were supported in focusing on the use of PMPs during examinations. A change of topic to follow the students' interests exemplifies the principles of action research and would likely prompt a richer response from the students. As a result of carrying out this research, I hope I will be better able to recognize and respond to these moments in the future!

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Appendix A

The Phases of the Action Research Cycle
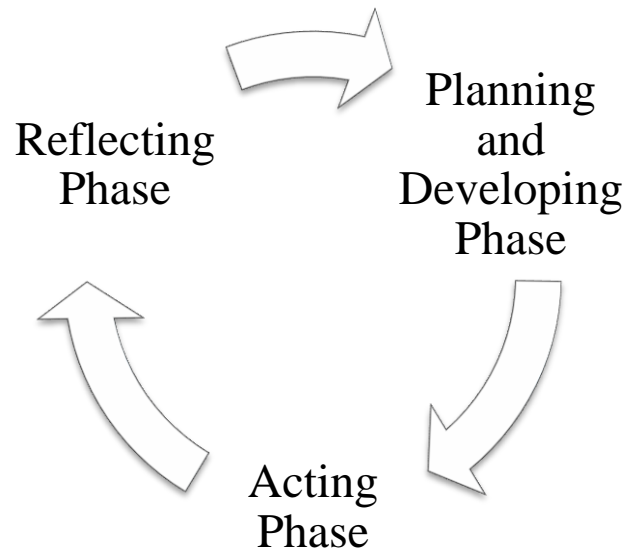
(Adapted from Mertler, 2006)

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*Do you wonder **how** you could **use Mp3 players** more **effectively** in your classroom?*

I am interested in collaborating with a teacher and his or her students to develop a set of guidelines for using Mp3 players in the classroom during individual seatwork activities.

Under the supervision of Dr. Jennifer Nicol, I am seeking volunteers to participate in this research study.

The study will involve:
- 5 research meetings with a teacher and his or her students to plan, implement and reflect on guidelines for using Mp3 players in your classroom.
- 3 implementation periods to try out music listening in your classroom.

In order to participate, you must:

- ✓ have a desire to incorporate Mp3 players into your classroom
- ✓ teach a high school subject that involves individual seatwork activities for the students
- ✓ have the support and cooperation of the school administration to participate in the project

For more information, please contact Jolee Childs: jac912@mail.usask.ca

Appendix C

Information Session for Student Recruitment

(presented through PowerPoint)

<u>Slide 1</u>
Developing Guidelines for Using Personal Music Players in the Classroom: An Action Research Project
Researcher: Jolee Childs
Phone: (306) 280-6048
Email: jac912@mail.usask.ca

<u>Slide 2</u>
What is this study about?
- This project is a research study which aims to develop a set of guidelines for using Personal Music Players (such as Mp3 players or iPods) in the classroom.
- Listening to music while doing individual work in the classroom can be helpful for some students, but there are many problems that go along with this.
- So, we want to create some guidelines for students and teachers to follow.

<u>Slide 3</u>
How does it work?
- Our research team (students, teacher, myself) will plan some guidelines for using PMPs in your classroom.
- You will try out the guidelines in your classroom and decide if they were helpful or not.
- We will talk about the good things and the bad things about the guidelines and make a new set of guidelines to try out again!
- We will go through this process three times until we have a set of guidelines that works well in your classroom.

<u>Slide 4</u>
What will I have to do?
- There will be 5 research meetings (over lunch hour).
- There will be 3 trial periods where you will try out the guidelines in your classroom and discuss them in the meetings.
- You will write down your ideas in a journal.
- You will observe what is going on around you while you and your classmates are using PMPS in your classroom and fill out an observation form.

<u>Slide 5</u>
Do I have to participate?
- No! You should only participate if you want to.
- If you choose not to participate, you may stay in the classroom, or go to the library/computer room during the 3 implementation periods.

Do I need to have my own PMP to participate?

- No! We want to find out how PMPs can be used in the classroom. That means we need to hear from all of the students in the class- we need to hear your voice too! When other students use PMPS, it is important to know how it affects others.

Slide 6
What should I do if I want to participate?

- Let your teacher know, or
- Show up at the first meeting, or
- Contact Jolee (jac912@mail.usask.ca)

What if I change my mind?

- That's ok. You can choose to participate or withdraw at any point during the study!

Appendix D

Visual Outline of the Project

| SEPT-DEC 2009 **PREPARATION** Ethics Approval Recruitment | → | May 26, 2010 **Info Session** AR Information & Music Listening Information **PLAN/DEV** | → | May 26, 2010 **MEETING 1** 1st version of guidelines **PLAN/DEV** | → | **IMPLEMENT CYCLE 1 ACT** |

| June 9, 2010 **MEETING 3** 3rd version of guidelines **REFLECT & PLAN/DEV** | ← | **IMPLEMENT CYCLE 2 ACT** | ← | June 2, 2010 **MEETING 2** 2nd version of guidelines **REFLECT & PLAN/DEV** | ← |

| **IMPLEMENT CYCLE 3 ACT** | → | June 11, 2010 **MEETING 4** Final version of guidelines **REFLECT & PLAN/DEV** | → | July 2010- February 2011 **FINAL ANALYSIS & WRITE UP** |

UNIVERSITY OF SASKATCHEWAN

Behavioural Research Ethics Board (Beh-REB)

STUDENT CONSENT FORM

You have been invited to participate in a research project entitled **Developing Guidelines for Using Personal Music Players in the Classroom: An Action Research Project**. Please read this form carefully, and feel free to ask questions you might have.

Researchers:
Jolee Childs (M.Ed. Candidate, B.Ed.) and Dr. Jennifer Nicol
Department of Educational Psychology and Special Education
University of Saskatchewan
Contact information: phone: (306) 717-9604, email: jac912@mail.usask.ca

Purpose and Procedure:

Purpose: The purpose of this study is to develop a collaborative team of students and their teacher to identify guidelines for using Personal Music Players in your child's classroom.

Procedures: This project will run from October 2009 to June 2010, with a total of 5 one-hour research team meetings and 3 one-hour implementation periods. Through a series of five research meetings, the research team will meet to discuss rules that will help you use Personal Music Players more effectively in your classroom. The team will decide on some rules, try them out in the classroom, and discuss which of the rules were helpful and which were not helpful. The research meetings will take place during lunch hour at your school and the implementation sessions will occur during your class time, as decided by your teacher.

How/to whom findings will be distributed: The final list of guidelines that are developed will be shared with principals, teachers, students and other researchers. These guidelines will be helpful for other teachers and students because they can see which guidelines were effective for managing personal music listening in your child's classroom.

How will the results be reported? The guidelines that are developed during the research meetings will be reported as a final list that the research team develops. The final guidelines will be shared through student and teacher-led presentations, and through a presentation at the *Learning from Practice Exchange of Teacher Knowledge and Research Conference* sponsored by the McDowell Foundation.

Potential Benefits: By participating in this research project, you will learn about conducting research in your classroom. Also, you will learn to use Mp3 players in your classroom in a way that helps both you and your classmates effectively use Personal Music Players during individual

seatwork activities. The final set of guidelines for music listening that are developed will help other teachers and students to use Mp3 players in their own classrooms.

Potential Risks: If you do not have access to a Mp3, your might feel uncomfortable participating in the project. Even if you do not use an Mp3 player, you can still provide useful information about which rules work and which rules don't because you are a part of the environment that the music players are used in and they will affect you.

Storage of Data: The data that is collected will not contain any identifying information related to its participants, that is, your name will not be on any of the data.

The information that is gathered throughout this project will be kept in a locked filing cabinet in Dr. Jennifer Nicol's research office for 5 years. When the data is not needed anymore, it will be destroyed.

Confidentiality: Because the data that is collected during the research meetings will be a group decision of music listening guidelines, individual responses will not be written down.

Right to Withdraw: Your participation is voluntary, and you can answer only those questions that you are comfortable with. There is no guarantee that you will personally benefit from your involvement. The information that is shared will be held in strict confidence and discussed only with the research team. You may withdraw from the research project for any reason, at any time, without penalty of any sort. If you wish to withdraw from the project, you can email or call your teacher, or myself. Also, you can choose not to attend the meetings if you wish to withdraw. If you choose to withdraw from the study, it will not affect his or her grades.

Questions: If you have any questions concerning the research project, please feel free to ask at any point; you are also free to contact the researchers at the numbers provided if you have other questions. This research project has been approved on ethical grounds by the University of Saskatchewan Behavioural Research Ethics Board on December 11, 2009. Any questions regarding your child's rights as a participant may be addressed to that committee through the Ethics Office (966-2084). Out of town participants may call collect.

Follow-Up or Debriefing: Because the information will be gathered and analyzed by the participants throughout this project, you will be aware of the ongoing development of the guidelines.

Consent to participate: I have read and understood the description provided; I have had an opportunity to ask questions and my/our questions have been answered. I consent to the participation of my child in the research project, understanding that I may withdraw my consent at any time. A copy of this Consent Form has been given to me for my records.

(Name of Participant)	(Date)

(Signature of Participant)	(Signature of Researcher)

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Appendix F

Data Retrieval Chart

Research Meeting 2
Date: _____

Guidelines

Research Meeting 3
Date: _____

Guidelines	What worked? Why?	What didn't? Why?	Revised Guidelines

Research Meeting 4
Date: _____

Guidelines	What worked? Why?	What didn't? Why?	Revised Guidelines

Research Meeting 5
Date: _____

Guidelines

Appendix G

Guiding Questions for Blog

Instructions: Please answer the following questions about the music listening session in your class. You should not use your name in your writing.

1. What did you think of the music listening session?

2. How did you feel during the music listening session?

3. What were you listening to? Why did you choose it?

4. How were you listening to the music? (e.g. full attention, background, on and off)

5. Did the music listening session help you get your word done/focus/stay in your seat? How?

6. Which rules were helpful?

7. Which rules were not helpful or need to be changed? If they need to be changed, what would work better?

8. What did you like about the music listening session?

9. What did you dislike about the music listening session?

10. Other comments about the music listening session:

Appendix H

Music Implementation Observation Blog

Instructions: Please describe what you see at the exact moment you are filling out this form.

1. What is the noise level in the classroom?

2. Are your classmates on or off task? Explain what you see.

3. What is the mood of the classroom?

4. What are some positive things you see?

5. What are some negative things you see?

Appendix I

Educational Action Research Modes and Corresponding Validities

Action Research Mode	Primary Validity	Secondary Validity	Dialogic Validity
Knowledge-generating	Outcome validity Process validity	Democratic validity Catalytic validity	
Practical	Catalytic validity Outcome validity	Process validity Democratic validity	
Emancipatory	Democratic validity Catalytic validity	Process validity Outcome validity	

Newton and Burgess (2008) p.26

Appendix J
Ethics Application

1. **Name of researcher(s):**
   Dr. Jennifer J. Nicol (thesis supervisor)
   Department of Educational Psychology and Special Education

1a. **Name of student:**
   Jolee Childs (M.Ed. Candidate)
   Department of Educational Psychology and Special Education

1b. **Anticipated start date of the research study (phase) and the expected
   completion date of the study (phase)**

   Start date: January 2010
   Completion date: September 2010

2. **Title of study**: Developing Guidelines for Using Personal Music Players in the
   Classroom: An Action Research Project

3. **Abstract:**(100-250 words)
   The proposed study will investigate the problem of how teachers and schools might begin
to incorporate Personal Music Players (PMPs) into the classroom in order engage students
and enhance learning. PMPs are extremely popular with secondary school students and
researchers have recommended that schools embrace the opportunities provided by the
presence of PMPs in order to actualize the benefits associated with music listening. Rather
than prohibiting the use of these devices from schools, collaboration with students to increase
student responsibility has been recommended. The proposed study uses an educational action
research approach to respond to the need for mutually developed guidelines such that schools
can capitalize on the benefits accrued with music listening (e.g., focus, attention, motivation)
without disrupting classroom learning. Three cycles through the phases of educational action
research (planning and developing; acting; reflecting) will allow the research team to develop
guidelines for using PMPs during individual seatwork activities in one secondary classroom.

4. **Funding**
   This project will not be externally funded.

5. **Expertise**
   I hold a B.Ed., in addition to eight years of teaching experience, thus providing me with
the required expertise and training to conduct research with students and teachers in a school
setting. Further, I have experience leading two teams of teachers in school-based research to
improve educational practice.

6. **Conflict of interest**
   I have worked with Saskatoon Public School Division as a Substitute teacher;
consequently, a potential conflict of interest may present itself if a student I have taught in the

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past is in the participating volunteer classroom for this study. To address this possible ethical issue, I will avoid conducting the research in a classroom in which I have worked; however, if students I have taught are present, I will be sensitive to interactions with them in order to eliminate possible coercive dynamics.

7. **Participants**

The research team recruited for the proposed study will include one secondary teacher and his or her students. The teacher will be recruited by circulating a recruitment poster (see Appendix A) to high schools in Saskatoon. The inclusion criteria for the teacher are (a) a desire to incorporate PMPs into their classroom; (b) teaching a high school subject that involves individual seatwork activities for the students; and (c) the support and cooperation of the school administration to participate in the project. The teacher will be informed that he or she can withdraw at any point during the process. I will have the teacher's name, the school's name and subject being taught. No identifying information will be written down at any point during the process of the study.

Once the teacher has been identified, students will be recruited by conducting an information session using PowerPoint (see Appendix B) in the teacher's class. All students who are members of the participating teacher's class are able to participate. Students do not need to own a PMP (Mp3 or iPod) in order to participate in the study. If students are interested in participating, they will be invited to contact their teacher, or myself or simply show up to the first research meeting. The students will be informed that they can choose to participate or withdraw at any point during the process. The inclusion criteria for the students are (a) enrollment in the participating teacher's class; (b) a desire to investigate how PMPs can be used in their classroom; and (c) parental consent and student assent.

I will not have any information about the students other than learning their names as a result of the five research meetings in which they participate and knowledge of which school/class they attend. No identifying information will be written down about any of the students participating in the project. I will not have any identifying information about the participants; they may attend the research meetings when/if they choose. Depending on the interest of the students and their teacher, a blog or wiki may be used for journal writing, which will be password protected. In this case, the research team will be encouraged to submit responses anonymously. I may videotape the sessions if the team decides that it would be helpful for identifying guidelines for music listening. This will be included and explained on the teacher and parent consent forms as well as the student assent forms.

a) There exists some potential for coercion since the participating teacher is in a perceived position of power relative to the participants. There is a possibility that students might feel obligated to participate in the study because their teacher is a participant. Students will be reassured that they do not have to participate in the study if they wish not to, and the research meetings will be conducted over the lunch hour so that only students who wish to contribute will attend. Students who are not participating can choose to be present during the implementation phases in the classroom, as these activities are not anticipated to disrupt the class' regular routine. Alternate activities including attending the library or computer room will be arranged if they would prefer to not be present. It should be noted that the proposed

study utilizes a collaborative approach that aims to diminish power roles by empowering the students as researchers, drawing on their knowledge and expertise. The study is designed in a way that values the contributions of all involved.

b) To protect the anonymity of potential participants, the students' teacher will invite them to the initial information session. Thus, I will not be able to identify any students prior to their decision to attend the information session. The information session will be conducted as a PowerPoint presentation that outlines the proposed study including: what the study is about, what the students will have to do, information about participation in or withdrawal from the study.

7a. ***Recruitment material***

Teacher- The teacher will be recruited by circulating a recruitment poster to high schools in Saskatoon. (see Appendix A)

Students- A PowerPoint presentation will be used to inform the students about the nature of the study, their choice to participate or not, and what they will need to do. (see Appendix B)

8. <u>Consent</u>

1. ***Teacher:*** I must obtain informed consent from the participating teacher involved in the study. Prior to meeting the introductory meeting with the students, I will meet with the participating teacher to discuss his or her informed consent. The informed consent document provided to the teacher will include a description of the project, a risk and benefit analysis, issues of confidentiality, and an option to discontinue participation at any time (see Appendix C). I will need to go through the informed consent document with the teacher to ensure his or her understanding of its contents, and further have him or her sign the document when I am positive the document has been understood.

Students: The students will be informed of their rights as research team members at an introductory meeting prior to the first team meeting. The details of the informed consent/assent form (e.g., the right to withdraw at any time without penalty) will be discussed with the students so that they can make an informed choice about participation in the research. The documents will explain the nature and purposes of the study, the possible risks and benefits for team members, issues of confidentiality, and the option for them to discontinue participation in the project at any time. Each student will be provided a copy of the parent consent (see Appendix D) and student assent (see Appendix E) forms. I will read aloud the student assent forms, answering questions to ensure their understanding of the content. Students will take the consent form home to be signed by

their parent/guardian and bring it back to school to be handed in to the participating teacher or myself. Further, students can sign the assent forms and hand them in to the participating teacher or myself.

2. At the beginning of each research team meeting, the teacher and students will be verbally reminded of their right to withdraw their participation at any time. If the teacher should wish to withdraw his or her participation, he or she can let me know. If the students wish to withdraw, they can let their teacher know, or call or email me directly, or not show up to the meetings. They will be reminded in each meeting that if they attend the meetings, I will assume their ongoing consent for the meeting duration.

b) Recruitment from Organizations:
School Division and Principal: Permission from the school division and principal will need to be obtained for any studies that are conducted with students in a school setting. Once ethics approval has been granted, I will send a letter to the Saskatoon Public School Division and the Greater Saskatoon Catholic School Division, seeking permission to conduct this study and recruit participants. The correspondence that will be sent to the relevant school division and/or principal to grant permission for the study is attached (see Appendix F).

c) Children under 18 years of age
Because this study involves high school students, I will gain written consent from the parent/guardian or caregiver and written assent from each student. The parent/guardian/caregiver consent form (see Appendix D) and student assent form (see Appendix E) are attached.

g) Research involving small groups
This study involves a class of students and their teacher, who are part of a pre-formed group of individuals. Each person will be notified of their right to withdraw from the study in the informed consent/assent forms.

9. **Methods/procedures**

A secondary teacher and a group of his or her students will be recruited to participate in the project. Working as a research team, an educational action research design will be used to collaboratively generate guidelines for using Personal Music Players in the classroom individualized seatwork activities.

The proposed study in its entirety will run for six months, from January 2010 to September 2010. The research meetings, data collection and ongoing analysis are designed around the school calendar, between January and June 2010.

The action research cycle and its phases will be implemented using face-to-face research meetings. The project will involve three cycles through the phases of action research: planning and developing, acting, and reflecting. Five research meetings will be held with all participants over the proposed 6-month period (January to June 2010).

These meetings will be held at the participating school over the lunch hour to ensure students do not feel obliged to participate. Lunch will be provided during the research meetings. Further, if the team decides that additional research meetings and implementation periods are required to develop guidelines, this will be negotiated with the team at the time.

The first meeting with the research team will be focused on providing an introduction to the project. The participating teacher and his or her students will be provided with information about action research, research findings about the benefits of music listening, and detailed information about the activities of the proposed project. At this point, the students will also be invited to talk about their own music listening experiences pertinent to concentrating, studying, and completing homework, for example. During this meeting, a discussion will be held about choice of participation and alternate activities that can be conducted during the implementation time. The informed consent and assent documents will be handed out to the students, and I will go through each document to ensure their understanding. I will go through the informed consent document with the teacher prior to this meeting.

At the beginning of the second meeting, the informed consent assent documents will be collected from each member of the research team. The information in the informed consent and assent documents will be reviewed, with a reminder that anyone can withdraw from the study at any point. During the second meeting, the research team will collaboratively plan and develop guidelines for implementation of PMPs during the Cycle 1 Acting Phase. In an informal and democratic manner, the students will discuss which guidelines will be necessary for the first implementation. These guidelines will be recorded on a chart (see Appendix G), to be revisited in the next meeting.

After the second meeting, the research team will choose a one-hour class period to try out music listening using PMPs in their classroom. The teacher will review the guidelines, displayed on a chart, for using PMPs developed in the second meeting. The teacher and students will put music listening into practice during individualized seatwork activities and at some point during the implementation, fill out an observation form (Appendix H). At the end of the class period, the participants will be invited to write their thoughts, ideas and reactions to the session by responding to some guiding questions in their journal (Appendix I). Based upon the interest of the students and teacher, the journal may be conducted using a blog or a wiki.

At the beginning of the third meeting, the information in the informed consent and assent documents will be reviewed once again, with a reminder that anyone can withdraw from the study at any point. The third meeting will involve a collaborative reflection and evaluation of the Cycle 1 Acting Phase along with a discussion of new solutions and planning for the implementation of PMPs during the Cycle 2 Acting Phase. First the research team will engage in an informal discussion about how the music implementation session went. The research team will review the data retrieval chart developed in the previous meeting. With reference to their journals (or blog/wiki) and recorded observations, the team will discuss the positive and negative aspects of each guideline and formulate a revised list of guidelines for trial in the next implementation session and record them on the data retrieval chart.
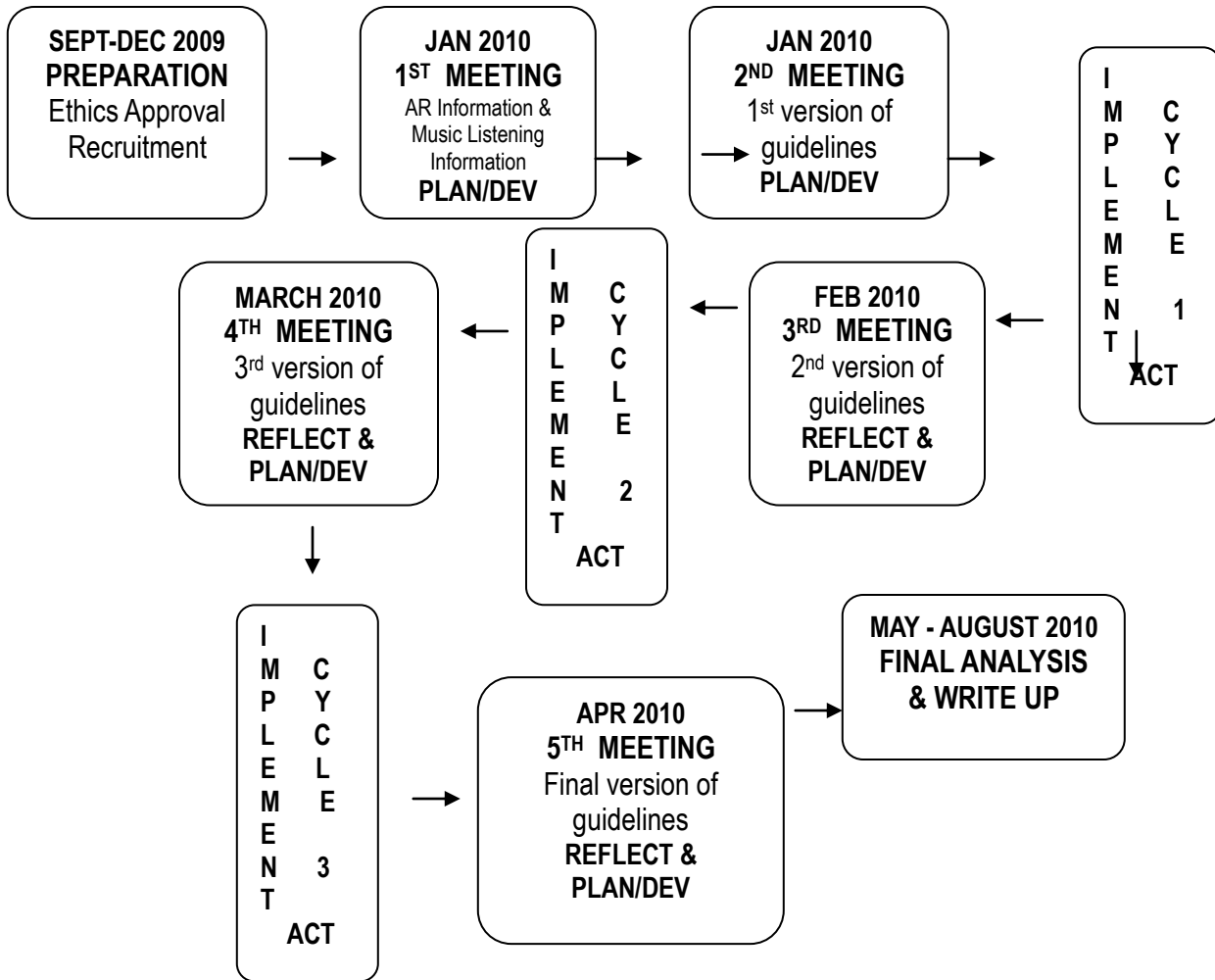
After the third meeting, the research team will choose another one-hour class period to try out music listening using PMPs in their classroom. The teacher will review the newly revised guidelines, displayed on the data retrieval chart, for using PMPs developed in the third meeting. The research team will implement music listening during individualized seatwork activities, fill out their observation forms, and at the end of the class period, will be invited to write a second entry in their journal (or blog/wiki) about their thoughts, ideas and reactions to the second implementation.

At the beginning of the fourth meeting, the information in the informed consent and assent documents will be reviewed again, with a reminder that anyone can withdraw from the study at any point. The fourth meeting will involve a collaborative reflection and evaluation of Cycle 2 Acting Phase along with a discussion of new solutions and planning for the implementation of PMPs during the Cycle 3 Acting Phase. The research team will participate in an informal discussion about how the previous music implementation session went. The participants will review the data retrieval chart developed in the previous meeting. With reference to their journals (or blog/wiki) and recorded observations, the team will discuss the positive and negative aspects of each guideline and devise a revised list of guidelines for trial in the next implementation session and record them on the data retrieval chart.

After the fourth meeting, the research team will choose another one-hour class period to try out music listening using PMPs in their classroom. The teacher will review the newly revised guidelines, displayed on the data retrieval chart, for using PMPs developed in the third meeting. The research team will implement music listening during the individualized seatwork activities, fill out their observation forms, and at the end of the class period, will be invited to write a third entry in their journal (or blog/wiki) about their thoughts, ideas and reactions to the third implementation.

A final meeting will be held after the implementation of the Cycle 3 Acting Phase in order to determine a finalized version of guidelines for using Personal Music Players during individual seatwork activities. The fifth meeting will involve a final collaborative reflection and evaluation of the Cycle 2 Acting Phase through an informal discussion about how the music implementation session went, combined with a review of student journals and observations. The research team will review the data retrieval chart developed in the previous meeting, and as a group, discuss the positive and negative aspects of each guideline. Using the data retrieval chart, the participants will prepare a final list of guidelines for using PMPs in the classroom. During the final meeting, planning will also occur for future disseminations of the project findings. The research team will be invited to share the project with other students and teachers, and will be encouraged to think of creative methods for dissemination of their findings.

Visual Outline of the Proposed Project

| SEPT-DEC 2009 PREPARATION Ethics Approval Recruitment | → | JAN 2010 1ST MEETING AR Information & Music Listening Information PLAN/DEV | → | JAN 2010 2ND MEETING 1st version of guidelines PLAN/DEV | → | IMPLEMENT CYCLE 1 ACT |

MARCH 2010 4TH MEETING 3rd version of guidelines REFLECT & PLAN/DEV ← IMPLEMENT CYCLE 2 ACT ← FEB 2010 3RD MEETING 2nd version of guidelines REFLECT & PLAN/DEV

IMPLEMENT CYCLE 3 ACT → APR 2010 5TH MEETING Final version of guidelines REFLECT & PLAN/DEV → MAY - AUGUST 2010 FINAL ANALYSIS & WRITE UP

10. Storage of data

The data retrieval charts will be stored with Dr. Jennifer Nicol in a locked filing cabinet in her research office, for five years after the proposed research has been completed. After five years, the data will be destroyed beyond recovery.

11. Dissemination of results

The results of this project will be shared through a formal written thesis and teacher and/or student presentations.

12. Risk, benefits and deception

Potential benefits

- The students and teacher will learn about how to conduct research in their classroom
- The students and teacher may experience an enhanced learning environment through the project

- The students and teacher may experience increased confidence and self-esteem as a result of generating knowledge and contributing to the solution of a problem and engaging in opportunities to share their findings
- The students may be able to improve concentration, mood and distractibility during individual seatwork activities

Potential risks
- If participants do not have access to an Mp3 player, they might feel uncomfortable participating in the study. To minimize the negative effects of not having access to Mp3 players, the activities in the study stress the importance of all participants' opinions and due to the problem of PMPs in the classroom, people who do not have an Mp3 player are an important voice that needs to be heard.
- Some individuals may experience an emotional reaction to the music they listen to. The participants will be reminded of the services offered by their school counsellor should this happen.
- Some individuals may find that music listening during some activities is distracting to them. Students will be encouraged to do what is best for them. If they do not find music listening helpful, they can choose not to listen while they work.

13. <u>Confidentiality</u>
- Because the participants will be considered part of the research team, working together to find solutions to a problem, the data that is collected will be a collaborative effort and no identifying information will be included in the data representation. Further, individuals may participate or withdraw from the study at any point and I will not have any identifying information about who is participating in the study.
- As the research meetings involve discussion amongst the participants, the confidentiality of the information discussed needs to be safeguarded. This will be done by reminding the teacher and students to respect the confidentiality of the group by not disclosing information outside of the research meeting. They will be reminded that the researcher cannot guarantee that other members of the group will keep the discussions confidential, and that other people in the group may not respect their confidentiality.
- The school and participating teacher will not be identified in the write up of the study.
- The research meetings may need to be videotaped and this possibility will be included in the consent forms.
- Based on student and teacher interest, journaling may be completed using an online blog or wiki, which will be outlined in the consent forms. If one of these options is used, the information will be password protected so that only the participants and myself can access the page. Students will not identify who they are unless they choose to.

14. <u>Debriefing and feedback</u>
- Debriefing and feedback will be ongoing throughout the duration of the action research project. Due to the participatory nature of this project, the participants will

be involved in the final development of the guidelines. The participants will be invited to participate in dissemination activities.

14. <u>Required Signatures:</u>

_____   _____

Jolee Childs: Master of Education Candidate,   Date
Department of Educational Psychology and Special Education,
University of Saskatchewan

_____   _____

Dr. Jennifer Nicol: Supervisor, Associate Professor   Date
Department of Educational Psychology and Special Education,
University of Saskatchewan

_____   _____

David Mykota: Department Head,   Date
Department of Educational Psychology and Special Education,
University of Saskatchewan

15. <u>Required contact information</u>

Researcher: Jolee Childs
M3-420 Duchess St.
Saskatoon, SK S7K 0R1
(P) 306-280-6048
Email: jac912@mail.usask.ca

Supervisor: Dr. Jennifer Nicol
Office ED 3113, Department of Educational Psychology and
Special Education, College of Education
28 Campus Dr., University of Saskatchewan
Saskatoon SK S7N 0X1
Phone: (306) 966-5261 jaj.nicol@usask.ca

Department Head: David Mykota
Office ED 3102, Department of Educational Psychology and
Special Education, College of Education
28 Campus Dr., University of Saskatchewan
Saskatoon SK S7N 0X1
Phone: (306) 966-5258
Fax: (306) 966-7719 david.mykota@usask.ca

UNIVERSITY OF SASKATCHEWAN   **Behavioural Research Ethics Board (Beh-REB)**

TEACHER CONSENT FORM

You have been invited to participate in a research project entitled **Developing Guidelines for Using Personal Music Players in the Classroom: An Action Research Project**. Please read this form carefully, and feel free to ask questions you might have.

Researchers:
Jolee Childs (M.Ed. Candidate, B.Ed.) and Dr. Jennifer Nicol (Associate Professor, Registered Doctoral Psychologist, Accredited Music Therapist)
Department of Educational Psychology and Special Education
University of Saskatchewan
Contact information: phone: (306) 280-6048, email: jac912@mail.usask.ca

Purpose and Procedure:

Purpose: The purpose of this study is to work together with you and your students to develop some guidelines for using Personal Music Players (i.e. Mp3 players and iPods) in your classroom.

Procedures: This project will run from January to June 2010, with a total of 5 one-hour research team meetings and 3 one-hour implementation periods. Through a series of five research meetings, the research team will meet to discuss rules that will help your students use Personal Music Players (i.e. Mp3 players and iPods) more effectively in the classroom. The team will decide on some rules, try them out in the classroom, and discuss which of the rules were helpful and which were not helpful. The research meetings will take place during lunch hour at the school and the implementation sessions will occur during class time, as decided by you. If additional research meetings or implementation periods are required, this will be decided with you at the necessary time.

How/to whom findings will be distributed: The final list of guidelines that are developed will be shared with principals, teachers, students and other researchers. These guidelines will be helpful for other teachers and students because they can see which guidelines were effective for managing personal music listening in your classroom.

How will the results be reported? The guidelines that are developed during the research meetings will be reported as a final list that the research team develops. The final guidelines will be shared through student and teacher-led presentations and through a final thesis document.

Potential Benefits: There is no guarantee that you will personally benefit from your involvement. However, by participating in this research project, you may learn about conducting research in your classroom and gain experience with the process of action research and problem solving by collaborating to discover solutions to a problem that affects you. You may experience increased confidence and self-esteem as a result of generating knowledge and contributing to the solution of a problem and engaging in opportunities to share your findings. Also, you may experience an enhanced learning environment created through the project. The final set of guidelines for music listening that are developed will help other teachers and students to use Mp3 players in their own classrooms.

Potential Risks: If some students do not have access to their own Mp3 player he or she may feel uncomfortable participating in the project. This study aims to include all relevant voices affected by the use of Personal Music Players in the classroom, thus those who do not use Mp3 players have an important voice in the development of guidelines. Also, listening to music while they do individual work might distract some students. This study will try to figure out the best way for Mp3 players to be used in the classroom to enhance learning. Some students might experience an overwhelming emotional response to music listening, in which case he or she will be referred to the school counsellor.

Storage of Data: The information that is gathered throughout this project will be kept in a locked filing cabinet in Dr. Jennifer Nicol's research office for five years. When the data is not needed anymore, it will be destroyed beyond recovery.

Confidentiality: Because the data that is collected during the research meetings will be a collaborative negotiation of music listening guidelines, individual responses will not be written down. However, there will be discussion amongst the participants during the research meetings. Please respect the confidentiality of the other members of the group by not disclosing the contents of this discussion outside the group, and be aware that others may not respect your confidentiality. Based upon the interest of yourself and the students, we may choose to utilize a blog or wiki as a means to facilitate journal writing, which will be password protected. You and your students will be encouraged to write anonymous responses. Also, if we feel it would be helpful for developing guidelines for music listening, we may videotape some sessions. The videotapes will be for recollection purposes and will not be viewed by anyone except the research team.

Right to Withdraw: Your participation is voluntary. You may withdraw from the research project for any reason, at any time, without penalty of any sort. If you wish to withdraw your from the project, you can email or call me.

Questions: If you have any questions concerning the research project, please feel free to ask at any point; you are also free to contact the researchers at the numbers provided if you have other questions. This research project has been approved on ethical grounds by the University of Saskatchewan Behavioural Research Ethics Board on December 11 2009. Any questions regarding your rights as a participant may be addressed to that committee through the Ethics Office (966-2084). Out of town participants may call collect.

Follow-Up or Debriefing: Because the information will be gathered and analyzed by the research team throughout this project, you will be aware of the ongoing development of the guidelines.

Consent to participate:

I have read and understood the description provided; I have had an opportunity to ask questions and my/our questions have been answered. I consent to my participation in the research project, understanding that I may withdraw my consent at any time. A copy of this Consent Form has been given to me for my records.

_____   _____
(Name of Participant)   (Date)

_____   _____
(Participant's Signature)   (Signature of Researcher)